



**OVER  
17,000  
PRODUCTS**

# WHY ESSENTRA COMPONENTS?



**65+**  
YEARS  
solving  
customer  
challenges



Operations in  
**29 COUNTRIES**  
worldwide



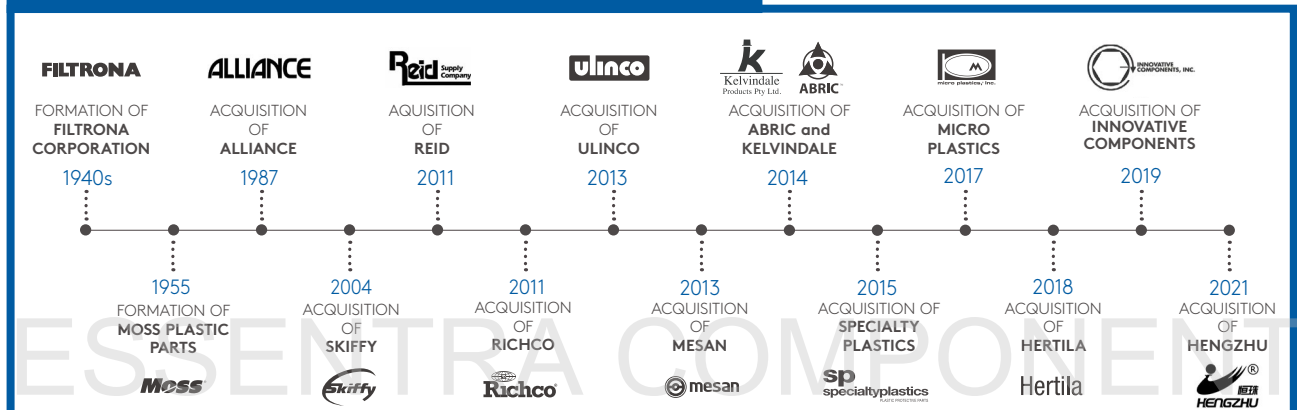
**45,000**  
products  
available



**80 MILLION**  
parts produced  
each week

We combine the expertise and flexibility of a manufacturer with the service and range of a distributor.

## THIS IS ESSENTRA COMPONENTS



**2500**  
EMPLOYEES  
ACROSS THE  
WORLD

**29**  
LOCAL LANGUAGE  
E-COMMERCE  
SITES

**AMERS**  
7 manufacturing  
sites

**EMEA**  
4 manufacturing  
sites

**APAC**  
3 manufacturing  
sites



### STABILITY & GLOBAL GROWTH

- 2021 - £301.7M revenue
- £56.9M operating profit

**34**  
DISTRIBUTION  
CENTRES


**40**  
SALES  
AND SERVICE  
LOCATIONS

# HASSLE FREE SERVICE

EQUIPMENT MANUFACTURERS • AUTOMOTIVE • ELECTRICAL MANUFACTURERS  
• TRANSPORT/LOGISTICS • POS/RETAIL

**1 BILLION**  
PARTS  
IN STOCK

  
**70%**  
OF TOP 100 GLOBAL  
MANUFACTURERS

  
**90%**  
OF ELECTRONICS  
MANUFACTURERS

  
**100%**  
OF TOP 15 GLOBAL  
AUTO TIER 1 SUPPLIERS

**17**  
PRODUCT  
RANGES

**5.6**  
MILLION  
CUSTOM SOLUTIONS  
PRODUCED  
TO DATE

SHIPPING OVER  
**17,000**  
ORDERS EACH WEEK

PROCESSING  
**1.8M**  
ORDER LINES A YEAR

SENDING OVER  
**300,000**  
SAMPLE ORDERS  
TO CUSTOMERS

**80,000**  
CUSTOMERS  
WORLDWIDE



CAPS  
& PLUGS



ACCESS  
HARDWARE



CABLE  
MANAGEMENT



FASTENERS



PIPE & FLANGE  
AND HOSE  
PROTECTION



CIRCUIT BOARD  
HARDWARE



HIGH  
TEMPERATURE  
MASKING



KNOBS,  
HANDLES  
& GRIPS



**FREE**  
CAD



**FREE**  
SAMPLES



**FREE**  
DESPATCH



**CUSTOM**  
SOLUTIONS

## WORKING FOR A BETTER LIFE

All principal manufacturing sites are **ISO 14001** accredited.

**ISO 14001**  
ACCREDITED



**SUPPORT** the creation of prosperous, educated, sustainable and healthy **COMMUNITIES** wherever we operate.

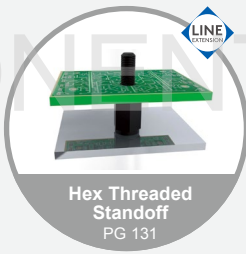
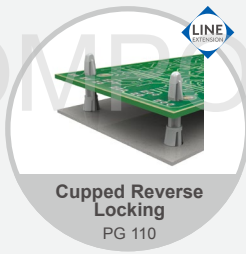
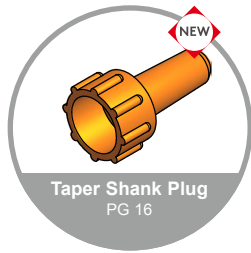
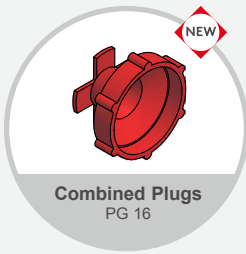
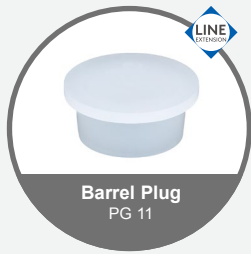


**DEVELOPED TARGETED PROGRAMMES** often involving commercial sponsorship and significant **EMPLOYEE ENGAGEMENT.**

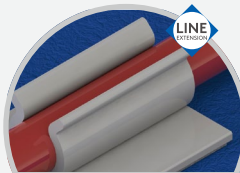


**79%**  
EMPLOYEE  
ENGAGEMENT

# NEW PRODUCTS AND EXPANDED LINES



# NEW PRODUCTS AND EXPANDED LINES



**U Style Clamp on Adhesive Base**  
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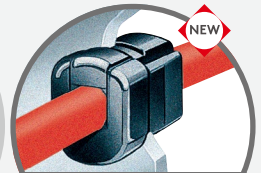
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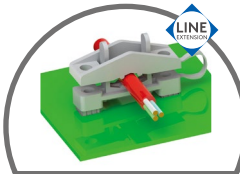
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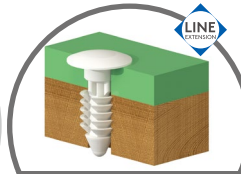
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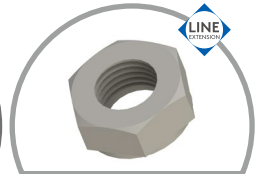
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**Quarter Turn Knob**  
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# NEW PRODUCTS AND EXPANDED LINES



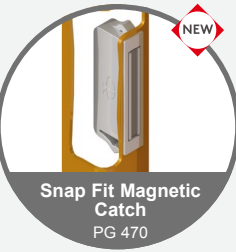
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**Asymmetrical Design  
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# NEW PRODUCTS AND EXPANDED LINES



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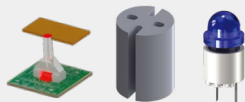
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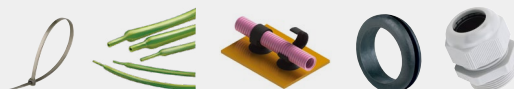
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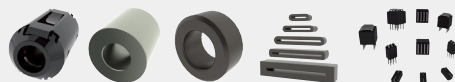
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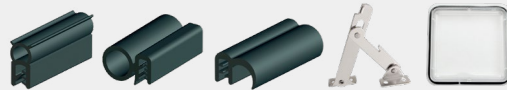
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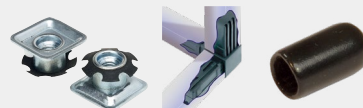
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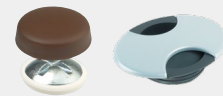
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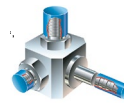
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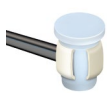
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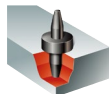
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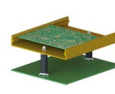
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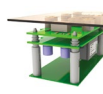
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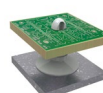
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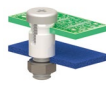
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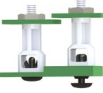
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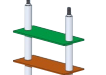
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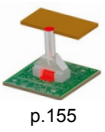
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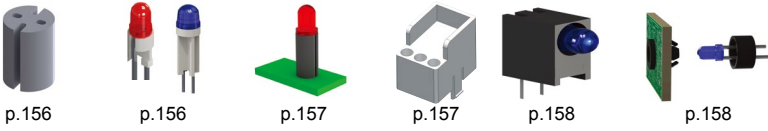
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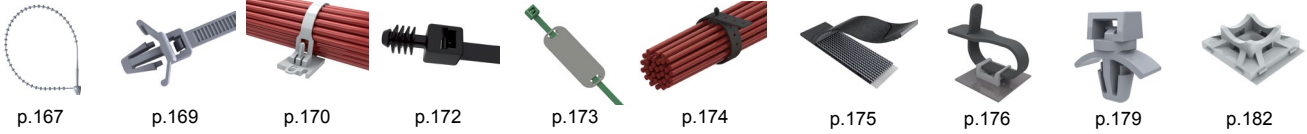
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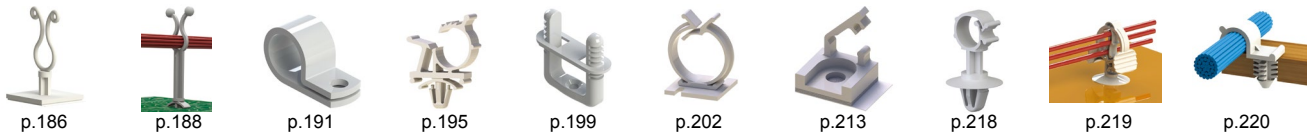
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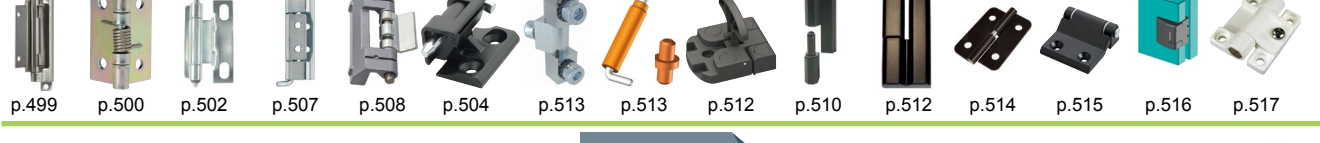
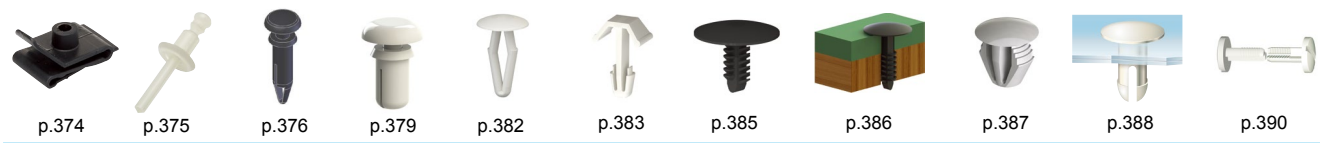


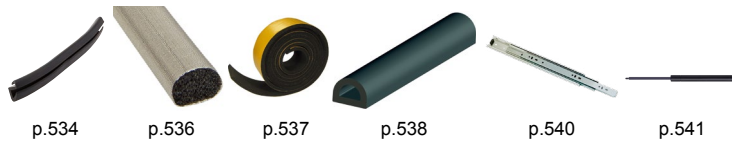
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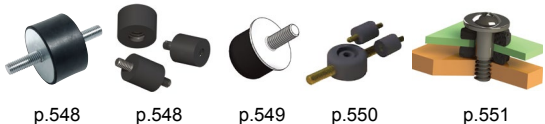


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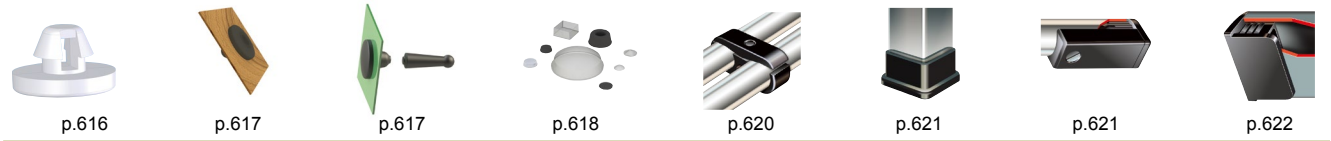
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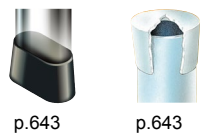
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## FIND THE **SPACERS** YOU NEED



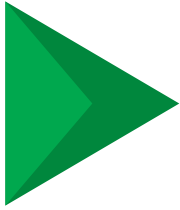
Our wide range is all about choice, whether it's a hex standoff for high-critical strength, or PCB support for various locking methods.

We have the specialist knowledge, products, and ability to support your Circuit Board Hardware needs.

You can also try before you buy with free samples on selected products. It's the perfect way to find out if your choice will fit your needs.



Please refer to the back cover of this catalogue for contact details of Essentra Components Asia Pacific offices.



# CIRCUIT BOARD HARDWARE

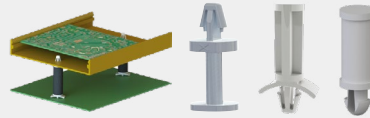
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## Push Spacers

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## Reverse Locking Spacers

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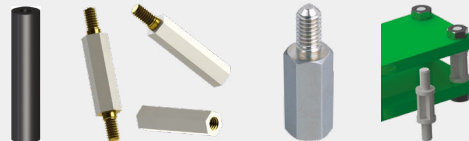
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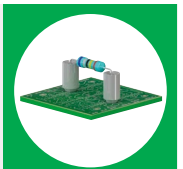
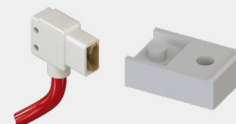
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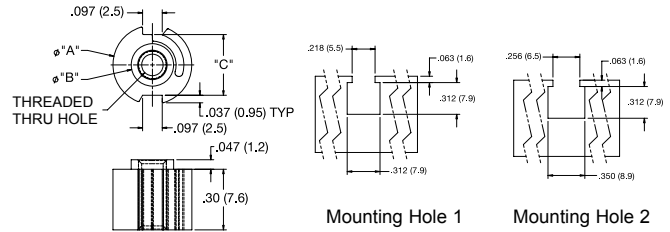
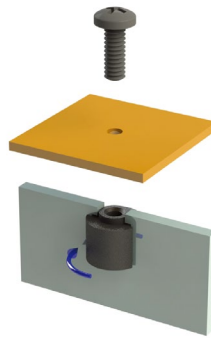
# Dual Locking Spacers

SEI

## Sheet Edge Insert

Black Nylon 6/6, RMS-01

- Flame Retardant Grade: UL94 V2
- Screwdriver required for installation



Part Number	Dimensions (mm)			Thread Type	Panel Thickness	Type	Std Pack Qty
	"A"	"B"	"C"				
SEI-1	9.9	5.3	7.6	#6-32 UNC	1.27-2.41	1	1000
SEI-2	9.9	5.3	7.6	M4	1.27-2.3	1	1000
SEI-3	9.9	5.3	7.6	M3	1.27-2.3	1	1000
SEI-4	10.9	6.3	8.6	M5	1.27-2.41	2	1000
SEI-5	10.9	6.3	8.6	M6	1.27-2.41	2	1000

SRLAHS

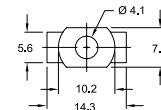
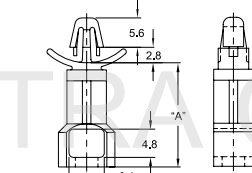
## Snap Rivet Locking Circuit Board Support

Natural Nylon 6/6

- Flame Retardant Grade: UL94 V2



Top Hole: Snap-lock:  $\phi$  4.75  $\pm$  0.08  
Panel Thickness: 0.79- 1.98



Bottom Hole:  $\phi$  4 - 4.1  
Panel Thickness: see rivet table

Rivets		
Use Rivet Number	Black	For Panel Thickness (mm)
SR-4050W	SR-4050B	0.7-1.6
SR-4060W	SR-4060B	1.5-2.7
SR-4070W	SR-4070B	2.7-3.7
SR-4080W	SR-4080B	3.7-4.7
SR-4090W	SR-4090B	4.7-5.7
SR-4100W	SR-4100B	5.7-6.7
SR-4120W	SR-4120B	7.2-8.7

Part Number	"A"(mm)	Std Pack Qty
SRLAHS-7-01	11.1	1000
SRLAHS-8-01	12.7	1000
SRLAHS-14-01	22.2	1000
SRLAHS-16-01	25.4	1000

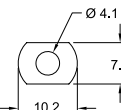
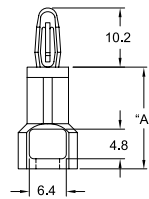
SRLCBS

## Snap Rivet Locking Circuit Board Support

Natural UL94 V2 Nylon6/6,RMS-01



Top Hole: Snap-lock: 4  $\pm$  0.08  
Panel Thickness: 1.57



Bottom Hole: For Snap Rivet: 4.1 - 4.2  
Panel Thickness: See Rivet Table

Part Number	"A" Standoff Height (mm)	Std Pack Qty
SRLCBS-6-01	9.5	1000
SRLCBS-7-01	11.1	1000
SRLCBS-8-01	12.7	1000
SRLCBS-10-01	15.9	1000
SRLCBS-12-01	19.1	1000
SRLCBS-14-01	22.2	1000
SRLCBS-16-01	25.4	1000

Rivets		
Use Rivets Part Number	Black	For Panel Thickness
SR-4050	SR-4050B	0.7-1.6
SR-4060	SR-4060B	1.5-2.7
SR-4070	SR-4070B	2.7-3.7
SR-4080	SR-4080B	3.7-4.7
SR-4090	SR-4090B	4.7-5.7
SR-4100	SR-4100B	5.7-6.7
SR-4120	SR-4120B	7.2-8.7

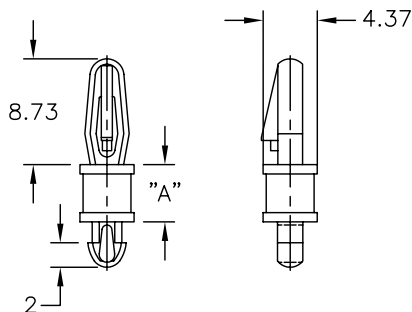
## LCBST/CLCBST/LMSP/LNCBS Locking Circuit Board Support Natural Nylon 6/6



### LCBST

Top Hole: Snap-lock:  $3.18 \pm 0.05$   
Panel Thickness: 1.57

#### Type 1

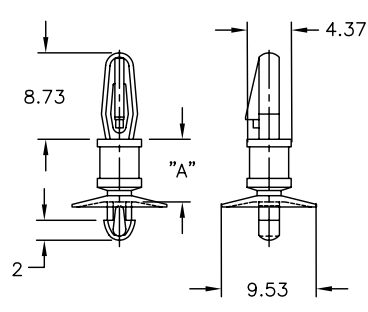


Bottom Hole: Snap-lock:  $2.54 \pm 0.05$   
Panel Thickness: 1.63 Max.

### CLCBST

Top Hole: Snap-lock:  $3.18 \pm 0.05$   
Panel Thickness: 1.57

#### Type 2

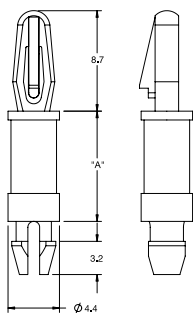


Bottom Hole: Snap-lock:  $2.54 \pm 0.05$   
Panel Thickness: 1.57

### LMSP

Top Hole: Snap-lock:  $3.18 \pm 0.05$   
Panel Thickness: 1.57

#### Type 3

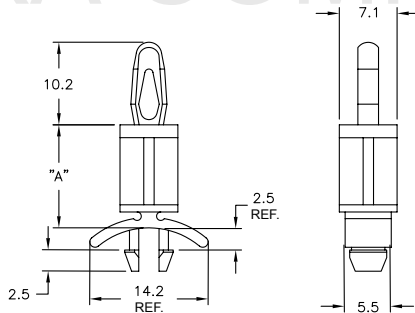


Bottom Hole: Snap-lock:  $3.18 \pm 0.05$   
Panel Thickness: 1.57

### CBS

Top Hole: Snap-fit:  $4 \pm 0.08$   
Panel Thickness: 1.57

#### Type 4

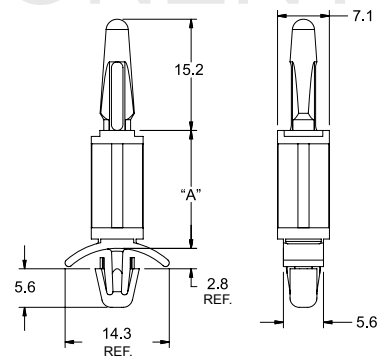


Bottom Hole: Snap-lock:  $4.75 \pm 0.08$   
Panel Thickness: 0.79 - 1.98

### LNCBS

Top Hole: Snap-fit:  $4 \pm 0.08$   
Panel Thickness: 1.57

#### Type 5



Bottom Hole: Snap-lock:  $4.75 \pm 0.08$   
Panel Thickness: 0.79 - 1.98

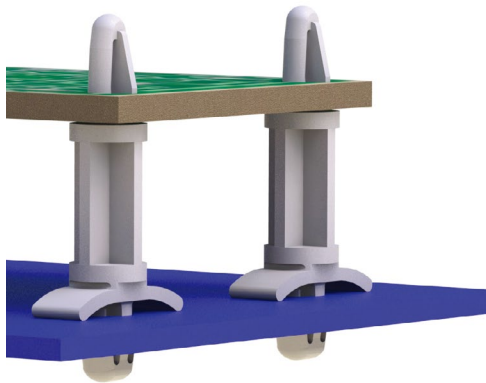
Part Number							"A" Standoff Height (mm)	Std Pack Qty
LCBST (Type 1)	CLCBST (Type 2)	LMSP (Type 3)		CBS (Type 4)		LNCBS (Type 5)		
UL94 V2 Nylon 6/6, RMS-01	UL94 V2 Nylon 6/6, RMS-01	UL94 V2 Nylon 6/6 RMS-01	UL94 V0 Nylon 6/6, RMS-19	UL94 V2 Nylon 6/6, RMS-01	UL94 V0 Nylon 6/6, RMS-19	UL94 V2 Nylon 6/6, RMS-01		
LCBST-2-01	CLCBST-2-01	LMSP-2-01	LMSP-2-19	-	-	-	3.2	1000
LCBST-3-01	CLCBST-3-01	LMSP-3-01	LMSP-3-19	CBS-3-01	CBS-3-19	LNCBS-3-01	4.8	1000
LCBST-4-01	CLCBST-4-01	LMSP-4-01	LMSP-4-19	CBS-4-01	CBS-4-19	LNCBS-4-01	6.4	1000
LCBST-5-01	CLCBST-5-01	LMSP-5-01	-	-	-	-	7.9	1000
LCBST-6-01	CLCBST-6-01	LMSP-6-01	LMSP-6-19	CBS-6-01	CBS-6-19	LNCBS-6-01	9.5	1000
LCBST-7-01	CLCBST-7-01	LMSP-7-01	LMSP-7-19	-	-	-	11.1	1000
LCBST-8-01	CLCBST-8-01	LMSP-8-01	LMSP-8-19	CBS-8-01	CBS-8-19	LNCBS-8-01	12.7	1000
LCBST-9-01	CLCBST-9-01	LMSP-9-01	LMSP-9-19	-	-	-	14.3	1000
LCBST-10-01	CLCBST-10-01	LMSP-10-01	-	CBS-10-01	-	-	15.9	1000
-	-	LMSP-12-01	-	CBS-12-01	CBS-12-19	LNCBS-12-01	19.1	1000
-	-	LMSP-14-01	LMSP-14-19	CBS-14-01	CBS-14-19	LNCBS-14-01	22.2	1000

# Dual Locking Spacers

LCBS

## Locking Circuit Board Support

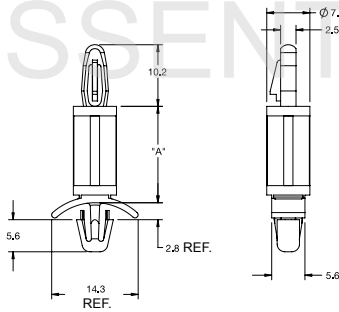
Natural Nylon 6/6



### LCBS

Top Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: 1.57

#### Type 1

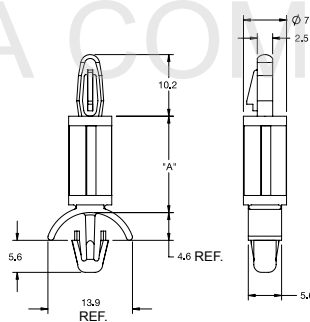


Bottom Hole: Snap-lock:  $4.75 \pm 0.08$   
Panel Thickness: 0.79 - 1.98

### LCBS-2

Top Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: 1.57

#### Type 2

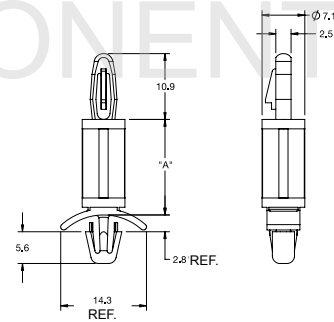


Bottom Hole: Snap-lock:  $4.75 \pm 0.08$   
Panel Thickness: 1.98 - 3.58

### LCBS-3

Top Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: 1.57

#### Type 3



Bottom Hole: Snap-lock:  $4.75 \pm 0.08$   
Panel Thickness: 0.79 - 1.98

### Part Number

LCBS (Type 1)		LCBS-2 (Type 2)		LCBS-3 (Type 3)		"A" Standoff Height (mm)	Std Pack Qty
UL94 V2 Nylon 6/6, RMS-01	UL94 V0 Nylon 6/6, RMS-19	UL94 V2 Nylon 6/6, RMS-01	UL94 V2 Nylon 6/6, RMS-01	UL94 V2 Nylon 6/6, RMS-01	UL94 V2 Nylon 6/6, RMS-01		
LCBS-3-01	LCBS-3-19	LCBS-2-3-01	LCBS-3-3-01	4.8	1000		
LCBS-4-01	LCBS-4-19	LCBS-2-4-01	LCBS-3-4-01	6.4	1000		
LCBS-5-01	-	LCBS-2-5-01	LCBS-3-5-01	7.9	1000		
LCBS-6-01	LCBS-6-19	LCBS-2-6-01	LCBS-3-6-01	9.5	1000		
LCBS-7-01	LCBS-7-19	LCBS-2-7-01	LCBS-3-7-01	11.1	1000		
LCBS-8-01	LCBS-8-19	LCBS-2-8-01	LCBS-3-8-01	12.7	1000		
LCBS-10-01	LCBS-10-19	LCBS-2-10-01	-	15.9	1000		
LCBS-12-01	LCBS-12-19	LCBS-2-12-01	LCBS-3-12-01	19.1	1000		
LCBS-14-01	LCBS-14-19	LCBS-2-14-01	LCBS-3-14-01	22.2	1000		
LCBS-16-01	LCBS-16-19	LCBS-2-16-01	LCBS-3-16-01	25.4	1000		
LCBS-18-01	-	LCBS-2-18-01	LCBS-3-18-01	28.6	1000		
LCBS-20-01	LCBS-20-19	LCBS-2-20-01	LCBS-3-20-01	31.7	1000		
LCBS-22-01	LCBS-22-19	LCBS-2-22-01	LCBS-3-22-01	34.9	1000		

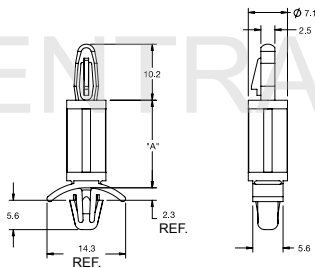
LCBS  
**Locking Circuit Board Support** *CONTINUED*  
 Natural Nylon 6/6



**LCBS-8**

Top Hole: Snap-lock:  $4 \pm 0.08$   
 Panel Thickness: 1.57

Type 8

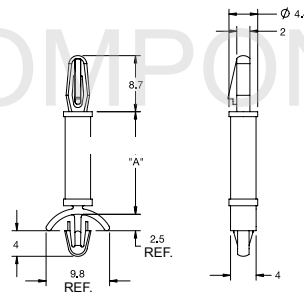


Bottom Hole: Snap-lock:  $4.75 \pm 0.08$   
 Panel Thickness: 0.2 - 1.4

**LCBSM**

Top Hole: Snap-lock:  $3.18 \pm 0.05$   
 Panel Thickness: 1.57

Type 11



Bottom Hole: Snap-lock:  $3.18 \pm 0.05$   
 Panel Thickness: 0.79 - 1.98

Part Number	Part Number	"A" Standoff Height (mm)	Std Pack Qty
LCBS-8 (Type 8)	LCBSM (Type 11)		
UL94 V2 Nylon 6/6, RMS-01	UL94 V2 Nylon 6/6 RMS-01		
-	LCBSM-2-01	3.2	1000
LCBS-8-3-01	LCBSM-3-01	4.8	1000
LCBS-8-4-01	LCBSM-4-01	6.4	1000
LCBS-8-5-01	LCBSM-5-01	7.9	1000
LCBS-8-6-01	LCBSM-6-01	9.5	1000
LCBS-8-7-01	LCBSM-7-01	11.1	1000
LCBS-8-8-01	LCBSM-8-01	12.7	1000
-	LCBSM-9-01	14.3	1000
LCBS-8-10-01	LCBSM-10-01	15.9	1000
LCBS-8-12-01	-	19.1	1000
LCBS-8-14-01	-	22.2	1000
LCBS-8-16-01	-	25.4	1000
LCBS-8-18-01	-	28.6	1000
-	-	31.7	1000
-	-	34.9	1000

# Dual Locking Spacers

CBSB/CBSBT/LCBSB/LCBSBM

## Circuit Board Support on Adhesive Base

Natural UL94 V2 Nylon6/6,RMS-01

- Adhesive Backing: RMS-15, double sided adhesive tape with release tab

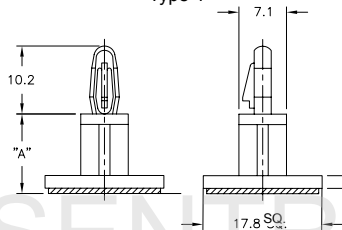


Part Number				"A" Standoff Height (mm)	Std Pack Qty
LCBSB (Type 1)	CBSB (Type 2)	LCBSBM (Type 3)	CBSBT (Type 4)		
LCBSB-3-01A-RT	CBSB-3-01A-RT	LCBSBM-3-01A-RT	CBSBT-3-01A-RT	4.8	1000
LCBSB-4-01A-RT	CBSB-4-01A-RT	LCBSBM-4-01A-RT	CBSBT-4-01A-RT	6.4	1000
-	-	LCBSBM-5-01A-RT	CBSBT-5-01A-RT	7.9	1000
LCBSB-6-01A-RT	CBSB-6-01A-RT	LCBSBM-6-01A-RT	CBSBT-6-01A-RT	9.5	1000
-	-	LCBSBM-7-01A-RT	CBSBT-7-01A-RT	11.1	1000
LCBSB-8-01A-RT	CBSB-8-01A-RT	-	-	12.7	1000
LCBSB-9-01A-RT	CBSB-9-01A-RT	LCBSBM-9-01A-RT	CBSBT-9-01A-RT	14.3	1000
LCBSB-10-01A-RT	CBSB-10-01A-RT	LCBSBM-10-01A	CBSBT-10-01A-RT	15.9	1000
LCBSB-12-01A-RT	CBSB-12-01A-RT	-	-	19.1	1000
LCBSB-14-01A-RT	CBSB-14-01A-RT	-	-	22.2	1000
LCBSB-16-01A-RT	CBSB-16-01A-RT	-	-	25.4	1000
LCBSB-18-01A-RT	CBSB-18-01A-RT	-	-	28.6	1000

### LCBSB

Top Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: 1.57

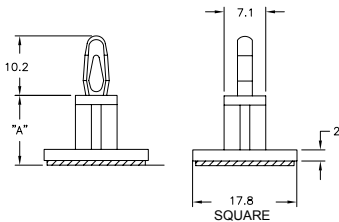
#### Type 1



### CBSB

Top Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: 1.57

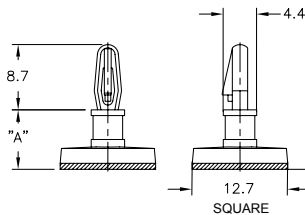
#### Type 2



### LCBSBM

Top Hole: Snap-lock:  $3.18 \pm 0.05$   
Panel Thickness: 1.57

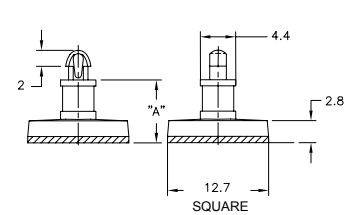
#### Type 3



### CBSBT

Top Hole: Snap-lock:  $2.54 \pm 0.05$   
Panel Thickness: 1.63 Max.

#### Type 4



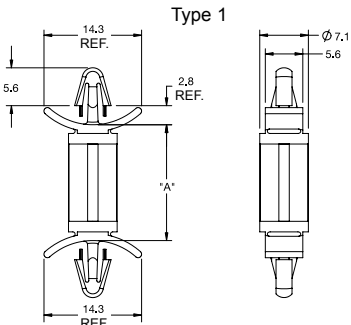
**Wide Range of  
circuit board hardware  
available for  
immediate dispatch**



**DLCBS**  
**Dual Locking Circuit Board Support**  
 Natural

**DLCBS**

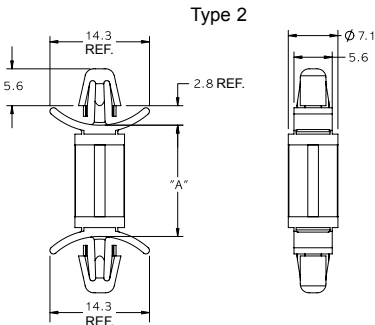
Top Hole: Snap-lock:  $4 \pm 0.08$   
 Panel Thickness: 0.79 - 1.98



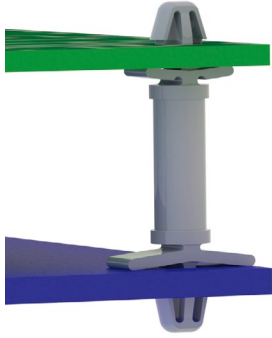
Bottom Hole: Snap-lock:  $4 \pm 0.08$   
 Panel Thickness: 0.79 - 1.98

**DLCBS2**

Top Hole: Snap-lock:  $4.75 \pm 0.08$   
 Panel Thickness: 0.79 - 1.98

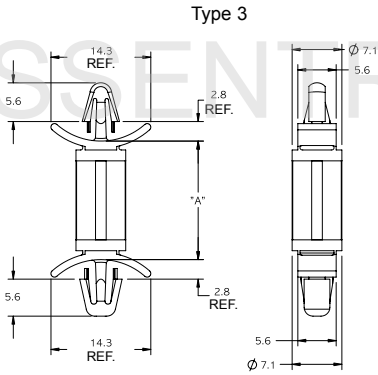


Bottom Hole: Snap-lock:  $4.75 \pm 0.08$   
 Panel Thickness: 0.79 - 1.98



**DLCBS3**

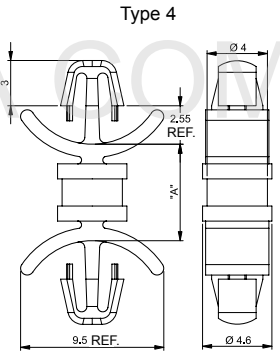
Top Hole: Snap-lock:  $4 \pm 0.08$   
 Panel Thickness: 0.79 - 1.98



Bottom Hole: Snap-lock:  $4.75 \pm 0.08$   
 Panel Thickness: 0.79 - 1.98

**DLCBS5**

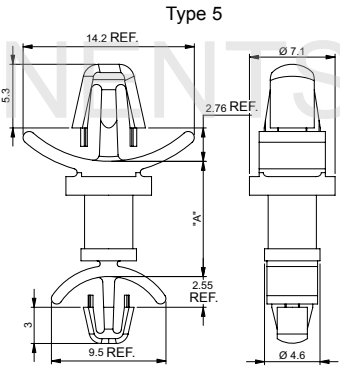
Top Hole: Snap-lock:  $3.5 \pm 0.08$   
 Panel Thickness: 0.8-2



Bottom Hole: Snap-Lock  $\varnothing 3.5 \pm 0.08$   
 Panel Thickness: 0.8-2

**DLCBS6**

Top Hole: Snap-lock:  $4.75 \pm 0.08$   
 Panel Thickness: 0.8-2



Bottom Hole: Snap-Lock  $\varnothing 3.5 \pm 0.08$   
 Panel Thickness: 0.8-2

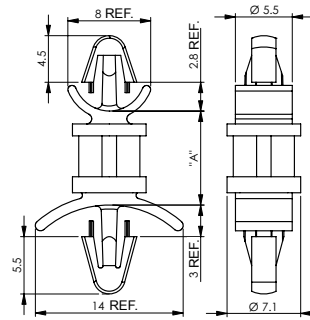
Part Number		"A" Standoff Height (mm)	Material	Std Pack Qty
DLCBS (Type 1)	DLCBS3 (Type 3)	4.8	UL94 V-2 Nylon 6/6, RMS-01	1000
DLCBS-3-01	DLCBS3-3-01	4.8	UL94 V-2 Nylon 6/6, RMS-01	1000
DLCBS-4-01	DLCBS3-4-01	6.4	UL94 V-2 Nylon 6/6, RMS-01	1000
-	-	7.9	UL94 V-2 Nylon 6/6, RMS-01	1000
DLCBS-6-01	DLCBS3-6-01	9.5	UL94 V-2 Nylon 6/6, RMS-01	1000
-	-	11.1	UL94 V-2 Nylon 6/6, RMS-01	1000
DLCBS-8-01	DLCBS3-8-01	12.7	UL94 V-2 Nylon 6/6, RMS-01	1000
DLCBS-9-01	-	14.3	UL94 V-2 Nylon 6/6, RMS-01	1000
DLCBS-10-01	DLCBS3-10-01	15.9	UL94 V-2 Nylon 6/6, RMS-01	1000
DLCBS-12-01	DLCBS3-12-01	19.1	UL94 V-2 Nylon 6/6, RMS-01	1000
DLCBS-14-01	DLCBS3-14-01	22.2	UL94 V-2 Nylon 6/6, RMS-01	1000
DLCBS-3-19	DLCBS3-3-19	4.8	UL94 V-0 Nylon 6/6, RMS-19	1000
DLCBS-4-19	DLCBS3-4-19	6.4	UL94 V-0 Nylon 6/6, RMS-19	1000
DLCBS-6-19	DLCBS3-6-19	9.5	UL94 V-0 Nylon 6/6, RMS-19	1000
DLCBS-8-19	DLCBS3-8-19	12.7	UL94 V-0 Nylon 6/6, RMS-19	1000
DLCBS-9-19	-	14.3	UL94 V-0 Nylon 6/6, RMS-19	1000
DLCBS-10-19	DLCBS3-10-19	15.9	UL94 V-0 Nylon 6/6, RMS-19	1000
DLCBS-12-19	DLCBS3-12-19	19.1	UL94 V-0 Nylon 6/6, RMS-19	1000
-	DLCBS3-14-19	22.2	UL94 V-0 Nylon 6/6, RMS-19	1000

# Dual Locking Spacers

DLCBS

## Dual Locking Circuit Board Support *CONTINUED*

Natural UL94 V2 Nylon6/6,RMS-01



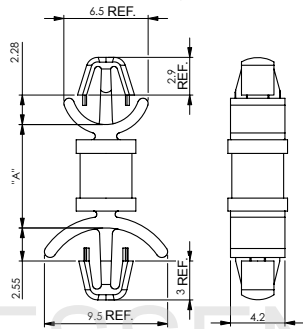
Type 6  
**DLCBS7**

Top Hole: Snap-lock: 4 ± 0.08  
Panel Thickness: 1.6  
Bottom Hole: Snap-lock: 4 ± 0.08  
Panel Thickness: 1.6

**DLCBS8**

Top Hole: Snap-Lock Ø3.5 ±0.08  
Panel Thickness: 0.8-1.6

Type 7

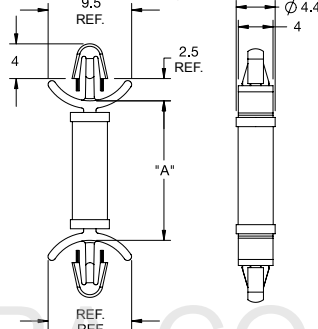


Bottom Hole: Snap-Lock Ø3.5 ±0.08  
Panel Thickness: 0.8-2

**DLCBSM**

Top Hole: Snap-lock: 3.18 ± 0.05  
Panel Thickness: 0.79 - 1.98

Type 8

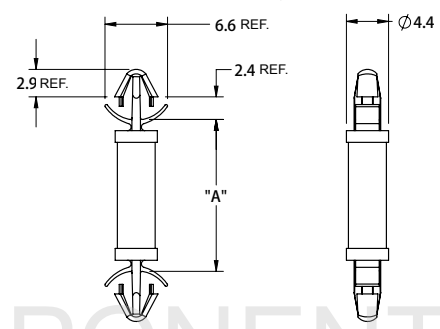


Bottom Hole: Snap-lock: 3.18 ± 0.05  
Panel Thickness: 0.79 - 1.98

**DLCBSM2**

Top Hole: Snap-lock: 3.0-3.2  
Panel Thickness: 1.2-2.0

Type 9



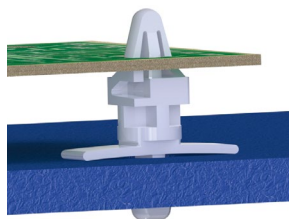
Bottom Hole: Snap-lock: 3.0-3.2  
Panel Thickness: 1.2-2.0

Part Number				"A" Standoff Height (mm)	Std Pack Qty
DLCBS7 (Type 6)	DLCBS8 (Type 7)	DLCBSM (Type 8)	DLCBSM2 (Type 9)		
DLCBS7-3-01	DLCBS8-3-01	DLCBSM-3-01	DLCBSM2-3-01	4.8	1000
DLCBS7-4-01	DLCBS8-4-01	DLCBSM-4-01	DLCBSM2-4-01	6.4	1000
DLCBS7-5-01	DLCBS8-5-01	DLCBSM-5-01	DLCBSM2-5-01	7.9	1000
DLCBS7-6-01	DLCBS8-6-01	DLCBSM-6-01	DLCBSM2-6-01	9.5	1000
DLCBS7-7-01	-	DLCBSM-7-01	DLCBSM2-7-01	11.1	1000
DLCBS7-8-01	DLCBS8-8-01	DLCBSM-8-01	DLCBSM2-8-01	12.7	1000
DLCBS7-9-01	-	DLCBSM-9-01	DLCBSM2-9-01	14.3	1000
DLCBS7-10-01	DLCBS8-10-01	DLCBSM-10-01	-	15.9	1000
DLCBS7-12-01	-	-	-	19.1	1000

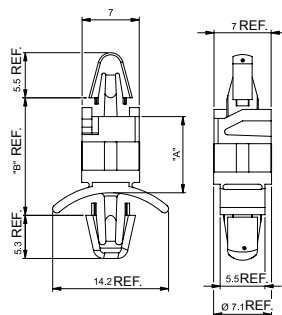
DLCBS4

## Dual Locking Circuit Board Support

Natural UL94 V2 Nylon6/6,RMS-01



Top Hole: Snap-Lock Ø 4.0 ±0.08  
Panel Thickness: 1.3-2



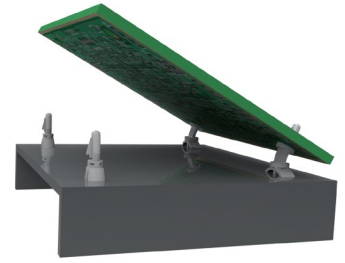
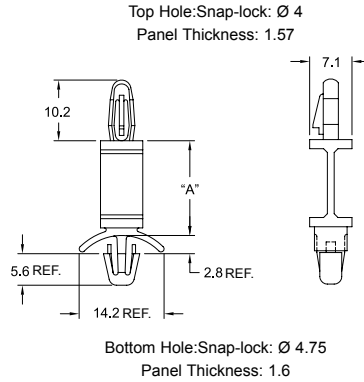
Bottom Hole: Snap-Lock Ø 4.75 ±0.08  
Panel Thickness: 0.8-2

Part Number	"A" Standoff Height (mm)	"B"(mm)	Std Pack Qty
DLCBS4-3.5-01	5.5	10.8	1000
DLCBS4-4-01	6.1	11.4	1000
DLCBS4-5-01	9.1	14.4	1000
DLCBS4-6-01	12.4	17.7	1000
DLCBS4-8-01	18.8	24.1	1000
DLCBS4-10-01	21.9	27.2	1000

## FLCBS Flexible Locking Circuit Board Support

Natural UL94 V2 Nylon/6,RMS-01

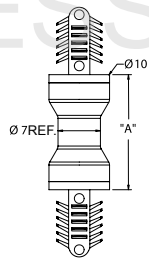
Part Number	"A" (mm)	Std Pack Qty
FLCBS-6-01	9.5	1000
FLCBS-8-01	12.7	1000
FLCBS-10-01	15.9	1000
FLCBS-12-01	19.1	1000
FLCBS-14-01	22.2	1000
FLCBS-16-01	25.4	1000
FLCBS-18-01	28.6	1000
FLCBS-20-01	31.8	1000
FLCBS-22-01	34.9	1000



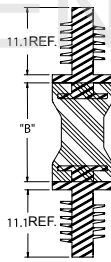
## HSCBS/VD Vibration and Shock Dampening

End Fix:  
Natural UL94 V0 Nylon 6/6,  
RMS-169

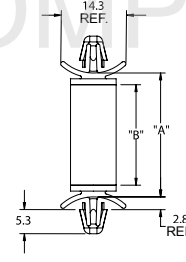
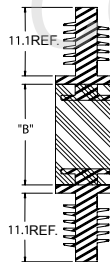
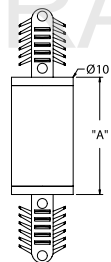
Part Number	Dimensions				Spacer Material:	Target Load	Type	Std Pack Qty
	"A" Uncompressed	"B" REF.	Hole $\varnothing$ (mm)	Panel Thickness(mm)				
VD-2	18.5	16.3	6.35 $\pm$ 0.08	1.8 - 7.9	Black UL94 HB TPE, 35 Shore A, RMS-167	4.4	1	1000
VD-3	24.7	22	6.35 $\pm$ 0.08	1.8 - 7.9		4.4	1	1000
VD-4	30.7	28	6.35 $\pm$ 0.08	1.8 - 7.9		4.4	1	1000
VD-5	12.4	9.7	6.35 $\pm$ 0.08	1.8 - 7.9		7.1	2	1000
VD-6	18.5	16.3	6.35 $\pm$ 0.08	1.8 - 7.9		7.1	2	1000
VD-7	24.7	22	6.35 $\pm$ 0.08	1.8 - 7.9	Black UL94 HB TPE, 45 Shore A, RMS-168	7.1	2	1000
VD-8	30.7	28	6.35 $\pm$ 0.08	1.8 - 7.9		7.1	2	1000
HSCBS-1	14.9	9.7	0.79 - 1.98	0.79 - 1.98		9.8	3	1000
HSCBS-2	21	16.3	0.79 - 1.98	0.79 - 1.98		9.8	3	1000
HSCBS-3	27.1	22	0.79 - 1.98	0.79 - 1.98	9.8	3	1000	



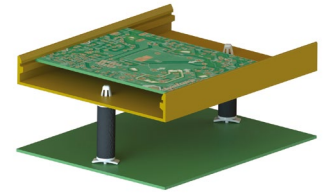
Type 1



Type 2



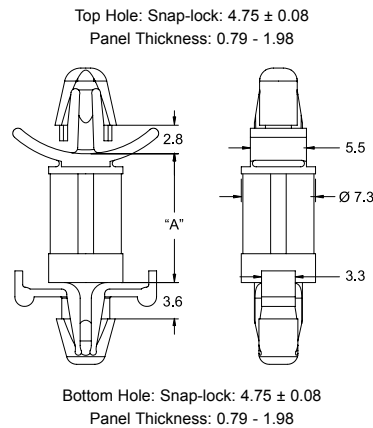
Type 3



## DLCBSRA Dual Locking Circuit Board Support

Natural UL94 V2 Nylon 6/6, RMS-01

Part Number	"A" Standoff Height (mm)	Std Pack Qty
DLCBSRA3-6-01	4.8	1000
DLCBSRA3-8-01	12.7	1000
DLCBSRA3-10-01	15.9	1000
DLCBSRA3-12-01	19.1	1000
DLCBSRA3-14-01	22.2	1000

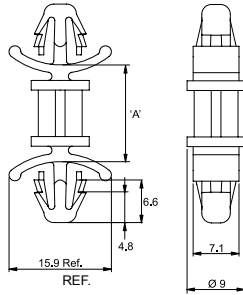


# Dual Locking Spacers

DLCBSHD

## Heavy Duty Circuit Board Support

Natural UL94 V2 Nylon 6/6, RMS-01



Part Number	Dimensions (mm)			Std Pack Qty
	"A"	$\varnothing$ Hole	Panel Thickness	
DLCBSHD-10M-01	10	6.3	0.8 - 2.2	1000
DLCBSHD-20M-01	20	6.3	0.8 - 2.2	1000
DLCBSHD-25M-01	25	6.3	0.8 - 2.2	1000
DLCBSHD-35M-01	35	6.3	0.8 - 2.2	1000

DLSP

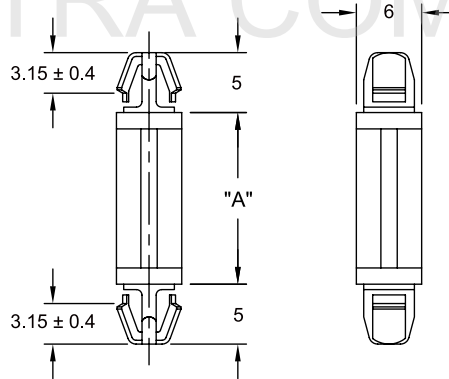
## Dual Locking Support Post

Natural UL94 V2 Nylon 6/6, RMS-01



### DLSP-1

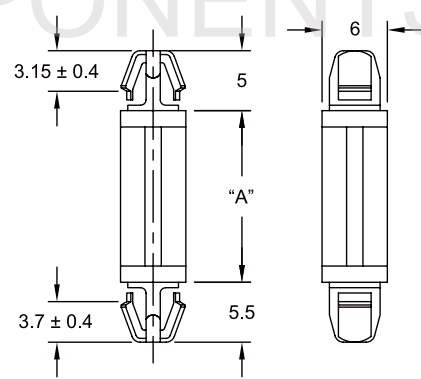
Top Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: 1.6



Bottom Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: 1.6

### DLSP-3

Top Hole: Snap-lock:  $\varnothing 4 \pm 0.08$   
Panel Thickness: 1.6



Bottom Hole: Snap-lock:  $\varnothing 4.8 \pm 0.08$   
Panel Thickness: 1.6

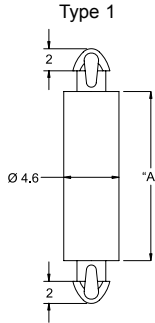
Part Number		"A" Standoff Height (mm)	Std Pack Qty
DLSP-1	DLSP-3		
DLSP-1-3M-01	DLSP-3-3M-01	3	1000
DLSP-1-4M-01	DLSP-3-4M-01	4	1000
DLSP-1-6M-01	DLSP-3-6M-01	6	1000
DLSP-1-8M-01	DLSP-3-8M-01	8	1000
DLSP-1-10M-01	DLSP-3-10M-01	10	1000
DLSP-1-12M-01	-	12	1000
DLSP-1-14M-01	DLSP-3-14M-01	14	1000
DLSP-1-16M-01	-	16	1000
DLSP-1-18M-01	-	18	1000
DLSP-1-25M-01	DLSP-3-25M-01	25	1000
DLSP-1-30M-01	-	30	1000

## MDLSP1/MDLSP2

### Metric Mini Dual Locking Support Post

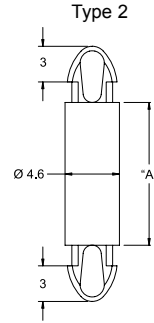
Natural UL94 V2 Nylon 6/6,RMS-01

Top Hole: Snap-lock:  $2.5 \pm 0.05$   
Panel Thickness: 1.65 Max.



Bottom Hole: Snap-lock:  $2.5 \pm 0.05$   
Panel Thickness: 1.65 Max.

Top Hole: Snap-lock:  $3.5 \pm 0.05$   
Panel Thickness: 1.65 Max.



Bottom Hole: Snap-lock:  $3.5 \pm 0.05$   
Panel Thickness: 1.65 Max.



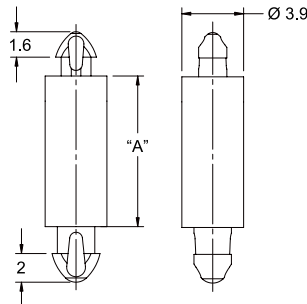
Part Number		"A" Standoff Height (mm)	Std Pack Qty
MDLSP1 (Type 1)	MDLSP2 (Type 2)		
MDLSP1-02M-01	MDLSP2-02M-01	2	1000
MDLSP1-03M-01	MDLSP2-03M-01	3	1000
MDLSP1-04M-01	MDLSP2-04M-01	4	1000
MDLSP1-05M-01	MDLSP2-05M-01	5	1000
MDLSP1-06M-01	MDLSP2-06M-01	6	1000
MDLSP1-07M-01	MDLSP2-07M-01	7	1000
MDLSP1-08M-01	MDLSP2-08M-01	8	1000
MDLSP1-09M-01	MDLSP2-09M-01	9	1000
MDLSP1-10M-01	MDLSP2-10M-01	10	1000
MDLSP1-12M-01	MDLSP2-12M-01	12	1000
MDLSP1-14M-01	MDLSP2-14M-01	14	1000
MDLSP1-16M-01	MDLSP2-16M-01	16	1000
MDLSP1-18M-01	MDLSP2-18M-01	18	1000
MDLSP1-20M-01	MDLSP2-20M-01	20	1000
MDLSP1-22M-01	MDLSP2-22M-01	22	1000

## MDLSP3

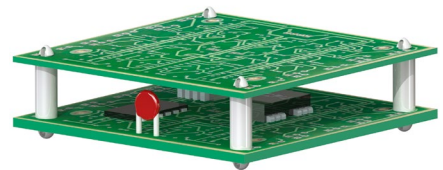
### Mini Dual Locking Support Post

Natural UL94 V2 Nylon 6/6,RMS-01

Top Hole: Snap-lock:  $2 \pm 0.05$   
Panel Thickness: 1.07 Max.



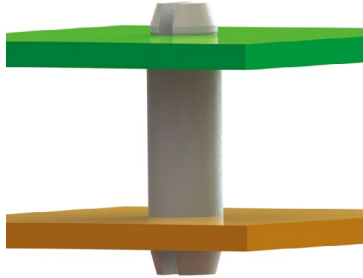
Bottom Hole: Snap-lock:  $2.5 \pm 0.05$   
Panel Thickness: 1.65 Max.



Part Number	"A" Standoff Height (mm)	Std Pack Qty
MDLSP3-1-01	1.6	1000
MDLSP3-2-01	3.2	1000
MDLSP3-3-01	4.8	1000
MDLSP3-4-01	6.4	1000
MDLSP3-5-01	7.9	1000
MDLSP3-6-01	9.5	1000

# Dual Locking Spacers

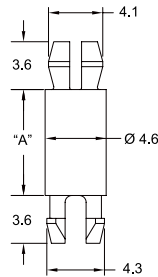
MSP/MSPM/DLMSP/DLMSPM/DLCBST  
**Mini Support Post**  
 Natural UL94 V2 Nylon 6/6,RMS-01



## MSP

Top Hole: Snap-lock:  $3.9 \pm 0.05$   
 Panel Thickness: 1.57

### Type 1

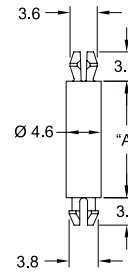


Bottom Hole: Snap-lock:  $3.9 \pm 0.05$   
 Panel Thickness: 1.57

## MSPM

Top Hole: Snap-lock:  $3.18 \pm 0.05$   
 Panel Thickness: 1.57

### Type 2

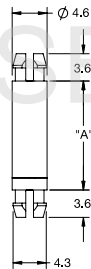


Bottom Hole: Snap-lock:  $3.18 \pm 0.05$   
 Panel Thickness: 1.57

## DLMSP

Top Hole: Snap-lock:  $3.86 \pm 0.05$   
 Panel Thickness: 1.57

### Type 3

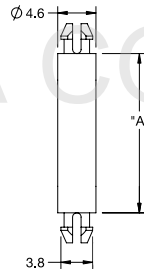


Bottom Hole: Snap-lock:  $3.86 \pm 0.05$   
 Panel Thickness: 1.57

## DLMSPM

Top Hole: Snap-lock:  $3.18 \pm 0.05$   
 Panel Thickness: 1.57

### Type 4

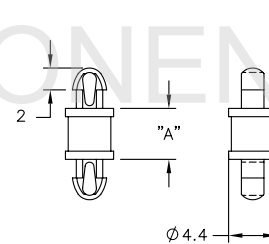


Bottom Hole: Snap-lock:  $3.18 \pm 0.05$   
 Panel Thickness: 1.57

## DLCBST

Top Hole: Snap-lock:  $2.54 \pm 0.05$   
 Panel Thickness: 1.63 Max.

### Type 5



Bottom Hole: Snap-lock:  $2.54 \pm 0.05$   
 Panel Thickness: 1.63 Max.

ESSENTIAL COMPONENTS

Part Number					"A" Standoff Height (mm)	Std Pack Qty
MSP (Type 1)	MSPM (Type 2)	DLMSP (Type 3)	DLMSPM (Type 4)	DLCBST (Type 5)		
Nylon 6/6, RMS-01	Nylon 6/6, RMS-01	Nylon 6/6, RMS-01	Nylon 6/6, RMS-01	Nylon 6/6, RMS-01		
-	-	-	-	DLCBST-1-01	1.6	1000
MSP-2-01	MSPM-2-01	DLMSP-2-01	DLMSPM-2-01	DLCBST-2-01	3.2	1000
MSP-3-01	MSPM-3-01	DLMSP-3-01	DLMSPM-3-01	DLCBST-3-01	4.8	1000
MSP-4-01	MSPM-4-01	DLMSP-4-01	DLMSPM-4-01	DLCBST-4-01	6.4	1000
MSP-5-01	MSPM-5-01	DLMSP-5-01	DLMSPM-5-01	DLCBST-5-01	7.9	1000
MSP-6-01	MSPM-6-01	DLMSP-6-01	DLMSPM-6-01	DLCBST-6-01	9.5	1000
MSP-7-01	MSPM-7-01	DLMSP-7-01	DLMSPM-7-01	DLCBST-7-01	11.1	1000
MSP-8-01	MSPM-8-01	DLMSP-8-01	DLMSPM-8-01	DLCBST-8-01	12.7	1000
MSP-9-01	MSPM-9-01	DLMSP-9-01	DLMSPM-9-01	DLCBST-9-01	14.3	1000
MSP-10-01	MSPM-10-01	DLMSP-10-01	DLMSPM-10-01	DLCBST-10-01	15.9	1000
MSP-11-01	-	-	-	-	17.5	1000
MSP-12-01	MSPM-12-01	DLMSP-12-01	DLMSPM-12-01	-	19.1	1000
MSP-13-01	MSPM-13-01	-	DLMSPM-13-01	-	20.6	1000
MSP-14-01	MSPM-14-01	DLMSP-14-01	DLMSPM-14-01	-	22.2	1000
MSP-16-01	MSPM-16-01	DLMSP-16-01	DLMSPM-16-01	-	25.4	1000
MSP-18-01	MSPM-18-01	DLMSP-18-01	DLMSPM-18-01	-	28.6	1000
MSP-20-01	MSPM-20-01	DLMSP-20-01	DLMSPM-20-01	-	31.8	1000
MSP-22-01	MSPM-22-01	DLMSP-22-01	DLMSPM-22-01	-	34.9	1000
MSP-24-01	MSPM-24-01	DLMSP-24-01	DLMSPM-24-01	-	38.1	1000

SP/MSPE

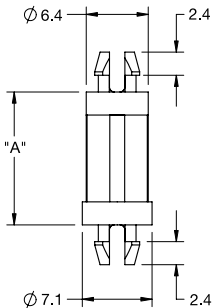
## Support Post

Natural UL94 V2 Nylon 6/6,RMS-01

### SP1

Top Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: 1.57

#### Type 1



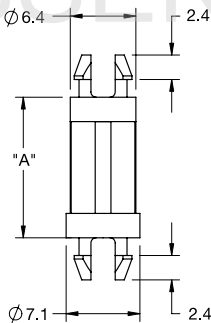
Bottom Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: 1.57



### SP2

Top Hole: Snap-lock:  $4.75 \pm 0.08$   
Panel Thickness: 1.57

#### Type 2

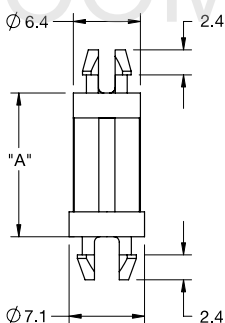


Bottom Hole: Snap-lock:  $4.75 \pm 0.08$   
Panel Thickness: 1.57

### SP3

Top Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: 1.57

#### Type 3

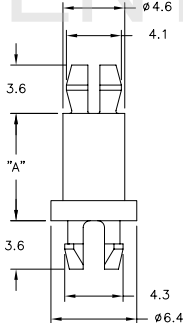


Bottom Hole: Snap-lock:  $4.75 \pm 0.08$   
Panel Thickness: 1.57

### MSPE

Top Hole: Snap-lock:  $3.9 \pm 0.05$   
Panel Thickness: 1.57

#### Type 4



Bottom Hole: Snap-lock:  $3.9 \pm 0.05$   
Panel Thickness: 1.57

ESSENTIAL COMPONENTS

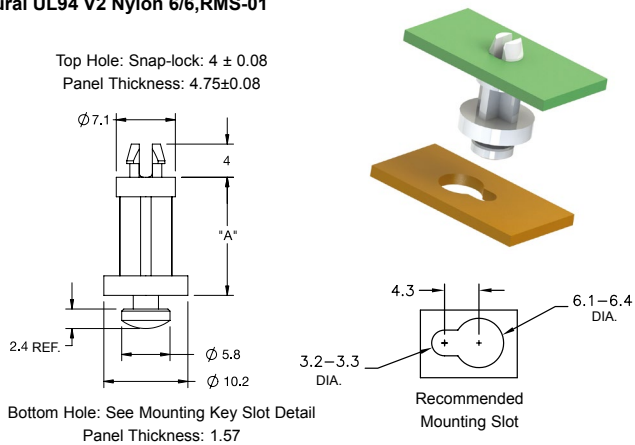
Part Number				"A" Standoff Height (mm)	Std Pack Qty
SP1 (Type 1)	SP2 (Type 2)	SP3 (Type 3)	MSPE (Type 4)		
Nylon 6/6, RMS-01	Nylon 6/6, RMS-01	Nylon 6/6, RMS-01	Nylon 6/6, RMS-01		
-	-	-	MSPE-2-01	3.2	1000
SP1-3-01	SP2-3-01	SP3-3-01	MSPE-3-01	4.8	1000
SP1-4-01	SP2-4-01	SP3-4-01	MSPE-4-01	6.4	1000
-	-	-	MSPE-5-01	7.9	1000
SP1-6-01	SP2-6-01	SP3-6-01	MSPE-6-01	9.5	1000
-	-	-	MSPE-7-01	11.1	1000
SP1-8-01	-	SP3-8-01	MSPE-8-01	12.7	1000
SP1-10-01	SP2-10-01	SP3-10-01	MSPE-10-01	15.9	1000
-	-	-	MSPE-11-01	17.5	1000
SP1-12-01	SP2-12-01	SP3-12-01	MSPE-12-01	19.1	1000
SP1-14-01	SP2-14-01	SP3-14-01	MSPE-14-01	22.2	1000
SP1-16-01	-	-	MSPE-16-01	25.4	1000

# Dual Locking Spacers

KSLSP

## Key Slot Locking Support Post

Natural UL94 V2 Nylon 6/6, RMS-01

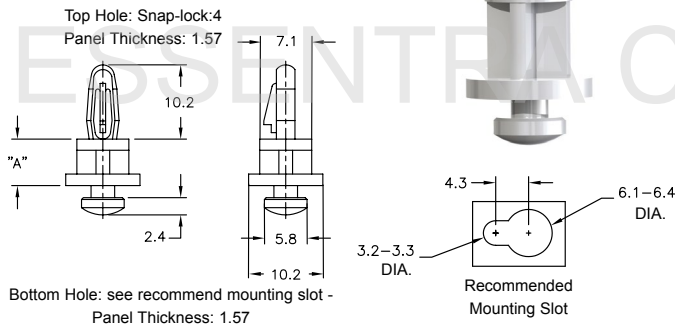


Part Number		"A" Standoff Height (mm)	Std Pack Qty
KSLSP1	KSLSP2		
KSLSP1-3-01	KSLSP2-3-01	4.8	1000
KSLSP1-4-01	KSLSP2-4-01	6.4	1000
KSLSP1-6-01	KSLSP2-6-01	9.5	1000
KSLSP1-8-01	KSLSP2-8-01	12.7	1000
-	KSLSP2-10-01	15.9	1000

KSLBN

## Key Slot with Locking Bayonet Nose

Natural UL94 V2 Nylon 6/6, RMS-01

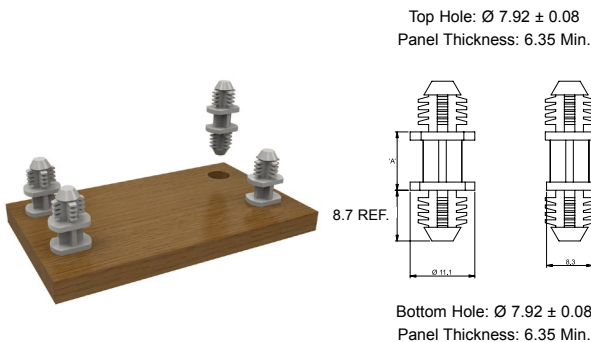


Part Number	"A" Standoff Height (mm)	Top Panel Thickness (mm)	Top Hole $\varnothing$	Std Pack Qty
KSLBN-2-01	3.2	1.57	4	1000
KSLBN-4-01	6.4	1.57	4	1000
KSLBN-6-01	9.5	1.57	4	1000
KSLBN-8-01	12.7	1.57	4	1000
KSLBN-2-2-01	3.2	2.4	4	1000
KSLBN-2-6-01	9.5	2.4	4	1000

BHDF

## Blind Hole Circuit Board Support

Natural UL94 V2 Nylon 6/6, RMS-01



Part Number	"A" Standoff Height (mm)	Std Pack Qty
BHDF-3M-01	3	1000
BHDF-4M-01	4	1000
BHDF-6M-01	6	1000
BHDF-8M-01	8	1000
BHDF-12M-01	12	1000
BHDF-14M-01	14	1000
BHDF-16M-01	16	1000
BHDF-18M-01	18	1000
BHDF-20M-01	20	1000

BHL/BHC/BHDL

## Blind Hole Mount Circuit Board Supports

Natural UL94 V2 Nylon 6/6, RMS-01

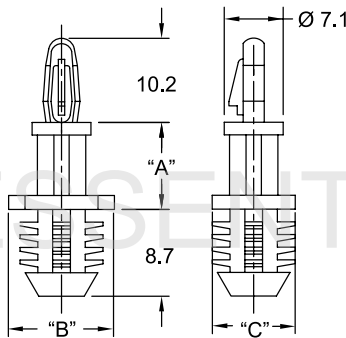
Part Number			Dimensions (mm)			Std Pack Qty
BHL (Type 1)	BHC (Type 2)	BHDL (Type 3)	"A" Standoff Height (mm)	"B"	"C"	
BHL-3-01	BHC-3-01	-	4.8	11.1	7.9	1000
BHL-4-01	BHC-4-01	BHDL-4-01	6.4	11.1	7.9	1000
BHL-6-01	BHC-6-01	BHDL-6-01	9.5	11.1	7.9	1000
BHL-7-01	-	-	11.1	11.1	7.9	1000
BHL-8-01	BHC-8-01	BHDL-8-01	12.7	11.1	7.9	1000
BHL-10-01	-	BHDL-10-01	15.9	11.1	7.9	1000
BHL-12-01	BHC-12-01	-	19.1	11.1	7.9	1000
BHL-14-01	BHC-14-01	-	22.2	11.1	7.9	1000



### BHL

Top Hole: Snap-lock: 4  
Panel Thickness: 1.57

Type 1

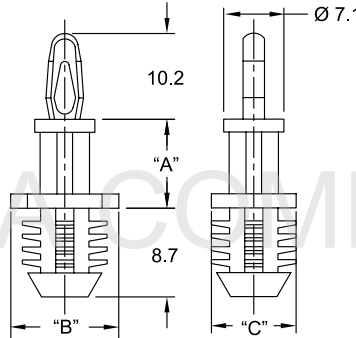


Bottom Hole: Press-fit: 7.92  
Panel Thickness: 6.4Min.

### BHC

Top Hole: Snap-lock: 4  
Panel Thickness: 1.57

Type 2

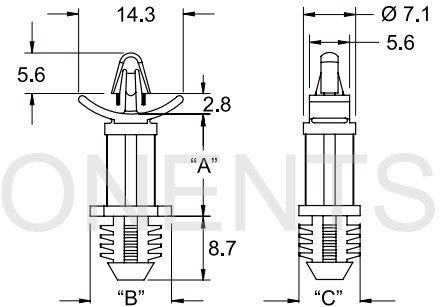


Bottom Hole: Press-fit: 7.92  
Panel Thickness: 6.4Min.

### BHC

Top Hole: Snap-lock: 4  
Panel Thickness: 0.79-1.98

Type 3



Bottom Hole: Press-fit: 7.92  
Panel Thickness: 6.4Min.

### TCS

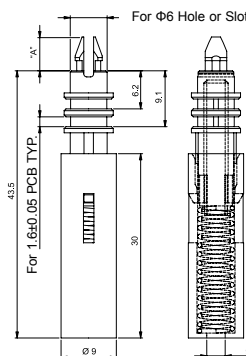
## Touch Control Spacer

Natural

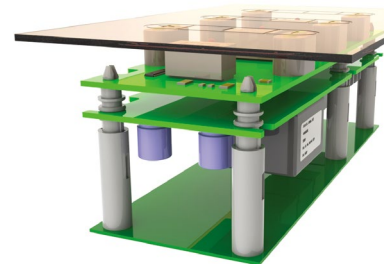
- Spring provides continuous force to light sensors mounted onto a PCB so that they are in constant contact with the cover
- Travel: 3mm

Part Number	"A" (mm)	Spacer Material	Spring Material	Std Pack Qty
TCS-1	5.4	Nylon 6/6, RMS-01	Stainless Steel, RMS-230	500
TCS-3	4.2	Nylon 6/6, RMS-01	Stainless Steel, RMS-230	500
TCS4	4.2	Nylon 6/6, RMS-19	Stainless Steel, RMS-230	500

Top Hole: Snap-lock: 4.2 ± 0.05  
Panel Thickness: 1.6 ± 0.05



Bottom Hole: To locate over a vertical tab

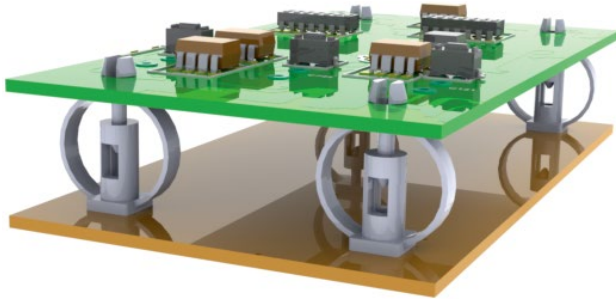


# Push Spacers

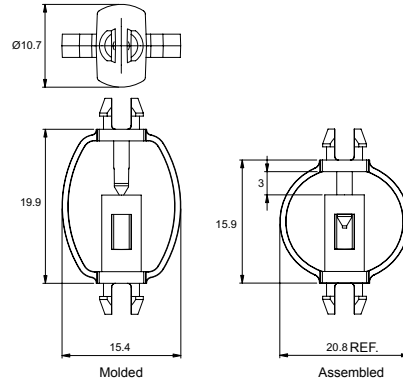
CBSP

## Sprung Spacer

Natural Acetal, RMS-61



Top Hole: Snap-lock:  $\varnothing 4.8 \pm 0.08$   
Panel Thickness: 1.6



Bottom Hole: Snap-lock:  $\varnothing 4.8$   
Panel Thickness: 1.6

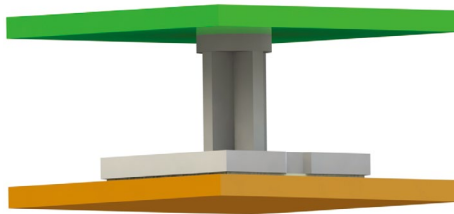
Part Number	Std Pack Qty
CBSP-1	1000

PSB

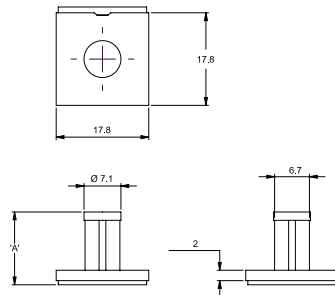
## Push Spacer on Adhesive Base

Natural UL94 V2 Nylon 6/6, RMS-01

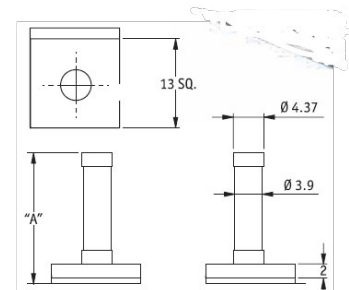
• Adhesive: 0.8 thick double-sided adhesive tape, RMS-24



PSB



PSBM

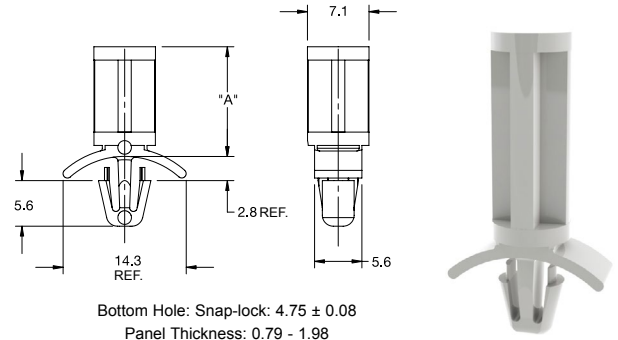


Part Number	"A" (mm)	Std Pack Qty
PSB-6M-01A2-RT	6	1000
PSB-8M-01A2-RT	8	1000
PSB-10M-01A2-RT	10	1000
PSB-12M-01A2-RT	12	1000
PSB-14M-01A2-RT	14	1000
PSB-16M-01A2-RT	16	1000

Part Number	"A" (mm)	Std Pack Qty
PSBM-3-01A-RT	4.8	1000
PSBM-4-01A-RT	6.4	1000
PSBM-5-01A-RT	7.9	1000
PSBM-6-01A-RT	9.5	1000
PSBM-7-01A-RT	11.1	1000
PSBM-8-01A-RT	12.7	1000
PSBM-9-01A-RT	14.3	1000
PSBM-10-01A-RT	15.9	1000
PSBM-12-01A-RT	19.1	1000
PSBM-14-01A-RT	22.2	1000

## PS Push Spacer Natural

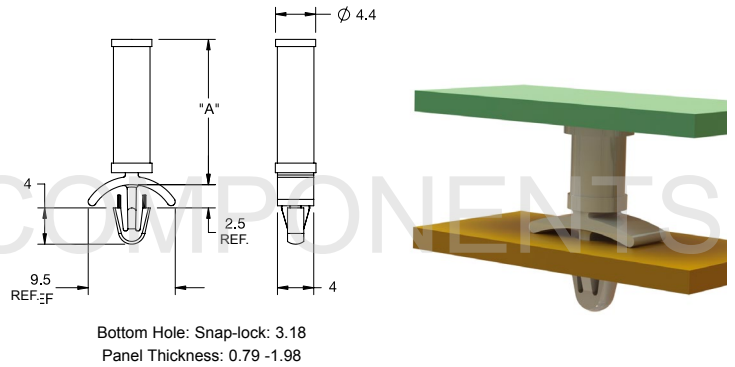
Part Number		"A" Standoff Height (mm)	Std Pack Qty
UL94 V2 Nylon 6/6,RMS-01	UL94 V-0 Nylon 6/6,RMS-19		
PS-3-01	PS-3-19	4.8	1000
PS-4-01	PS-4-19	6.4	1000
PS-6-01	PS-6-19	9.5	1000
PS-7-01	PS-7-19	11.1	1000
PS-8-01	PS-8-19	12.7	1000
PS-10-01	PS-10-19	15.9	1000
PS-12-01	-	19.1	1000
PS-14-01	PS-14-19	22.2	1000



## PSM Mini Push Spacer Natural UL94 V2 Nylon 6/6, RMS-01

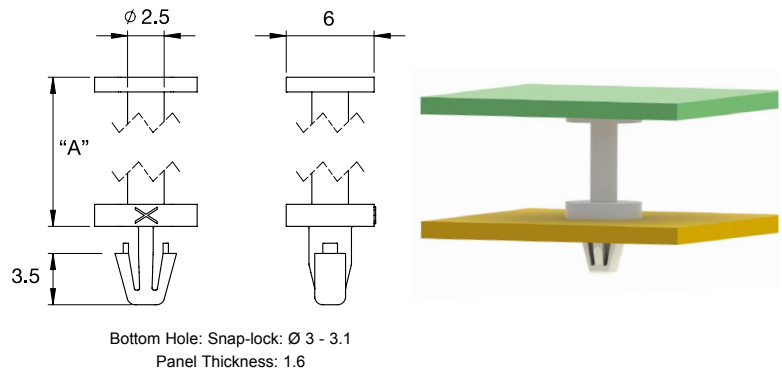


Part Number		"A" Standoff Height (mm)	Std Pack Qty
PSM-2-01	-	3.2	1000
PSM-3-01	MPS-3-01	4.8	1000
PSM-4-01	MPS-4-01	6.4	1000
PSM-5-01	MPS-5-01	7.9	1000
PSM-6-01	MPS-6-01	9.5	1000
PSM-7-01	-	11.1	1000
PSM-8-01	MPS-8-01	12.7	1000
PSM-9-01	-	14.3	1000
PSM-10-01	-	15.9	1000



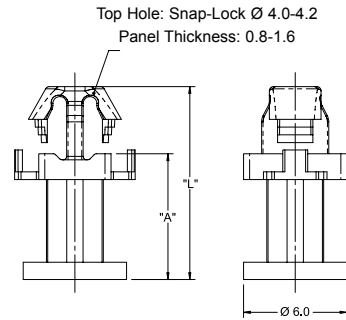
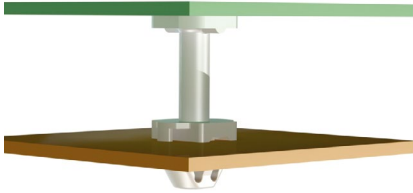
## PSD Metric Push Spacer Natural

Part Number		"A" Standoff Height (mm)	Std Pack Qty
UL94 V-2 Nylon 6/6, RMS-01	UL94 V-0 Nylon 6/6, RMS-19		
PSD-4M-01	-	4	1000
PSD-6M-01	PSD-6M-19	6	1000
PSD-7M-01	PSD-7M-19	7	1000
PSD-8M-01	PSD-8M-19	8	1000
PSD-10M-01	PSD-10M-19	10	1000
PSD-12M-01	-	12	1000
PSD-14M-01	PSD-14M-19	14	1000
PSD-18M-01	PSD-18M-19	18	1000



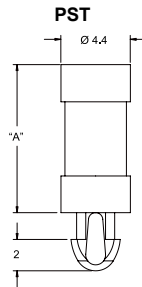
# Push Spacers

## PSE Push Spacer Natural



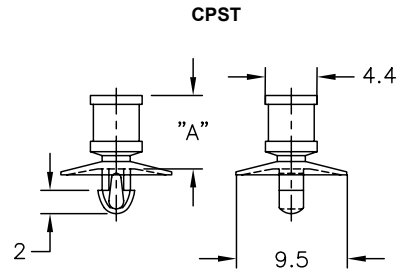
Part Number		"A"	"L"	Std Pack Qty
UL94 V-2 Nylon 6/6, RMS-01	UL94 V-0 Nylon 6/6, RMS-19			
PSE-3M-01	PSE-3M-19	3.0	6.9	1000
PSE-4M-01	PSE-4M-19	4.0	7.9	1000
PSE-5M-01	PSE-5M-19	5.0	8.9	1000
-	PSE-6M-19	6.0	9.9	1000
PSE-7M-01	PSE-7M-19	7.0	10.9	1000
PSE-7.3M-01	PSE-7.3M-19	7.3	11.2	1000
PSE-8M-01	PSE-8M-19	8.0	11.9	1000
PSE-9M-01	PSE-9M-19	9.0	12.9	1000
PSE-10M-01	PSE-10M-19	10.0	13.9	1000
PSE-11M-01	PSE-11M-19	11.0	14.9	1000
PSE-12M-01	PSE-12M-19	12.0	15.9	1000

## PST/CPST Push Spacer Teardrop Natural



Type 1

Bottom Hole: Snap-lock: 2.54 ± 0.05  
Panel Thickness: 1.63 Max.



Type 2

Bottom Hole: Snap-lock: 2.54 ± 0.05  
Panel Thickness: 1.57 Max.

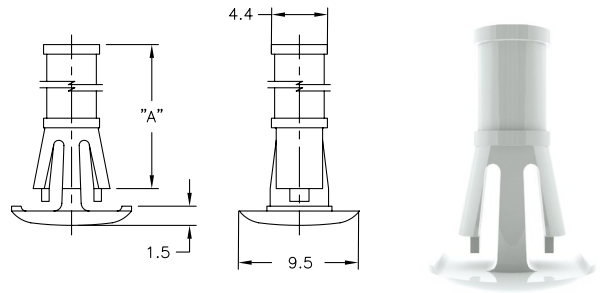
Part Number			"A" Standoff Height (mm)	Std Pack Qty
UL94 V2 Nylon 6/6, RMS-01	UL94 V0 Nylon 6/6, RMS-19	UL94 V2 Nylon 6/6, RMS-01		
PST-1-01	PST-1-19	-	1.6	1000
PST-2-01	PST-2-19	CPST-2-01	3.2	1000
PST-3-01	PST-3-19	CPST-3-01	4.8	1000
PST-4-01	PST-4-19	CPST-4-01	6.4	1000
PST-5-01	PST-5-19	CPST-5-01	7.9	1000
PST-6-01	PST-6-19	CPST-6-01	9.5	1000
PST-7-01	PST-7-19	CPST-7-01	11.1	1000
PST-8-01	PST-8-19	-	12.7	1000
PST-9-01	PST-9-19	CPST-9-01	14.3	1000
PST-10-01	PST-10-19	CPST-10-01	15.9	1000

## RLCBSRS

### Reverse Locking Circuit Board Support Round Hole Spacer

Natural UL94 V2 Nylon 6/6, RMS-01

Part Number	"A" Standoff Height (mm)	Std Pack Qty
RLCBSRS-4-01	6.4	1000
RLCBSRS-5-01	7.9	1000
RLCBSRS-6-01	9.5	1000
RLCBSRS-7-01	11.1	1000
RLCBSRS-8-01	12.7	1000
RLCBSRS-10-01	15.9	1000



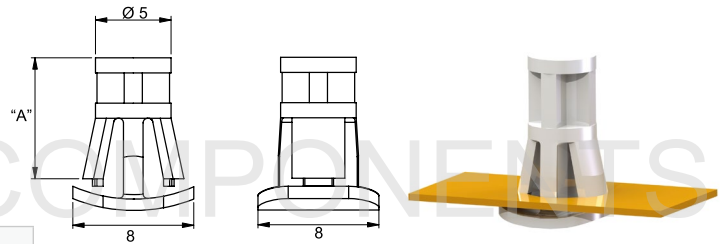
Bottom Hole: Snap-lock:  $4.75 \pm 0.08$   
Panel Thickness: 1.5 - 1.6

## RLCBSB

### Metric Reverse Lock Circuit Board Support Push Spacer

Natural UL94 V2 Nylon 6/6, RMS-01

Part Number	"A" Standoff Height (mm)	Std Pack Qty
RLCBSB-5-01	5	1000
RLCBSB-6-01	6	1000
RLCBSB-8-01	8	1000
RLCBSB-10-01	10	1000
RLCBSB-12-01	12	1000
RLCBSB-14-01	14	1000



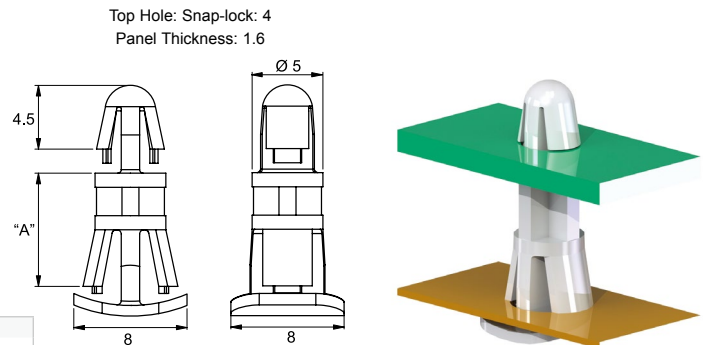
Bottom Hole: Snap-lock: 5.5  
Panel Thickness: 0.5 - 1

## RLCBSA

### Metric Reverse Lock Circuit Board Support

Natural UL94 V2 Nylon 6/6, RMS-01

Part Number	"A" Standoff Height (mm)	Std Pack Qty
RLCBSA-5-01	5	1000
RLCBSA-6-01	6	1000
RLCBSA-8-01	8	1000
RLCBSA-10-01	10	1000
RLCBSA-12-01	12	1000
RLCBSA-14-01	14	1000



Top Hole: Snap-lock: 4  
Panel Thickness: 1.6

Bottom Hole: Snap-lock: 5.5  
Panel Thickness: 0.5 - 1

# Reverse Locking Spacers

RLCBSC

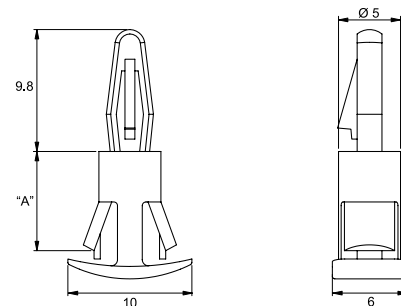
## Metric Reverse Lock Circuit Board Support

Natural UL94 V2 Nylon 6/6, RMS-01



Part Number	"A" Standoff Height (mm)	Std Pack Qty
RLCBSC-5-01	5	1000
RLCBSC-6-01	6	1000
RLCBSC-8-01	8	1000
RLCBSC-10-01	10	1000
RLCBSC-12-01	12	1000
RLCBSC-14-01	14	1000

Top Hole: Snap-lock: 3.2  
Panel Thickness: 1.6



Bottom Hole: Snap-lock: 5.4  
Panel Thickness: 0.8

RLCBSA2

## Metric Reverse Lock Circuit Board Support

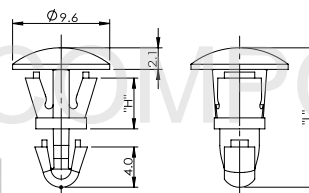
Natural UL94 V2 Nylon 6/6, RMS-01



ESSENTIAL COMPONENTS

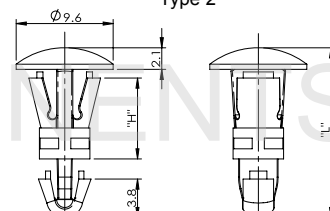
Part Number	"H"(mm)	"L"(mm)	Type	Std Pack Qty
RLCBSA2-5-19	5.0	13.8	1	1000
RLCBSA2-6-19	6.0	14.7	1	1000
RLCBSA2-7-19	7.0	15.8	1	1000
RLCBSA2-8-19	8.0	16.8	2	1000
RLCBSA2-10-19	10.0	18.8	2	1000
RLCBSA2-12-19	12.0	20.8	2	1000
RLCBSA2-14-19	14.0	22.8	2	1000
RLCBSA2-16-19	16.0	24.8	2	1000

Type 1



Top Hole: Snap-lock:  $\varnothing 5.5 - 5.7$ mm  
Panel Thickness: 0.8 - 1.6mm

Type 2

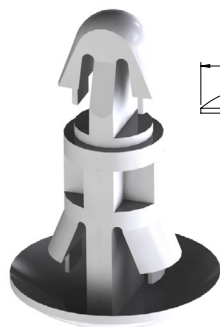


Bottom Hole: Snap-lock:  $\varnothing 4.0 - 4.1$ mm  
Panel Thickness: 1.6mm

RLCBSA3

## Reverse Locking Circuit Support Push Spacer

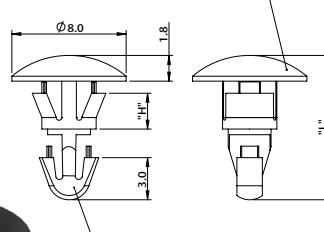
Natural UL94 V0 Nylon 6/6, RMS-19



Part Number	"H" (mm)	"L" REF.	Type	Std Pack Qty
RLCBSA3-2.5-19	2.5	10.1	1	1000
RLCBSA3-3-19	3.2	10.8	1	1000
RLCBSA3-4-19	4.0	11.6	2	1000
RLCBSA3-5-19	5.0	12.6	2	1000
RLCBSA3-6-19	6.0	13.6	2	1000
RLCBSA3-7-19	7.0	14.6	2	1000
RLCBSA3-8-19	8.0	15.6	2	1000
RLCBSA3-9-19	9.0	16.6	2	1000
RLCBSA3-10-19	10.0	17.6	2	1000
RLCBSA3-12-19	12.0	19.6	2	1000
RLCBSA3-14-19	14.0	21.6	2	1000
RLCBSA3-16-19	16.0	23.6	2	1000

Type 1

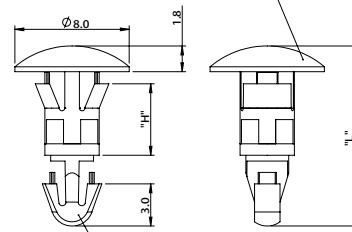
Top Hole: Snap-lock: 4.0 ~ 4.2  
Panel Thickness: 0.8 - 1.8



Bottom Hole: Snap-lock: 3.0 - 3.2  
Panel Thickness: 1.6 ± 0.08

Type 2

Top Hole: Snap-lock: 4.0 ~ 4.2  
Panel Thickness: 0.8 - 1.8



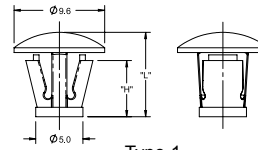
Bottom Hole: Snap-lock: 3.0 - 3.2  
Panel Thickness: 1.6 ± 0.08

## RLCBSB2

### Metric Reverse Lock Circuit Board Support

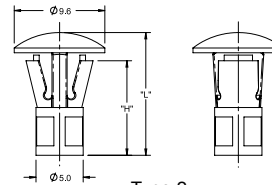
Natural UL94 V0 Nylon 6/6, RMS-19

Part Number	"H"(mm)	"L" REF.	Type	Std Pack Qty
RLCBSB2-5-19	5.0	8.0	1	1000
RLCBSB2-6-19	6.0	9.0	1	1000
RLCBSB2-7-19	7.0	10.0	1	1000
RLCBSB2-8-19	8.0	11.0	2	1000
RLCBSB2-9-19	9.0	12.0	2	1000
RLCBSB2-10-19	10.0	13.0	2	1000
RLCBSB2-12-19	12.0	15.0	2	1000
RLCBSB2-14-19	14.0	17.0	2	1000
RLCBSB2-16-19	16.0	19.0	2	1000



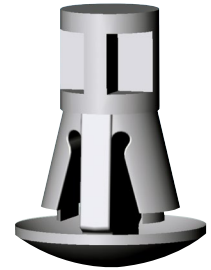
Type 1

Top Hole: Snap-lock: Ø5.5 - 5.7mm  
Panel Thickness: 0.8 - 1.6mm



Type 2

Bottom Hole: Snap-lock: Ø5.5 - 5.7mm  
Panel Thickness: 0.8 - 1.6mm



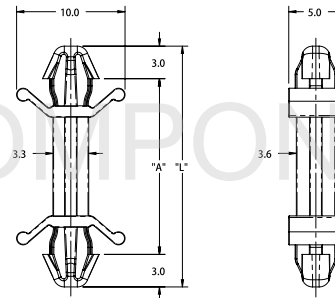
## DLCBSTA

### Dual Locking Circuit Board Support

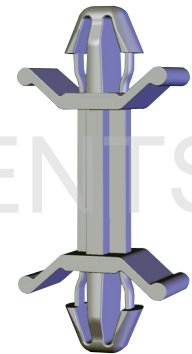
Natural UL94 V0 Nylon 6/6, RMS-19

Part Number	Dimensions (mm)				Std Pack Qty
	"A"	"B"	"L"	"H"	
DLCBSTA-1-19	9.2	4.2	15.2	6.0	1000
DLCBSTA-2-19	16.2	11.2	22.2	13.0	1000
DLCBSTA-3-19	11.2	6.2	17.2	8.0	1000
DLCBSTA-4-19	13.2	8.2	19.2	10.0	1000
DLCBSTA-5-19	15.2	10.2	21.2	12.0	1000
DLCBSTA-6-19	17.2	12.2	23.2	14.0	1000
DLCBSTA-7-19	19.2	14.2	25.2	16.0	1000
DLCBSTA-8-19	20.0	15.0	26.0	16.8	1000
DLCBSTA-9-19	21.2	16.2	27.2	18.0	1000
DLCBSTA-10-19	23.2	18.2	29.2	20.0	1000

Top Hole: Snap-lock: Ø4.0mm  
Panel Thickness: 1.6mm



Bottom Hole: Snap-lock: Ø4.0mm  
Panel Thickness: 1.6mm



## CRLCBSR/CRLCBSRE

### Cupped Reverse Locking Circuit Board Support

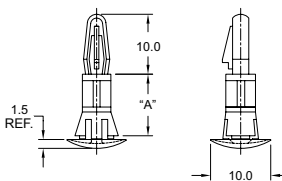
Natural UL94 V2 Nylon 6/6, RMS-01

CRLCBSR (Type 1)	CRLCBSRE (Type 2)	"A" Standoff Height (mm)	Std Pack Qty
CRLCBSR-3-01	-	4.8	1000
CRLCBSR-4-01	CRLCBSRE-4-01	6.4	1000
CRLCBSR-5-01	-	7.9	1000
CRLCBSR-6-01	CRLCBSRE-6-01	9.5	1000
CRLCBSR-8-01	CRLCBSRE-8-01	12.7	1000
-	CRLCBSRE-10-01	15.9	1000
CRLCBSR-12-01	-	19.1	1000

#### CRLCBSR

Top Hole: Snap-lock: 4 ± 0.08  
Panel Thickness: 1.6

Type 1

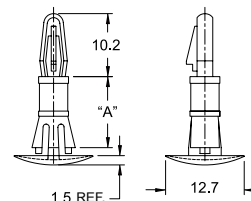


Bottom Hole: Snap-lock: 6 ± 0.08  
Panel Thickness: 0.8 - 1.2

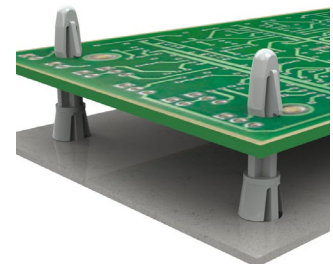
#### CRLCBSRE

Top Hole: Snap-lock: 4 ± 0.08  
Panel Thickness: 1.6

Type 2



Bottom Hole: Snap-lock: 5.4 ± 0.08  
Panel Thickness: 1.2 - 2



# Reverse Locking Spacers

RLCBSR/RLCBSRE/RLCBSR/RCBSR

## Reverse Mounted Circuit Board Support Round Hole

Natural UL94 V2 Nylon, RMS-01

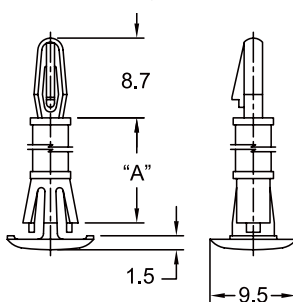


### RLCBSR

Top Hole: Snap-lock:  $3.18 \pm 0.05$

Panel Thickness: 1.6

Type 1



Bottom Hole: Snap-lock:  $4.75 \pm 0.08$

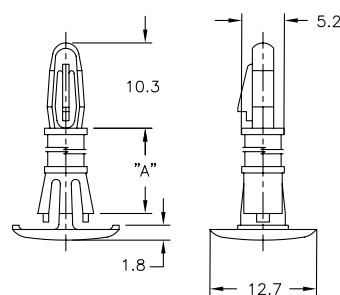
Panel Thickness: 1.5 - 1.6

### RLCBSRE

Top Hole: Snap-lock:  $4 \pm 0.08$

Panel Thickness: 1.6

Type 2



Bottom Hole: Snap-lock:  $5.41 \pm 0.08$

Panel Thickness: 1.5 - 1.65

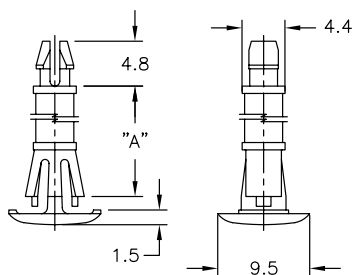
# ESSENTRA COMPONENTS

### RLCBSRR

Top Hole: Snap-lock:  $3.18 \pm 0.05$

Panel Thickness: 1.6

Type 3



Bottom Hole: Snap-lock:  $4.75 \pm 0.08$

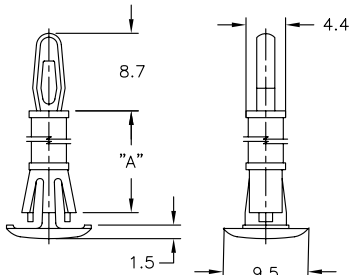
Panel Thickness: 1.5 - 1.6

### RCBSR

Top Hole: Snap-lock:  $3.18 \pm 0.05$

Panel Thickness: 1.6

Type 4



Bottom Hole: Snap-lock:  $4.75 \pm 0.08$

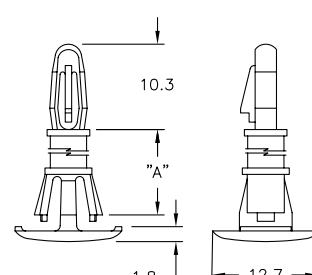
Panel Thickness: 1.5 - 1.6

### RLCBSR1

Top Hole: Snap-lock:  $4 \pm 0.08$

Panel Thickness: 1.6

Type 5



Bottom Hole: Snap-lock:  $6.35 \pm 0.08$

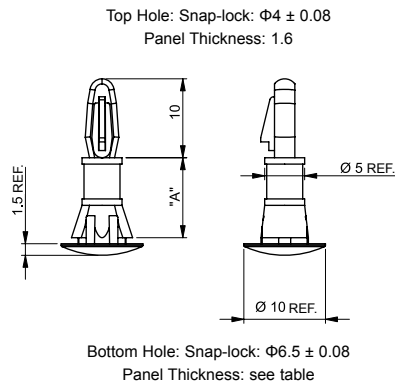
Panel Thickness: 1.5 - 1.65

Part Number					"A" Standoff Height (mm)	Std Pack Qty
RLCBSR (Type 1)	RLCBSRE (Type 2)	RLCBSR (Type 3)	RCBSR (Type 4)	RLCBSR1 (Type 5)		
RLCBSR-4-01	RLCBSRE-4-01	RLCBSR-4-01	RCBSR-4-01	RLCBSR1-4-01	6.4	1000
RLCBSR-5-01	-	RLCBSR-5-01	-	-	7.9	1000
RLCBSR-6-01	RLCBSRE-6-01	RLCBSR-6-01	RCBSR-6-01	RLCBSR1-6-01	9.5	1000
RLCBSR-7-01	-	RLCBSR-7-01	RCBSR-7-01	-	11.1	1000
RLCBSR-8-01	RLCBSRE-8-01	RLCBSR-8-01	RCBSR-8-01	RLCBSR1-8-01	12.7	1000
RLCBSR-9-01	-	RLCBSR-9-01	RCBSR-9-01	-	14.3	1000
RLCBSR-10-01	RLCBSRE-10-01	RLCBSR-10-01	RCBSR-10-01	-	15.9	1000

## CRLCBSM1 Metric Reverse Locking Circuit Board Support

Natural UL94 V0 Nylon 6/6, RMS-19

Part Number	"A" Standoff Height (mm)	Panel Thickness	Std Pack Qty
CRLCBSM1-5-19	5	1.6 - 2.0	1000
CRLCBSM1-6-19	6	1.6 - 2.0	1000
CRLCBSM1-7-19	7	1.6 - 2.0	1000
CRLCBSM1-8-19	8	1.6 - 2.0	1000
CRLCBSM1-9-19	9	1.6 - 2.0	1000
CRLCBSM1-10-19	10	1.6 - 2.0	1000
CRLCBSM1-12-19	12	1.6 - 2.0	1000



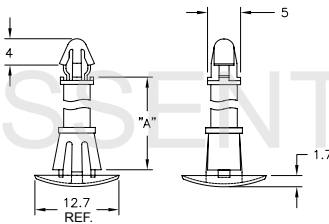
## RLCBSK/CRLCBSK Cupped Reverse Locking Circuit Board Support

Natural Nylon 6/6, RMS-01

### CRLCBSK-2

Top Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: 1.6

Type 1

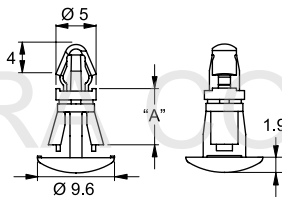


Bottom Hole: Snap-lock:  $5.4 \pm 0.08$   
Panel Thickness: 1-1.6

### RLCBSK

Top Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: 1.6

Type 2

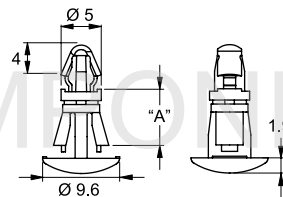


Bottom Hole: Snap-lock:  $5.4 \pm 0.08$   
Panel Thickness: 1.6

### RLCBSK-2

Top Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: 1.6

Type 3



Bottom Hole: Snap-lock:  $5.4 \pm 0.08$   
Panel Thickness: 2

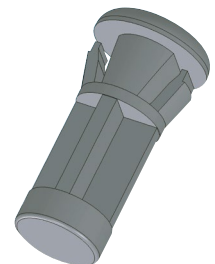
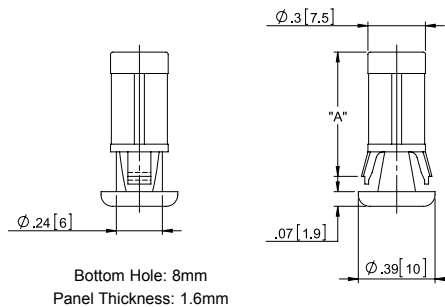


Part Number				"A" Standoff Height (mm)	Std Pack Qty
CRLCBSK-2 (Type 1)	RLCBSK (Type 2)		RLCBSK-2 (Type 3)		
-	RLCBSK-6-01	RLCBSK-6-19	RLCBSK-2-6-19	6	1000
-	RLCBSK-7-01	-	-	7	1000
CRLCBSK-2-8-01	RLCBSK-8-01	RLCBSK-8-19	RLCBSK-2-8-19	8	1000
CRLCBSK-2-10-01	RLCBSK-10-01	RLCBSK-10-19	RLCBSK-2-10-19 10	10	1000
CRLCBSK-2-12-01	RLCBSK-12-01	RLCBSK-12-19	RLCBSK-2-12-19 12	12	1000
CRLCBSK-2-14-01	RLCBSK-14-01	RLCBSK-14-19	RLCBSK-2-14-19 14	14	1000
-	RLCBSK-16-01	-	RLCBSK-2-16-19 16	16	1000

## RLCBSRS2 Reverse Locking Circuit Board Support Spacer

Natural UL94 V2 Nylon 6/6, RMS-01

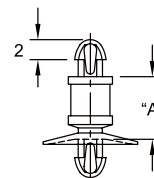
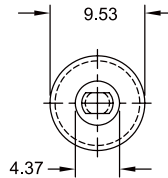
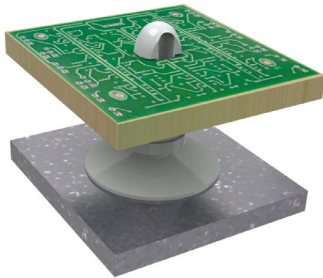
Part Number	"A" (mm)	Std Pack Qty
RLCBSRS2-1-01	16.2	1000



CHDLCBST

## Cupped Dual Locking Circuit Board Support

Natural UL94 V2 Nylon 6/6, RMS-01



Top Hole: Snap-lock:  $\Phi 2.54 \pm 0.05$

Panel Thickness: 1.63

Bottom Hole: Snap-lock:  $\Phi 2.54 \pm 0.05$

Panel Thickness: 1.57

Part Number	"A" Standoff Height (mm)	Std Pack Qty
CHDLCBST-2-01	3.18	1000
CHDLCBST-3-01	4.76	1000
CHDLCBST-4-01	6.35	1000
CHDLCBST-7-01	11.11	1000
CHDLCBST-8-01	12.7	1000

REHCBS

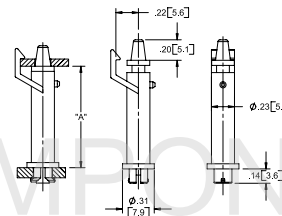
## Cupped Dual Locking Circuit Board Support

Natural UL94 V2 Nylon 6/6, RMS-01



Top Hole: Snap-lock:  $4 \pm 0.08$

Panel Thickness: 1.78 Max.



Bottom Hole: Snap-lock:  $4.75 \pm 0.08$

Panel Thickness: 1.2 - 2.67

Part Number	"A" Standoff Height (mm)	Std Pack Qty
REHCBS-4-01	6.4	1000
REHCBS-8-01	12.7	1000

EHCBS

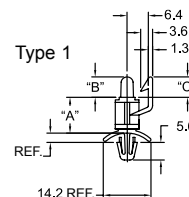
## Edge Holding Circuit Board Support

Natural UL94 V2 Nylon 6/6, RMS-01

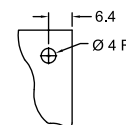


Top Hole: Snap-lock:  $\Phi 4 \pm 0.08$

Panel Thickness: 1.57



Top Board Hole Location

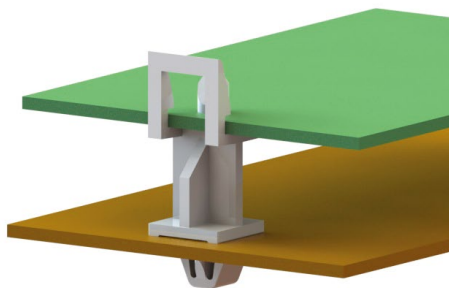


Bottom Hole: Snap-lock:  $\Phi 4.75 \pm 0.08$

Panel Thickness: 0.79 - 1.98

Part Number			"A" (mm)	Std Pack Qty
Type 1				
"B" = 15.2 "C" = 7.5	"B" = 6.1 "C" = 6.1	"B" = 6.1 "C" = 7.5		
EHCBS-5-01	EHCBS-6-5-01	EHCBS-7-5-01	7.9	1000
EHCBS-6-01	EHCBS-6-6-01	EHCBS-7-6-01	9.5	1000
EHCBS-8-01	EHCBS-6-8-01	EHCBS-7-8-01	12.7	1000
EHCBS-10-01	-	-	15.9	1000
EHCBS-12-01	EHCBS-6-12-01	EHCBS-7-12-01	19.1	1000
-	-	-	22.2	1000
EHCBS-16-01	EHCBS-6-16-01	EHCBS-7-16-01	25.4	1000



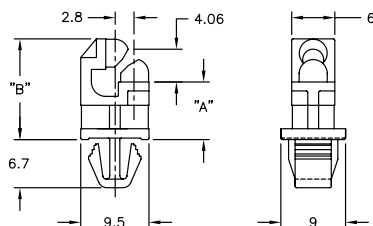


## HLCBSE2 & PCBEHE2 Hinged Locking Circuit Board Support System

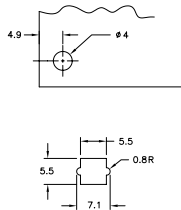
Natural UL94 V2 Nylon 6/6, RMS-01

Part Number	"A" Standoff Height (mm)	"B" (mm)	Part Number	"A" Standoff Height (mm)	"B" (mm)	Std Pack Qty
HLCBSE2-4M-01	4	10	PCBEHE2-4M-01	4	13.1	1000
HLCBSE2-6M-01	6	12	PCBEHE2-6M-01	6	15.1	1000
HLCBSE2-8M-01	8	14	PCBEHE2-8M-01	8	17.1	1000
HLCBSE2-10M-01	10	16	PCBEHE2-10M-01	10	19.1	1000
HLCBSE2-12M-01	12	18	-	12	21.1	1000
-	14	20	PCBEHE2-14M-01	14	23.1	1000
HLCBSE2-25M-01	25	31	PCBEHE2-25M-01	25	34.1	1000
HLCBSE2-30M-01	30	36	PCBEHE2-30M-01	30	39.1	1000

### HLCBSE2

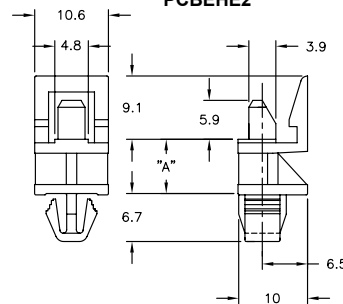


Top Hole: Snap-lock:  $\Phi 4$   
Panel Thickness: 1.6



Bottom Hole: See Above  
Panel Thickness: 1.2 - 1.8

### PCBEHE2



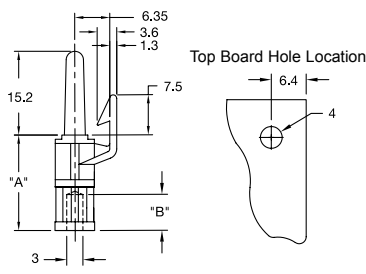
### TEHCBS

## Edge Holding Circuit Board Support

Natural UL94 V2 Nylon 6/6, RMS-01

Part Number	"A"(mm)	"B"(mm)	Std Pack Qty
TEHCBS-4-01	6.4	6.4	1000
TEHCBS-5-01	7.9	5.2	1000
TEHCBS-6-01	9.5	6.4	1000
TEHCBS-8-01	12.7	6.4	1000
TEHCBS-10-01	15.9	6.4	1000
TEHCBS-12-01	19.1	6.4	1000

Top Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: 1.57



Bottom Hole: For Metal #6 Self-Tapping Screw

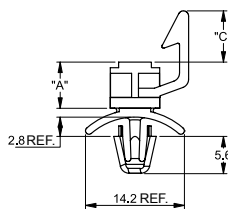


### EHCBS

## Edge Holding Circuit Board Support, No Nose

Natural UL94 V2 Nylon 6/6, RMS-01

Part Number	"A" Standoff Height (mm)	Std Pack Qty
"C" = 6.1		
EHCBS-9-5-01	7.9	1000
EHCBS-9-6-01	9.5	1000
EHCBS-9-8-01	12.7	1000
EHCBS-9-10-01	15.9	1000



Bottom Hole: Snap-lock:  $\Phi 4.75 \pm 0.08$   
Panel Thickness: 0.79 - 1.98





# Specialist Spacer

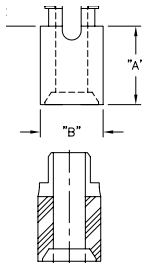
SSRS

## Stackable Self-Retaining Spacer

Natural UL94 V2 Nylon 6/6, RMS-01



Top Hole: Locking: See Table  
Panel Thickness: 1.57

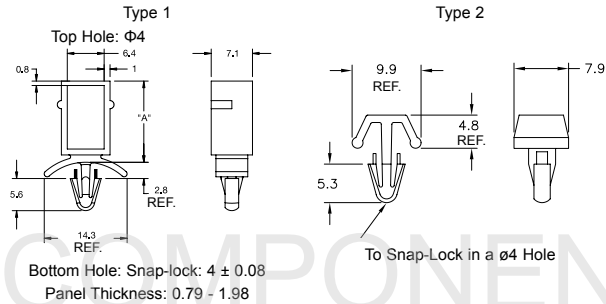
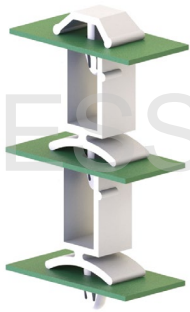


Part Number		"A" Standoff Height (mm)	Std Pack Qty
For M3 Screw	For M4 Screw		
"B" = 6.6 "C" = 3.3 Ø = 4.75±0.08	"B" = 7.9 "C" = 3.9 Ø = 5.94±0.08	"B" = 7.9 "C" = 4.3 Ø = 5.94±0.08	
SSRS4-2-01	-	-	3.2
SSRS4-3-01	-	-	4.8
SSRS4-4-01	SSRS6-4-01	SSRS8-4-01	6.4
SSRS4-5-01	SSRS6-5-01	SSRS8-5-01	7.9
SSRS4-6-01	SSRS6-6-01	SSRS8-6-01	9.5
SSRS4-7-01	SSRS6-7-01	SSRS8-7-01	11.1
SSRS4-8-01	SSRS6-8-01	SSRS8-8-01	12.7
SSRS4-10-01	SSRS6-10-01	SSRS8-10-01	15.9
-	-	SSRS8-12-01	19.1
-	SSRS6-14-01	SSRS8-14-01	22.2
-	SSRS6-16-01	SSRS8-16-01	25.4

CBSS

## Circuit Board Stacking Spacer

Natural



Spacer (Type 1)			Mounting Button (Type 2)		Std Pack Qty
Nylon 6/6, RMS-01	Nylon 6/6, RMS-19	"A" Standoff Height (mm)	UL94 V2 Nylon 6/6, RMS-01	Total Holding Thickness	
CBSS-8-01	CBSS-8-19	10.9	MB-1-156	0.8 - 2.4	1000
CBSS-10-01	CBSS-10-19	14	MB-1-156	0.8 - 2.4	1000
CBSS-12-01	CBSS-12-19	17.3	MB-1-156	0.8 - 2.4	1000
CBSS-14-01	CBSS-14-19	20.3	MB-1-156	0.8 - 2.4	1000

CSP & CSR

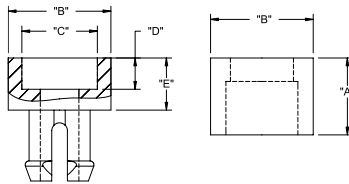
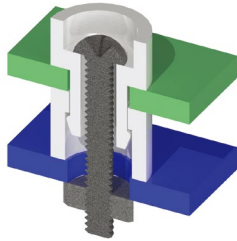
## Collar Space

Natural UL94 V2 Nylon 6/6, RMS-01

CSP(PIN)

CSP(RETAINER)

Top Hole: See Table  
Panel Thickness: 2.36 Max.



Bottom Hole: See Table

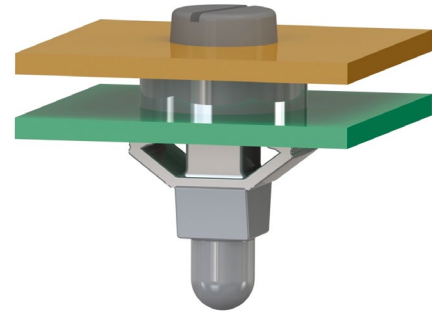
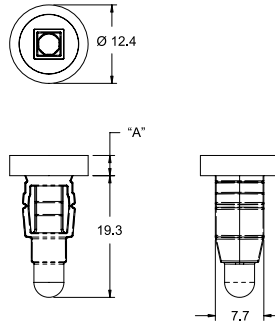
Pin

Part Number	"B"	"C" DIA.	"D" REF.	"E" REF.	Mounting Hole Dia. $\pm 0.08$	Binding Head Type Screw Size	Std Pack Qty
CSP4-01	7.5	-	-	2.5	5	M2.5	1000
CSP6-01	10	7.4	3	5.1	6.5	M3	1000
CSP8-01	11.1	8.4	3.6	5.6	6.9	M4	1000

Retainer

Part Number	"A"	"B"	Mating Pin (CSP) No	Std Pack Qty
CSR4-224-01	5.7	7.5	CSP4-01	1000
CSR4-295-01	7.5	7.5	CSP4-01	1000
CSR4-394-01	10	7.5	CSP4-01	1000
CSR4-591-01	15	7.5	CSP4-01	1000
CSR6-224-01	5.7	10	CSP6-01	1000
CSR6-295-01	7.5	10	CSP6-01	1000
CSR6-394-01	10	10	CSP6-01	1000
CSR6-591-01	15	10	CSP6-01	1000
CSR8-224-01	5.7	11	CSP8-01	1000
CSR8-295-01	7.5	11	CSP8-01	1000
CSR8-394-01	10	11	CSP8-01	1000
CSR8-591-01	15	11	CSP8-01	1000
CSR8-787-01	20	11	CSP8-01	1000

**TFR**  
**Toggle Fixer**  
 Natural UL94 V2 Nylon 6/6, RMS-01

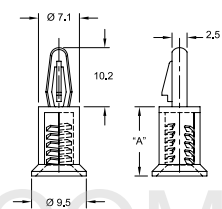


Part Number	"A"	Panel Thickness	Mounting Hole Ø	Std Pack Qty
TFR-1	0.8	1.5 - 2.8	8 ± 0.1 Square	1000
TFR-2	3.2	0.5 - 2.8	8 ± 0.1 Square	1000
TFR-3	4.8	0.5 - 2.8	8 ± 0.1 Square	1000

Accepts Metal Self-Tapping Screw Size 4.2 mm

**SFCBS**  
**Stud Fitting Circuit Board Support**  
 Natural Nylon 6/6, RMS-01

Top Hole: Snap-lock: 4 ± 0.08  
 Panel Thickness: 1.57



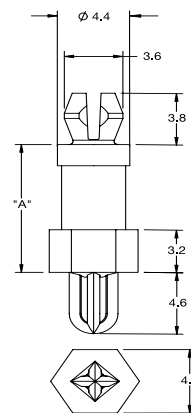
Bottom Hole: To fit a metal  
 M4 screw or stud



Part Number	"A"	Stud Length	Std Pack Qty
SFCBS-M4-10M-01	10	8	1000
SFCBS-M4-12M-01	12	10	1000
SFCBS-M4-14M-01	14	12	1000
SFCBS-M4-16M-01	16	14	1000
SFCBS-M4-18M-01	18	16	1000
SFCBS-M4-20M-01	20	18	1000

**MSPMST**  
**Mini Support Post Self-Threading**  
 Clear Nylon 6/6, RMS-01

Top Hole: Snap-fit: 3.18 ± 0.05  
 Panel Thickness: 1.57

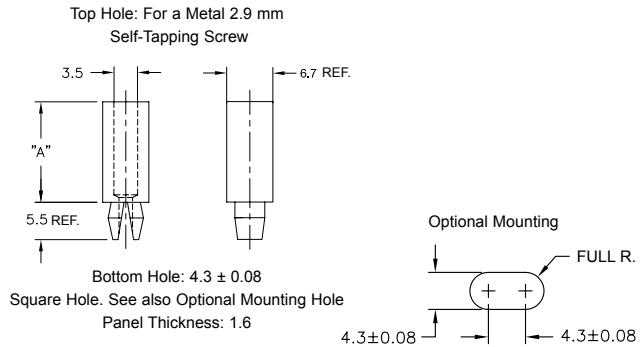
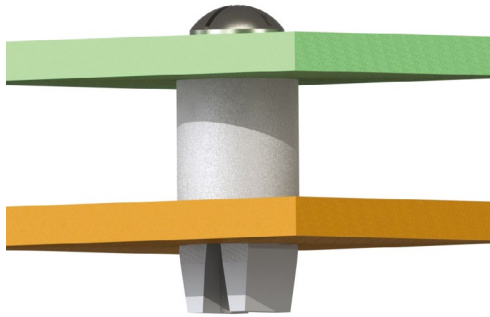


Part Number	"A" Standoff Height (mm)	Std Pack Qty
MSPMST-2-01	3.2	1000
MSPMST-3-01	4.8	1000
MSPMST-4-01	6.4	1000
MSPMST-5-01	7.9	1000
MSPMST-6-01	9.5	1000
MSPMST-7-01	11.1	1000
MSPMST-8-01	12.7	1000
MSPMST-9-01	14.3	1000

MSNE

## Spacer Nut

Natural Nylon 6/6, RMS-01

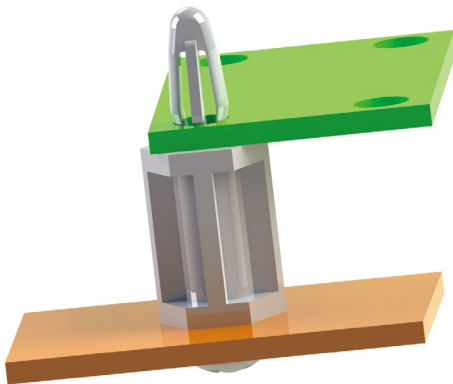


Part Number	"A" Standoff Height (mm)	Std Pack Qty
MSNE-2-01	3.2	1000
MSNE-4M-01	4	1000
MSNE-3-01	4.8	1000
MSNE-6M-01	6	1000
MSNE-4-01	6.4	1000
MSNE-5-01	7.9	1000
MSNE-8M-01	8	1000
MSNE-6-01	9.5	1000
MSNE-10M-01	10	1000
MSNE-12M-01	12	1000
MSNE-8-01	12.7	1000
MSNE-10-01	15.9	1000
MSNE-12-01	19.1	1000
MSNE-16-01	25.4	1000

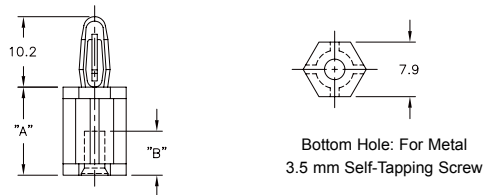
TCBS

## Circuit Board Support Self-Tapping

Natural



Top Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: 1.57



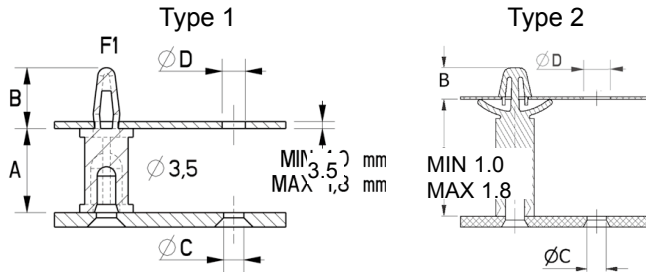
Part Number	Part Number	"A" Standoff Height (mm)	"B"	Std Pack Qty
UL94 V2 Nylon 6/6, RMS-01	UL94 V0 Nylon 6/6, RMS-19			
TCBS-4-01	TCBS-4-19	6.4	5.2	1000
TCBS-6-01	TCBS-6-19	9.5	7.9	1000
TCBS-8-01	TCBS-8-19	12.7	7.9	1000
TCBS-10-01	TCBS-10-19	15.9	7.9	1000
TCBS-12-01	TCBS-12-19	19.1	7.9	1000
TCBS-14-01	TCBS-14-19	22.2	7.9	1000
TCBS-16-01	TCBS-16-19	25.4	7.9	1000
TCBS-18-01	TCBS-18-19	28.6	7.9	1000
TCBS-20-01	TCBS-20-19	31.7	7.9	1000
TCBS-22.5-01	TCBS-22.5-19	35.7	7.9	1000

SR 6434

## Screw Fastened Spacer

Natural Nylon 6.6

- Secured by a self tapping screw
- Simple Snap-in board mounting
- Available in a range of heights



# ESSENTRA COMPONENTS

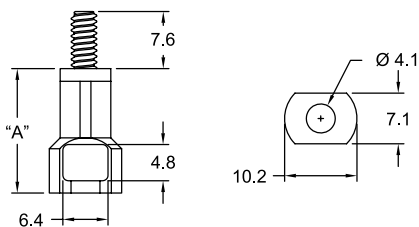
Part number	Dimensions (mm)				Type	Std Pack Qty
	"A" Standoff Height	B	C	D		
100206400002	6.4	9	3.5	4	1	1000
100209500002	9.5	9	3.5	4	1	1000
100212700002	12.7	9	3.5	4	1	1000
100215900002	15.9	9	3.5	4	1	1000
100219200002	19.1	9	3.5	4	1	1000
100222200002	22.2	9	3.5	4	1	1000
100225400002	25.4	9	3.5	4	1	1000
100228600002	28.6	9	3.5	4	1	1000
100209100002	9.6	8	3.5	4	2	1000
100213100002	12.7	8	3.5	4	2	1000
100219100002	19.1	8	3.5	4	2	1000
100229100002	28.5	8	3.5	4	2	1000

# Threaded/Metal Spacers

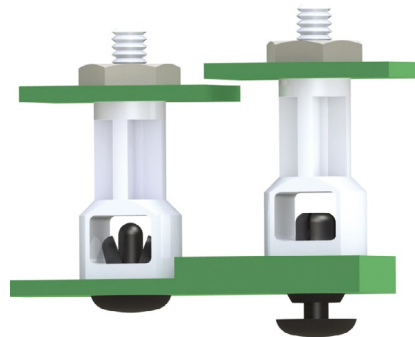
## SRSCBS

### Snap Rivet Studded Circuit Board Support

Natural Nylon 6/6, RMS-01



Bottom Hole: Snap Rivet: 4.1 - 4.2  
Panel Thickness: See Rivet Table



Thread #6-32	Part Number	Thread M3	Thread M4	"A" Standoff Height (mm)	Std Pack Qty
SRSCBS-6-01	SRSCBS-M3-6-01	SRSCBS-M4-6-01	9.5	1000	
SRSCBS-7-01	SRSCBS-M3-7-01	SRSCBS-M4-7-01	11.1	1000	
SRSCBS-8-01	SRSCBS-M3-8-01	SRSCBS-M4-8-01	12.7	1000	
SRSCBS-10-01	-	-	15.9	1000	
-	SRSCBS-M3-12-01	SRSCBS-M4-12-01	19.1	1000	
-	-	SRSCBS-M4-14-01	22.2	1000	
SRSCBS-16-01	SRSCBS-M3-16-01	SRSCBS-M4-16-01	25.4	1000	

## Rivets

Richco Use Rivet Part Number	For Panel Thickness
SR-4050	0.7-1.6
SR-4060	1.5-2.7
SR-4070	2.7-3.7
SR-4080	3.7-4.7
SR-4090	4.7-5.7
SR-4100	5.7-6.7
SR-4120	7.2-8.7

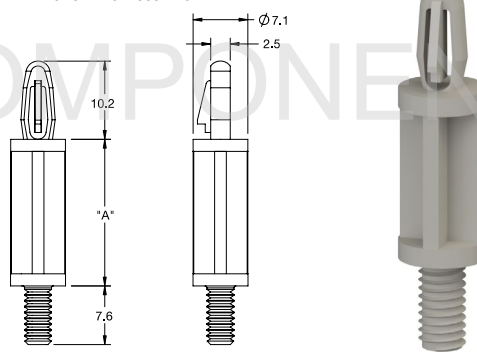
## LCBS-TM

### Locking Circuit Board Support Threaded Male

Natural

LCBS-TM		LCBS-TM-M4	"A" Standoff Height (mm)	Std Pack Qty
Natural UL94 V2 Nylon 6/6, RMS-01	UL94 V0 Nylon6/6,RMS-19	Nylon6/6, RMS-01		
Screw: #6-32	Screw: #6-32	Screw: M4		
LCBS-TM-4-01	LCBS-TM-4-19	LCBS-TM-M4-4-01	6.4	1000
LCBS-TM-6-01	LCBS-TM-6-19	LCBS-TM-M4-6-01	9.5	1000
LCBS-TM-8-01	LCBS-TM-8-19	LCBS-TM-M4-8-01	12.7	1000
LCBS-TM-10-01	LCBS-TM-10-19	LCBSTM-M4-10-01	15.9	1000
LCBS-TM-12-01	LCBS-TM-12-19	LCBSTM-M4-12-01	19.1	1000
LCBS-TM-14-01	LCBS-TM-14-19	LCBSTM-M4-14-01	22.2	1000
LCBS-TM-16-01	LCBS-TM-16-19	LCBSTM-M4-16-01	25.4	1000

Top Hole: Snap-lock: 4  
Panel Thickness: 1.57



## TCBNS

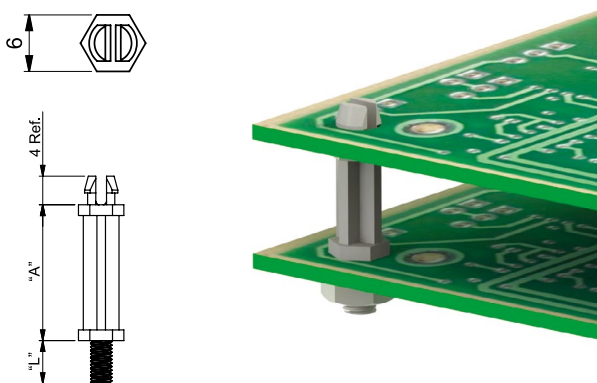
### Studded Circuit Board

Black UL94 V2 Nylon 6/6, RMS-172

- Thread: M3
- "L" Thread Length: 6

Part Number	"A" Standoff Height (mm)	Std Pack Qty
TCBNS-M3-3	3	1000
TCBNS-M3-5	5	1000
TCBNS-M3-6	6	1000
TCBNS-M3-8	8	1000
TCBNS-M3-10	10	1000
TCBNS-M3-12	12	1000
TCBNS-M3-15	15	1000
TCBNS-M3-20	20	1000

Top Hole: 3mm  
Panel Thickness: 1.6

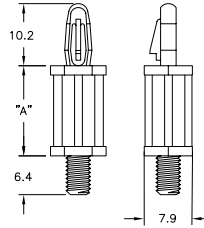


## SCBS/SCBSM/SCBS/MSCBSM Studded Circuit Board Natural UL94 V2 Nylon 6/6, RMS-01



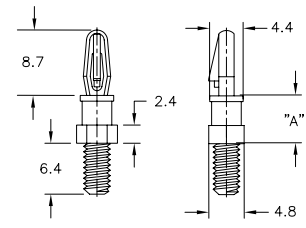
Top Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: 1.57

Type 1



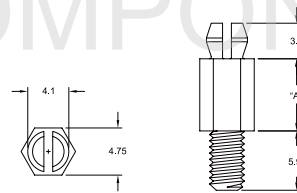
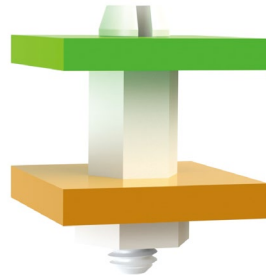
Top Hole: Snap-lock:  $3.18 \pm 0.05$   
Panel Thickness: 1.57

Type 2



Part Number				"A" Standoff Height (mm)	Std Pack Qty
Thread: #8-32	Thread: M3	Thread: M4			
SCBS (Type 1)	MSCBSM (Type 2)	MSCBS (Type 1)	MSCBSM (Type 2)		
-	MSCBSM-M3-2-01	-	MSCBSM-M4-2-01	3.2	1000
-	MSCBSM-M3-3-01	-	MSCBSM-M4-3-01	4.8	1000
SCBS-4-01	MSCBSM-M3-4-01	MSCBS-4-01	MSCBSM-M4-4-01	6.4	1000
-	MSCBSM-M3-5-01	-	MSCBSM-M4-5-01	7.9	1000
SCBS-6-01	MSCBSM-M3-6-01	MSCBS-6-01	MSCBSM-M4-6-01	9.5	1000
-	MSCBSM-M3-7-01	-	MSCBSM-M4-7-01	11.1	1000
SCBS-8-01	MSCBSM-M3-8-01	MSCBS-8-01	MSCBSM-M4-8-01	12.7	1000
-	MSCBSM-M3-9-01	-	-	14.3	1000
-	MSCBSM-M3-10-01	MSCBS-10-01	MSCBSM-M4-10-01	15.9	1000
SCBS-12-01	-	MSCBS-12-01	-	19.1	1000
SCBS-14-01	-	MSCBS-14-01	-	22.2	1000
-	-	MSCBS-16-01	-	25.4	1000
-	-	MSCBS-18-01	-	28.6	1000
-	-	MSCBS-22.5-01	-	35.7	1000

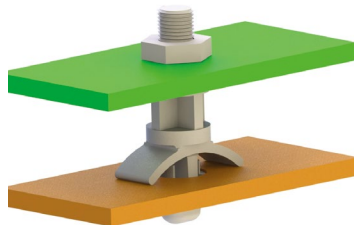
## HMSP-TM Hex Mini Support Post Threaded Male Natural UL94 V2 Nylon 6/6, RMS-01



Top Hole: Snap-lock:  $3.86 \pm 0.05$   
Panel Thickness: 1.57

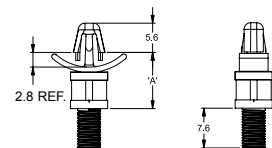
Part Number	"A" Standoff Height (mm)	Std Pack Qty
Thread: #6-32		
HMSP-TM-6-01	9.5	1000
HMSP-TM-8-01	12.7	1000
HMSP-TM-10-01	15.9	1000
HMSP-TM-14-01	22.2	1000

## LCCBS-TM Threaded Circuit Board Support Natural UL94 V2 Nylon 6/6, RMS-01



Top Hole: Snap-lock:  $\Phi 4.75 \pm 0.08$   
Panel Thickness: 1.57

Bottom Hole: See table



Part Number		"A" Standoff Height (mm)	Std Pack Qty
#6-32 Thread	M4 Thread		
LCCBS-TM-6-01	LCCBSM-M4-6-01	10.7	1000
-	LCCBSM-M4-8-01	13.9	1000
LCCBS-TM-10-01	LCCBSM-M4-10-01	17.1	1000
LCCBS-TM-12-01	LCCBSM-M4-12-01	20.2	1000
LCCBS-TM-14-01	LCCBSM-M4-14-01	23.4	1000
LCCBS-TM-16-01	-	26.6	1000

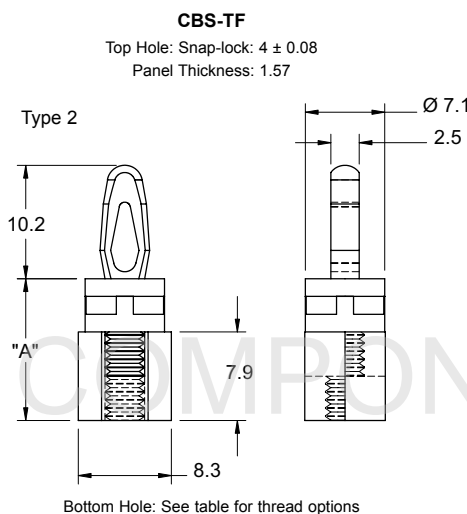
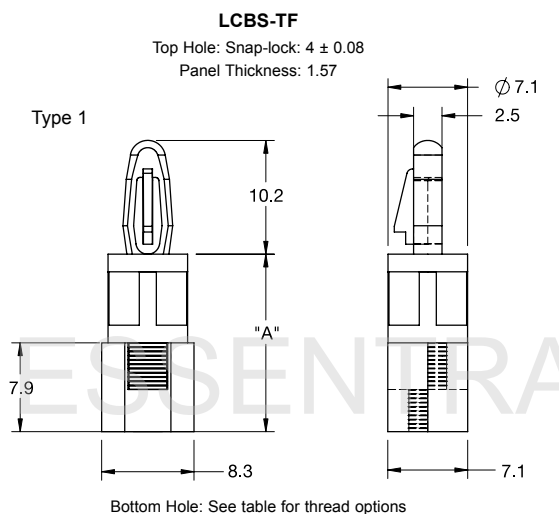
# Threaded/Metal Spacers

LCBS-TF/CBS-TF

## Threaded Circuit Board Support

Natural

Type 1		Part Number			"A" Standoff Height (mm)	Std Pack Qty
Nylon 6/6, RMS-01	Nylon 6/6 RMS-01	Nylon 6/6, RMS-01	Type 2 Nylon 6/6, RMS-19	Nylon 6/6, RMS-01		
Thread: #6-32	Thread: M4	Thread: #6-32				
-	LCBS-TF-M4-6-01	-	CBS-TF-6-19	CBS-TF-M4-6-01	9.5	1000
-	LCBS-TF-M4-8-01	-	CBS-TF-8-19	CBS-TF-M4-8-01	12.7	1000
LCBS-TF-10-01	LCBSTF-M4-10-01	-	CBS-TF-10-19	CBS-TF-M4-10-01	15.9	1000
LCBS-TF-12-01	LCBSTF-M4-12-01	-	CBS-TF-12-19	CBS-TF-M4-12-01	19.1	1000
LCBS-TF-14-01	LCBSTF-M4-14-01	CBS-TF-14-01	CBS-TF-14-19	CBS-TF-M4-14-01	22.2	1000
LCBS-TF-16-01	-	CBS-TF-16-01	CBS-TF-16-19	CBS-TF-M4-16-01	25.4	1000

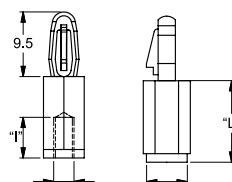


TCBN

## Metric Threaded Circuit Board Support

Black UL94 HB Nylon 6/6, RMS-172

Top Hole: Snap-lock:  $4 \pm 0.08$   
Panel Thickness: See Table for Dim.

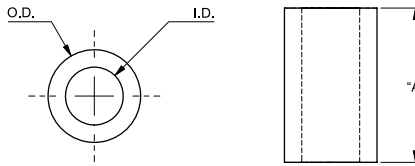


M3 Thread				M4 Thread		"L"	"I"	Std Pack Qty
Panel Thickness = 1.6MM		Panel Thickness = 2MM		Panel Thickness = 1.6MM	Panel Thickness = 2MM			
"H" = 6MM	"H" = 8MM	"H" = 6MM	"H" = 8MM	"H" = 6MM	"H" = 8MM			
TCBN-T1-M3-6-6	TCBN-T1-M3-8-6	TCBN-T2-M3-6-6	TCBN-T2-M3-8-6	TCBN-T1-M4-8-6	1306295	6	4	500
-	-	-	-	TCBN-T1-M4-8-7	-	7	5	500
TCBN-T1-M3-6-8	1306292	TCBN-T2-M3-6-8	TCBN-T2-M3-8-8	TCBN-T1-M4-8-8	TCBN-T2-M4-8-8	8	6	500
1306282	1306293	TCBN-T2-M3-6-10	-	-	TCBN-T2-M4-8-10	10	8	500
TCBN-T1-M3-6-12	TCBN-T1-M3-8-12	TCBN-T2-M3-6-12	TCBN-T2-M3-8-12	TCBN-T1-M4-8-12	TCBN-T2-M4-8-12	12	10	500
-	TCBN-T1-M3-8-15	TCBN-T2-M3-6-15	TCBN-T2-M3-8-15	1306294	TCBN-T2-M4-8-15	15	10	500
TCBN-T1-M3-6-18	-	-	-	TCBN-T1-M4-8-12	-	18	10	500
1317194	-	-	-	TCBN-T1-M4-8-45	-	45	10	500

SS/SSE

## Round Plastic Spacer

Light Grey UL94 V0 PVC, RMS-204

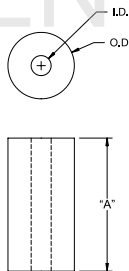


"A" Standoff Height (mm)	Part Number							Std Pack Qty
	For M2.5 Screw	For M3 Screw	For M4 Screw	For M4 Screw	For M5 Screw	For M6 Screw	For M9 Screw	
	I.D. = 3 O.D. = 6.4	I.D. = 3.7 O.D. = 6.4	I.D. = 4.4 O.D. = 6.4	I.D. = 4.4 O.D. = 9.5	I.D. = 5.1 O.D. = 9.5	I.D. = 6.8 O.D. = 12.7	I.D. = 10.1 O.D. = 12.7	
6.4	SS4-2	SS6-2	SS8-2	SS8-2L	SS10-2	SS1/4-2	SS3/8-2	1000
9.5	SS4-3	SS6-3	SS8-3	SS8-3L	SS10-3	-	SS3/8-3	1000
12.7	SS4-4	SS6-4	SS8-4	SS8-4L	SS10-4	SS1/4-4	SS3/8-4	1000
15.9	SS4-5	SS6-5	SS8-5	SS8-5L	SS10-5	-	-	1000
19.1	SS4-6	SS6-6	SS8-6	SS8-6L	SS10-6	SS1/4-6	SS3/8-6	1000
25.4	SS4-8	SS6-8	SS8-8	SS8-8L	SS10-8	SS1/4-8	SS3/8-8	1000
31.8	-	SS6-10	SS8-10	SS8-10L	SS10-10	SS1/4-10	SS3/8-10	500
38.1	-	SS6-12	SS8-12	SS8-12L	SS10-12	SS1/4-12	SS3/8-12	500

R900

## Round Plastic Spacer

White Modified Nylon 6, RMS-60

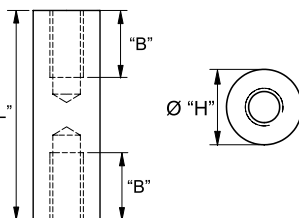


Part Number								Dimensions (mm)			Std Pack Qty
"A" = 1.6	"A" = 3.2	"A" = 4.8	"A" = 6.4	"A" = 7.9	"A" = 9.5	"A" = 11.1	"A" = 12.7	For Screw	I.D.	O.D.	Qty
R901-1	R901-2	R901-3	R901-4	R901-5	R901-6	R901-7	R901-8	-	0.7	2.2	1000
R938-1	R938-2	R938-3	R938-4	R938-5	R938-6	R938-7	R938-8	-	0.8	-	1000
R902-1	R902-2	-	R902-4	R902-5	R902-6	R902-7	R902-8	-	0.8	3.2	1000
-	R939-2	-	R939-4	R939-5	-	-	R939-8	-	1.2	-	1000
R903-1	R903-2	-	R903-4	R903-5	R903-6	R903-7	R903-8	-	1.2	4	1000
R904-1	-	-	R904-4	-	R904-6	R904-7	R904-8	-	1.6	4.8	1000
R906-1	R906-2	R906-3	-	-	R906-6	R906-7	R906-8	M2	2.2	3.6	1000
R937-1	-	-	-	-	-	R937-7	R937-8	M2	2.3	3.2	1000
R913-1	-	-	-	-	-	-	-	M2	2.3	4.8	1000
R907-1	R907-2	R907-3	-	R907-5	R907-6	-	R907-8	M2.5	2.7	4.2	1000
R908-1	-	-	-	-	-	-	-	M3	3.2	4.8	1000
R911-1	-	-	-	-	-	-	-	M3	3.2	6.4	1000
R905-1	-	-	-	R905-5	-	-	-	M3.5	3.7	6.4	1000
R912-1	-	-	-	-	-	-	-	M4	4.3	6.4	1000

RTSN

## Round Threaded Standoff

Black Nylon 6, 25% Glass Filled, RMS-173



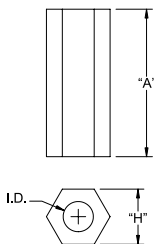
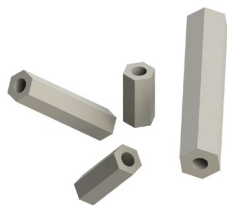
Part Number		Dimensions (mm)		Std Pack Qty
Thread M3	Thread M4	"L"	"B"	
"H" = 7				
RTSN-M3-5-7-1	RTSN-M4-5-7-1	5	Through	500
RTSN-M3-8-7-1	RTSN-M4-8-7-1	8	Through	500
RTSN-M3-10-7-1	RTSN-M4-10-7-1	10	Through	500
RTSN-M3-15-7-1	RTSN-M4-15-7-1	15	Through	500
RTSN-M3-20-7-1	RTSN-M4-20-7-1	20	10 Min	500
-	RTSN-M4-25-7-1	25	10 Min	500
RTSN-M3-30-7-1	RTSN-M4-30-7-1	30	10 Min	500

# Threaded/Metal Spacers

HS

## Hex Plastic Spacers

Light Gray, UL94 V0 PVC, RMS-448



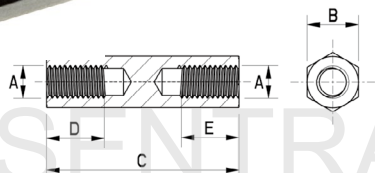
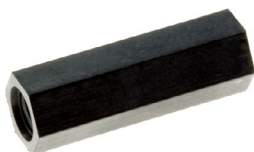
	Part Number			"A" Standoff Height (mm)	Std Pack Qty
	For #4 Self Tapping Screw	For #6 Self Tapping Screw	For #8 Self Tapping Screw		
"I.D." = 2.6 "H" = 4.8	"I.D." = 2.8 "H" = 6.4	"I.D." = 3.6 "H" = 9.5			
HS-4-3	-	-	9.5	1000	
HS-4-4	HS-6-4	-	12.7	1000	
-	HS-6-5	-	15.9	1000	
HS-4-6	HS-6-6	-	19.1	1000	
HS-4-7	HS-6-7	-	22.2	1000	
HS-4-8	HS-6-8	HS-8-8	25.4	1000	
-	HS-6-10	-	31.8	500	
-	-	-	38.1	500	
-	HS-6-14	HS-8-14	44.5	500	
-	-	HS-8-16	50.8	500	
-	-	HS-8-24	76.2	500	

SR 6437

## Hexagonal F/F Spacer

PPS Black

- Suitable for any application
- Resistance up to 200°C
- Thread hole in M2.5, M3, M4 and M5 dimensions



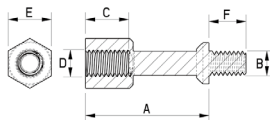
Part number	Dimensions					Std Pack Qty
	A	B	C	D	E	
1566776	M3	5	8	4	4	1000
1566777	M3	5	10	5	5	1000
1566778	M3	5	12	6	6	1000
1566779	M3	5	15	7.5	7.5	1000
1566780	M3	5	20	10	10	1000
1566781	M3	5	25	12.5	12.5	1000
1566782	M4	7	8	4	4	1000
1566783	M4	7	10	5	5	1000
1566784	M4	7	12	6	6	1000
1566785	M4	7	15	7.5	7.5	1000
1566786	M4	7	20	10	10	1000
1566781	M4	7	25	12.5	12.5	1000

SR 6430

## M/F Threaded Spacer

Natural nylon-6 (PA-6) and 30% glass fiber

- May be combined with SR6429
- Applicable for stacking PC boards

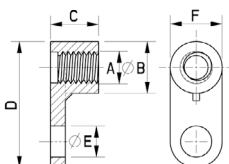


Part number	Dimensions						Std Pack Qty
	A	B	C	D	E	F	
138005000016	10	M3	5.5	M3	5.5	5	1000
138006000016	15	M3	5.5	M3	5.5	5	1000
138007000016	20	M3	5.5	M3	5.5	5	1000
138008000016	25	M3	5.5	M3	5.5	5	1000
138009000016	30	M3	5.5	M3	5.5	5	1000
138010000016	10	M4	6.5	M4	7	6	1000
138015000016	15	M4	6.5	M4	7	6	1000
138020000016	20	M4	6.5	M4	7	6	1000
138025000016	25	M4	6.5	M4	7	6	1000
138030000016	30	M4	6.5	M4	7	6	1000

SR 6429

## Pre-mounting Foot

Natural nylon-6 (PA-6) and 30% glass fiber



Part number	Dimensions						Std Pack Qty
	A	B	C	D	E	F	
139003000016	M3	7	6.5	17	4	7	1000
139004000016	M4	7	6.5	17	4	7	1000

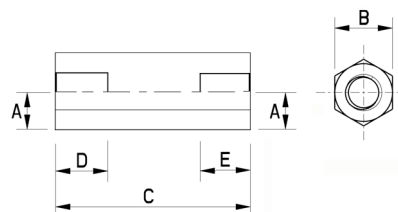
SR6436

## PEEK Hexagonal F/F Spacer

PEEK, Light Brown

- Heat resistant up to 180°C
- Excellent mechanical strength and stiffness
- Excellent resistance to alternating tensile and bending loads
- Excellent dimensional stability
- Flame resistance: UL94 V0

Part number	Dimensions					Std Pack Qty
	A	B	C	D	E	
186304070409	M3	6	4	2	2	1000
186305070409	M3	6	5	2.5	2.5	1000
186306070409	M3	6	6	3	3	1000
186308070409	M3	6	8	4	4	1000
186301070409	M3	6	10	5	5	1000
186301270409	M3	6	12	6	6	1000
186301570409	M3	6	15	7.5	7.5	1000
186301870409	M3	6	18	9	9	1000
186302070409	M3	6	20	10	10	1000
186302570409	M3	6	25	10	10	1000
186303070409	M3	6	30	10	10	1000
186405070409	M4	7	5	2.5	7.5	1000
186406070409	M4	7	6	3	3	1000
186408070409	M4	7	8	4	4	1000
186401070409	M4	7	10	5	5	1000
186401270409	M4	7	12	6	6	1000
186401570409	M4	7	15	7.5	7.5	1000
186401870409	M4	7	18	9	9	1000
186402070409	M4	7	20	10	10	1000
186402570409	M4	7	25	10	10	1000
186403070409	M4	7	30	10	10	1000
186403570409	M4	7	35	10	10	1000
186506070409	M5	8	6	3	3	1000
186508070409	M5	8	8	4	4	1000
186501070409	M5	8	10	5	5	1000
186501270409	M5	8	12	6	6	1000
186501570409	M5	8	15	7.5	7.5	1000
186501870409	M5	8	18	9	9	1000
186502070409	M5	8	20	10	10	1000
186502570409	M5	8	25	10	10	1000
186503070409	M5	8	30	10	10	1000
186503570409	M5	8	35	10	10	1000
186504070409	M5	8	40	10	10	1000



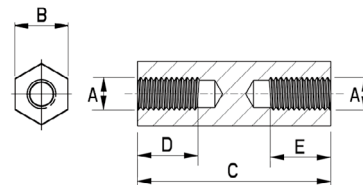
SR6435

## Nylon Hex F/F Spacer

Natural Nylon

- For use in electronic appliances

Part number	Dimensions					Std Pack Qty
	A	B	C	D	E	
303010000002	M3	5.7	6	3	3	1000
303020000002	M3	5.7	8	4	4	1000
303030000002	M3	5.7	10	5	5	1000
303040000002	M3	5.7	12.7	6	6	1000
303050000002	M3	5.7	15	7.5	7.5	1000
303060000002	M3	5.7	18	9	9	1000
303070000002	M3	5.7	20	10	10	1000
303080000002	M3	5.7	22	10	10	1000
303090000002	M3	5.7	25	10	10	1000
303100000002	M3	5.7	30	10	10	1000



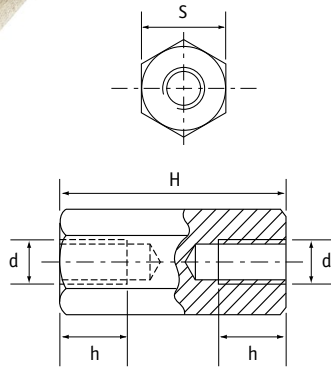
# Threaded/Metal Spacers

SR 2701

## Hex Spacer - Female/Female

Nickel Plated Brass

• Screw-in design



Part Number		Dimensions (mm)				Std Pack Qty	
Nickel Plated Brass	Zinc Plated Steel	Stainless Steel	d	S	H		h
301105040050	-	-	M2	4	5	2.5	100
301108040050	-	-	M2	4	8	4	100
301110040050	-	-	M2	4	10	5	100
301112040050	-	-	M2	4	12	6	100
301115040050	-	-	M2	4	15	6	100
301118040050	-	-	M2	4	18	6	100
301120040050	-	-	M2	4	20	6	100
301125040050	-	-	M2	4	25	6	50
301130040050	-	-	M2	4	30	6	50
301205040050	-	301205041556	M2.5	5	5	2.5	100
301206040050	-	-	M2.5	5	6	3	100
301208040050	-	301208041556	M2.5	5	8	4	100
301210040050	-	301210041556	M2.5	5	10	5	100
301211040050	-	-	M2.5	5	11	5.5	100
301212040050	-	301212041556	M2.5	5	12	6	100
301213040050	-	-	M2.5	5	13	6.5	100
301215040050	-	301215041556	M2.5	5	15	7.5	100
301218040050	-	301218041556	M2.5	5	18	8	100
301220040050	-	301220041556	M2.5	5	20	8	100
301225040050	-	-	M2.5	5	25	8	100
301230040050	-	-	M2.5	5	30	8	100
301235040050	-	-	M2.5	5	35	8	100
301240040050	-	-	M2.5	5	40	8	100
301305040050	301305041152	-	M3	5	5	2.5	100
301306040050	301306041152	-	M3	5	6	3	100
301307040050	-	-	M3	5	7	3.5	100
301308040050	301308041152	-	M3	5	8	4	100
301309040050	301309041152	-	M3	5	9	4.5	100
301310040050	301310041152	-	M3	5	10	5	100
30131040050	-	-	M3	5	11	5.5	100
301312040050	301312041152	-	M3	5	12	6	100
301313040050	301313041152	-	M3	5	13	6.5	100
301314040050	301314041152	-	M3	5	14	7	100
301315040050	301315041152	-	M3	5	15	7.5	100
301316040050	301316041152	-	M3	5	16	8	100
301317040050	-	-	M3	5	17	8.5	100
301318040050	301318041152	-	M3	5	18	9	100
301319040050	-	-	M3	5	19	9	100
301320040050	301320041152	-	M3	5	20	9	100
301325040050	301325041152	-	M3	5	25	10	100
301330040050	301330041152	-	M3	5	30	10	100
301335040050	301335041152	-	M3	5	35	10	100
301340040050	301340041152	-	M3	5	40	10	100
301345040050	301345041152	-	M3	5	45	10	50
301350040050	301350041152	-	M3	5	50	10	50
301355040050	301355041152	-	M3	5	55	10	50
301360040050	301360041152	-	M3	5	60	10	50
301305140050	301305141152	301305141556	M3	5.5	5	2.5	100
301308140050	301308141152	301308141556	M3	5.5	8	4	100
301310140050	301310141152	301310141556	M3	5.5	10	5	100

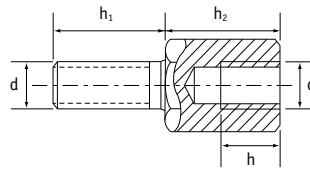
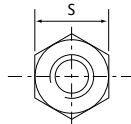
Part Number			Dimensions (mm)				Std Pack Qty
Nickel Plated Brass	Zinc Plated Steel	Stainless Steel	d	S	H	h	
301312140050	301312141152	-	M3	5.5	12	6	100
301315140050	301315141152	301315141556	M3	5.5	15	7.5	100
301316140050	-	-	M3	5.5	16	8	100
301318140050	301318141152	-	M3	5.5	18	9	100
301320140050	301320141152	301320141556	M3	5.5	20	9	100
301325140050	301325141152	301325141556	M3	5.5	25	10	100
301330140050	301330141152	301330141556	M3	5.5	30	10	100
301335140050	301335141152	-	M3	5.5	35	10	100
301340140050	301340141152	301340141556	M3	5.5	40	10	50
301345140050	-	-	M3	5.5	45	10	50
301350140050	301350141152	301350141556	M3	5.5	50	10	50
301360140050	301360141152	-	M3	5.5	60	10	50
-	-	301312141556	M3	5.5	12	6	50
-	-	301318141556	M3	5.5	18	9	50
301405040050	301405041152	-	M4	7	5	2.5	100
301408040050	301408041152	-	M4	7	8	4	100
-	301409041152	-	M4	7	9	4.5	100
301410040050	301410041152	301410041556	M4	7	10	5	100
301411040050	301411041152	-	M4	7	11	5.5	100
301412040050	301412041152	-	M4	7	12	6	100
301413040050	301413041152	-	M4	7	13	6.5	100
301414040050	301414041152	-	M4	7	14	7	100
301415040050	301415041152	301415041556	M4	7	15	7.5	100
301416040050	-	-	M4	7	16	8	100
301417040050	-	-	M4	7	17	8.5	100
301418040050	301418041152	-	M4	7	18	9	100
301420040050	301420041152	301420041556	M4	7	20	10	100
301425040050	301425041152	301425041556	M4	7	25	10	100
301430040050	301430041152	301430041556	M4	7	30	10	50
301435040050	301435041152	-	M4	7	35	10	50
301440040050	301440041152	301440041556	M4	7	40	10	50
301445040050	301445041152	-	M4	7	45	10	50
301450040050	301450041152	301450041556	M4	7	50	10	50
301455040050	301455041152	-	M4	7	55	10	50
301460040050	301460041152	-	M4	7	60	10	50
-	301465041152	-	M4	7	65	10	25
301470040050	301470041152	-	M4	7	70	10	25
301510040050	301510041152	301510041556	M5	8	10	5	100
301512040050	301512041152	-	M5	8	12	6	100
301515040050	301515041152	-	M5	8	15	7.5	100
-	-	301515041556	M5	8	15	7.5	50
301518040050	301518041152	-	M5	8	18	9	100
301520040050	301520041152	301520041556	M5	8	20	10	50
301525040050	301525041152	301525041556	M5	8	25	10	50
301530040050	301530041152	301530041556	M5	8	30	10	50
301535040050	301535041152	-	M5	8	35	10	50
301540040050	301540041152	301540041556	M5	8	40	10	50
301545040050	301545041152	-	M5	8	45	10	25
301550040050	301550041152	301550041556	M5	8	50	10	25
301555040050	301555041152	-	M5	8	55	10	25
301560040050	301560041152	301560041556	M5	8	60	10	25
301570040050	301570041152	-	M5	8	70	10	25
-	301610041152	-	M6	10	10	5	50
-	301615041152	-	M6	10	15	7.5	50
-	301618041152	301618041556	M6	10	18	9	50
-	301620041152	301620041556	M6	10	20	10	50
-	301625041152	301625041556	M6	10	25	12	50
-	301630041152	301630041556	M6	10	30	12	50
-	301635041152	-	M6	10	35	12	25
-	301640041152	301640041556	M6	10	40	12	25
-	301650041152	301650041556	M6	10	50	12	25
-	301655041152	-	M6	10	55	12	25
-	301660041152	301660041556	M6	10	60	12	25
-	301670041152	-	M6	10	70	12	25
-	301815041152	-	M8	13	15	7.5	10
-	301820041152	-	M8	13	20	10	10
-	301825041152	-	M8	13	25	12.5	10
-	301830041152	-	M8	13	30	15	10
-	301835041152	-	M8	13	35	15	10
-	301840041152	-	M8	13	40	15	10
-	301850041152	-	M8	13	50	15	10
-	301860041152	-	M8	13	60	15	10
-	301870041152	-	M8	13	70	15	10

SR 2702

## Hex Spacer - Male/Female

Nickel Plated Brass / Zinc Plated Steel / Stainless Steel

- Screw-in design



Part Number			Dimensions						Std Pack
Nickel Plated Brass	Zinc Plated Steel	Stainless Steel	d	S	h2	h1	h	Qty	
304105040050	-	-	M2	4	5	6	3	100	
304108040050	-	-	M2	4	8	6	4	100	
304110040050	-	304110041556	M2	4	10	6	6	100	
304112040050	-	-	M2	4	12	6	6	100	
304115040050	-	-	M2	4	15	6	6	100	
304118040050	-	-	M2	4	18	6	6	100	
304120040050	-	-	M2	4	20	6	6	100	
304125040050	-	-	M2	4	25	6	6	50	
304130040050	-	-	M2	4	30	6	6	50	
304205040050	-	-	M2.5	5	5	6	3	100	
304206040050	-	-	M2.5	5	6	6	3	100	
304207040050	-	-	M2.5	5	7	6	4	100	
304208040050	-	-	M2.5	5	8	6	4	100	
304210040050	-	-	M2.5	5	10	6	6	100	
304211040050	-	-	M2.5	5	11	6	6	100	
304212040050	-	-	M2.5	5	12	6	6	100	
304215040050	-	-	M2.5	5	15	6	6	100	
304218040050	-	-	M2.5	5	18	6	6	100	
304220040050	-	-	M2.5	5	20	6	6	100	
304225040050	-	-	M2.5	5	25	6	6	100	
304230040050	-	-	M2.5	5	30	6	6	100	
304305040050	304305041152	-	M3	5	5	8	3	100	
304306040050	304306041152	-	M3	5	6	8	3	100	
304307040050	304307041152	-	M3	5	7	8	4	100	
304308040050	304308041152	-	M3	5	8	8	4	100	
304309040050	-	-	M3	5	9	8	4	100	
304310040050	304310041152	-	M3	5	10	8	6	100	
304311040050	-	-	M3	5	11	8	6	100	
304312040050	304312041152	-	M3	5	12	8	8	100	
304313040050	-	-	M3	5	13	8	8	100	
304314040050	-	-	M3	5	14	8	8	100	
304315040050	304315041152	-	M3	5	15	8	8	100	
304316040050	-	-	M3	5	16	8	8	100	
304317040050	-	-	M3	5	17	8	8	100	
304318040050	304318041152	-	M3	5	18	8	8	100	
304320040050	304320041152	-	M3	5	20	8	8	100	
304325040050	304325041152	-	M3	5	25	10	10	100	
304330040050	304330041152	-	M3	5	30	10	10	100	
304335040050	304335041152	-	M3	5	35	10	10	100	
304340040050	304340041152	-	M3	5	40	10	10	50	
304345040050	304345041152	-	M3	5	45	10	10	50	
304350040050	304350041152	-	M3	5	50	10	10	50	
304355040050	-	-	M3	5	55	10	10	50	
304360040050	304360041152	-	M3	5	60	10	10	50	
304305240050	-	-	M3	5.5	5	6	3	100	
304305140050	304305141152	304305141556	M3	5.5	5	8	3	100	
304306240050	-	-	M3	5.5	6	6	3	100	
304306140050	-	-	M3	5.5	6	8	3	100	
304308240050	-	-	M3	5.5	8	6	4	100	
304308140050	304308141152	304308141556	M3	5.5	8	8	4	100	
304310240050	-	-	M3	5.5	10	6	6	100	
304310140050	304310141152	304310141556	M3	5.5	10	8	6	100	
304312240050	-	-	M3	5.5	12	6	6	100	
304312140050	304312141152	304312141556	M3	5.5	12	8	8	100	
304313140050	-	-	M3	5.5	13	8	8	100	
304315240050	-	-	M3	5.5	15	6	6	100	
304315140050	304315141152	304315141556	M3	5.5	15	8	8	100	
304318240050	-	-	M3	5.5	18	6	6	100	
304318140050	304318141152	304318141556	M3	5.5	18	8	8	100	
304320240050	-	-	M3	5.5	20	6	6	100	
304320140050	304320141152	304320141556	M3	5.5	20	8	8	100	
304325240050	-	-	M3	5.5	25	6	6	100	
304325140050	304325141152	304325141556	M3	5.5	25	10	10	100	
304330240050	-	-	M3	5.5	30	6	6	100	

Part Number			Dimensions						Std Pack
Nickel Plated Brass	Zinc Plated Steel	Stainless Steel	d	S	h2	h1	h	Qty	
304330140050	304330141152	304330141556	M3	5.5	30	10	10	100	
304335240050	-	-	M3	5.5	35	6	6	50	
304335140050	304335141152	-	M3	5.5	35	10	10	50	
304340240050	-	-	M3	5.5	40	6	6	50	
304340140050	304340141152	304340141556	M3	5.5	40	10	10	50	
304350240050	-	-	M3	5.5	50	6	6	50	
304350140050	304350141152	304350141556	M3	5.5	50	10	10	50	
304360140050	304360141152	-	M3	5.5	60	10	10	50	
304408040050	304408041152	-	M4	7	8	8	4	100	
304410040050	304410041152	304410041556	M4	7	10	8	6	100	
304412040050	304412041152	-	M4	7	12	8	8	100	
304415040050	304415041152	304415041556	M4	7	15	8	8	100	
304418040050	304418041152	-	M4	7	18	8	8	100	
304420040050	304420041152	304420041556	M4	7	20	8	8	100	
304425040050	304425041152	304425041556	M4	7	25	10	10	50	
304430040050	304430041152	304430041556	M4	7	30	10	10	50	
304435040050	304435041152	-	M4	7	35	10	10	50	
304440040050	304440041152	304440041556	M4	7	40	10	10	50	
304445040050	304445041152	-	M4	7	45	10	10	50	
304450040050	304450041152	304450041556	M4	7	50	10	10	50	
-	304455041152	-	M4	7	55	10	10	50	
304460040050	304460041152	-	M4	7	60	10	10	25	
-	304465041152	-	M4	7	65	10	10	25	
304470040050	304470041152	-	M4	7	70	10	10	25	
-	304480041152	-	M4	7	80	10	10	25	
304510040050	304510041152	304510041556	M5	8	10	8	6	50	
304512040050	304512041152	304512041556	M5	8	12	8	8	50	
304515040050	304515041152	304515041556	M5	8	15	8	8	50	
304518040050	304518041152	304518041556	M5	8	18	8	8	50	
304520040050	304520041152	304520041556	M5	8	20	8	8	50	
304525040050	304525041152	304525041556	M5	8	25	10	10	50	
304530040050	304530041152	304530041556	M5	8	30	10	10	50	
304535040050	304535041152	304535041556	M5	8	35	10	10	25	
304540040050	304540041152	304540041556	M5	8	40	10	10	25	
304545040050	304545041152	-	M5	8	45	10	10	25	
304550040050	304550041152	304550041556	M5	8	50	10	10	25	
-	304555041152	-	M5	8	55	10	10	25	
304560040050	304560041152	304560041556	M5	8	60	10	10	25	
-	304570041152	-	M5	8	70	10	10	25	
-	304610341152	304610341556	M6	10	10	12	6	50	
-	304612341152	304612341556	M6	10	12	12	8	50	
-	304615341152	304615341556	M6	10	15	12	8	50	
-	-	304618341556	M6	10	18	12	8	50	
-	304618341152	-	M6	10	18	12	12	50	
-	304620341152	304620341556	M6	10	20	12	12	50	
-	304625341152	304625341556	M6	10	25	12	13	50	
-	304630341152	304630341556	M6	10	30	12	13	25	
-	304635341152	304635341556	M6	10	35	12	13	25	
-	304640341152	304640341556	M6	10	40	12	13	25	
-	304650341152	304650341556	M6	10	50	12	13	25	
-	304660341152	304660341556	M6	10	60	12	13	25	
-	304670341152	304670341556	M6	10	70	12	13	25	
-	304680341152	304680341556	M6	10	80	12	13	25	
-	304690341152	304690341556	M6	10	90	12	13	25	
-	304815041152	-	M8	13	15	14	8	10	
-	304818041152	-	M8	13	18	14	12	10	
-	304820041152	-	M8	13	20	14	12	10	
-	304825041152	-	M8	13	25	14	15	10	
-	304830041152	-	M8	13	30	14	15	10	
-	304835041152	-	M8	13	35	14	15	10	
-	304840041152	-	M8	13	40	14	15	10	
-	-	-	M8	13	50	14	15	10	
-	304860041152	-	M8	13	60	14	15	10	
-	304870041152	-	M8	13	70	14	15	10	

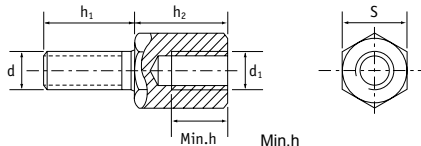
# Threaded/Metal Spacers

SR 2703

## Hex Spacer - Sub D

Nickel Plated Brass / Zinc Plated Steel / Stainless Steel

- Screw-in design
- Used for attaching sub-D Connectors



Part Number			Dimensions (mm)						Std Pack Qty
Nickel Plated Brass	Zinc Plated Steel	Stainless Steel	d	d1	S	h1	Min.h	h2	
308104040050	308104041152	308104041556	4 NC	4 NC	5	6	3	5	100
308204040050	308204041152	308204041556	4 NC	4 NC	5	8	3	5	100
308304040050	308304041152	-	4 NC	4 NC	5	12	3	5	100
308103040050	308103041152	-	4 NC	M3	5	6	3	5	100
308203040050	308203041152	308203041556	4 NC	M3	5	8	3	5	100
308102040050	308102041152	308102041556	M3	4 NC	5	6	3	5	100
308202040050	308202041152	308202041556	M3	4 NC	5	8	3	5	100
308302040050	308302041152	-	M3	4 NC	5	12	3	5	100
308101040050	308101041152	308101041556	M3	M3	5	6	3	5	100
308201040050	308201041152	308201041556	M3	M3	5	8	3	5	100
308301040050	308301041152	-	M3	M3	5	12	3	5	100

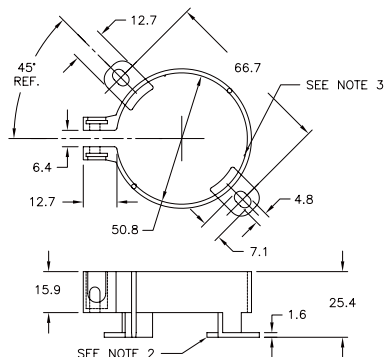
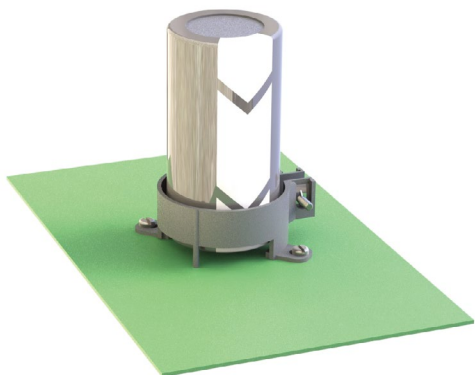
SCH/SCHS

## Standing Capacity Holder

Black Glass-filled Nylon, RMS-18

Notes:

1. Clamping hardware; Screw (S6B) Stainless Steel, RMS-357 Zinc Plating, RMS-358; Quick Nut (QN-6) Spring Steel C1050, RMS-327  
Coating: Black Phosphate, RMS-356
2. Spacer to elevate capacitor 2.4 from chassis
3. Anti-rotation rib (3 locations)



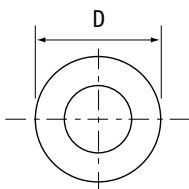
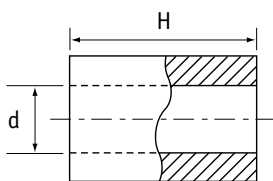
Part Number	Description	Std Pack Qty
SCHS-2	w/spacer, w/o hardware (Note 1)	100
SCH-2	w/o spacer, w/o hardware	100

SR 2704

## Round Spacer

Nickel Plated Brass

- A versatile universal assembly element for use in all sectors
- Allows for decorative applications, such as displays, furniture, etc



ESSENTRA COMPONENTS

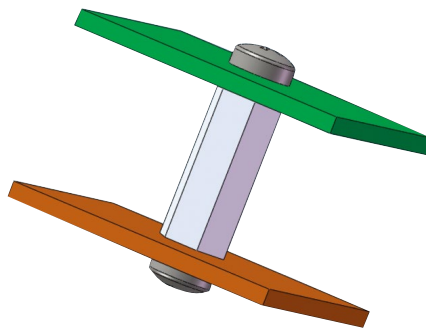
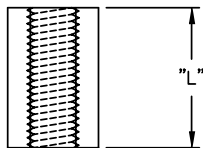
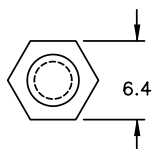
Part Number	Dimensions (mm)			Std Pack Qty
	d	D	H	
311220240050	2.2	4	2	250
311221040050	2.2	4	10	250
311250140050	2.5	5	1	250
311250240050	2.5	5	2	250
311250340050	2.5	5	3	250
311250440050	2.5	5	4	250
311250540050	2.5	5	5	250
311250640050	2.5	5	6	250
311250740050	2.5	5	7	250
311250840050	2.5	5	8	250
311252040050	2.5	5	20	100
311320240050	3.2	6	2	250
311320340050	3.2	6	3	250
311320440050	3.2	6	4	250
311320540050	3.2	6	5	250
311320640050	3.2	6	6	250
311320740050	3.2	6	7	250
311320840050	3.2	6	8	250
311321040050	3.2	6	10	100
311321240050	3.2	6	12	100
311321540050	3.2	6	15	100
311320140050	3.2	6	1	250
311320940050	3.2	6	9	100
311322040050	3.2	6	20	100
311322540050	3.2	6	25	50
311323040050	3.2	6	30	50
311430340050	4.3	8	3	250
311430440050	4.3	8	4	250
311430540050	4.3	8	5	250
311430640050	4.3	8	6	100
311430840050	4.3	8	8	100
311431040050	4.3	8	10	100
311431240050	4.3	8	12	100
311431540050	4.3	8	15	100
311432040050	4.3	8	20	100
311430240050	4.3	8	2	250
311430740050	4.3	8	7	100
311431840050	4.3	8	18	100
311432540050	4.3	8	25	50
311433040050	4.3	8	30	50
311433540050	4.3	8	35	50
311434040050	4.3	8	40	50
311530240050	5.3	10	2	100
311530340050	5.3	10	3	100
311530440050	5.3	10	4	100
311530540050	5.3	10	5	100
311530640050	5.3	10	6	100
311530740050	5.3	10	7	100
311530840050	5.3	10	8	100
311531040050	5.3	10	10	100
311531240050	5.3	10	12	100
311531540050	5.3	10	15	100
311531840050	5.3	10	18	100
311532040050	5.3	10	20	100
311532540050	5.3	10	25	50
311533040050	5.3	10	30	50

# Threaded/Metal Spacers

HTS

## Hex Threaded Standoff

Natural Nylon 6/6,RMS-48

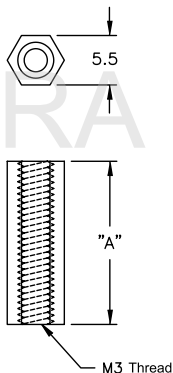
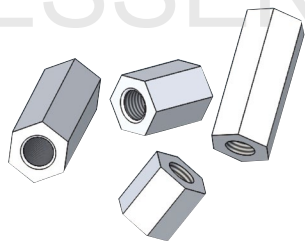


Part Number		"L"	Std Pack Qty
#4-40 Thread	#6-32 Thread		
14HTSP001	14HTSP006	6.4	1000
14HTSP022	14HTSP026	7.9	1000
14HTSP002	14HTSP007	9.5	1000
14HTSP029	14HTSP040	11.1	1000
14HTSP003	14HTSP008	12.7	1000
14HTSP024	14HTSP038	14.3	1000
14HTSP019	14HTSP020	15.9	1000
14HTSP005	14HTSP010	25.4	1000

MTS

## Metric Threaded Standoff

Natural Nylon 6/6,RMS-74

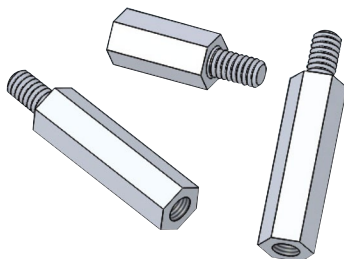


Part Number	"A" Standoff Height (mm)	Length Tolerance	Std Pack Qty
MTS-6	6.35	± .25	1000
MTS-8	8	± .25	1000
MTS-10S	10	± .25	1000
MTS-10	10.5	± .25	1000
MTS-11	11	± .25	1000
MTS-12	12	± .25	1000
MTS-13	12.8	± .25	1000
MTS-14	14	± .25	1000
MTS-16	16	± .25	1000
MTS-18	18.2	± .25	1000
MTS-20	20.1	± .31	1000
MTS-30	30	± .36	1000

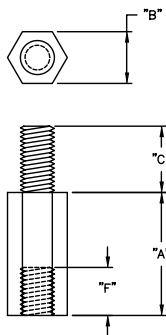
NTS

## Male-Female Metric Threaded Standoff

Natural Nylon 6/6,RMS-74



Top Hole: See Table: Thread "S"

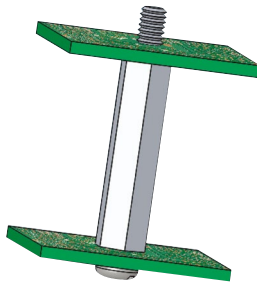


Part Number	Dimensions (mm)					Std Pack Qty
	"A"	"B"	"C"	"F"	"S" & "L" Threads	
NTS-7	7	6	6.3	6	M3	1000
NTS-12	12.7	6	6.4	10	M3	1000
NTS-17.5	17.5	6	6	10	M3	1000
NTS-37	37.1	8	5.5	8	M4	200

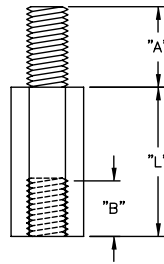
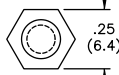
MFTS

## Male-Female Metric Threaded Standoff

Natural, Nylon 6/6, RMS-48



Top Hole: See Table



Bottom Hole: See Table

Part Number		"L" Standoff Height ±0.4 (mm)	Std Pack Qty
#4-40 Thread	#6-32 Thread		
MFTS4-4-48	-	6.4	1000
-	MFTS6-5-48	7.9	1000
-	MFTS6-7-48	11.1	1000
-	MFTS6-11-48	17.5	1000

Thread Size	"A"	"B" Min (mm)
#4-40	4.8	4.8
#6-32	6.4	6.4
MFTS6-4-48	6.4	3.8
MFTS6-5-48	6.4	5.6

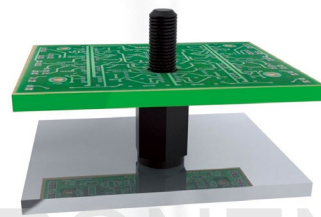
HTSN-2\HNSM-2\HTSN-3

## Hex Threaded Standoff

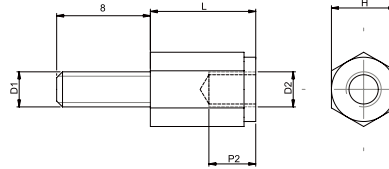
Black Nylon 6/6, RMS-172

Type 1 Female/Male

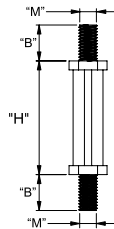
Part Number	Thread D1/D2	Dimensions (mm)			Std Pack Qty
		"L"	"H"	"P2"	
1317188	M2.5	8	5	8	500
HNSM2.5-10-5-2	M2.5	10	5	8	500
HNSM2.5-15-5-2	M2.5	15	5	10	500
HNSM2.5-20-5-2	M2.5	20	5	10	500
HNSM2.5-25-5-2	M2.5	25	5	10	500
HNSM3-10-5-5-2	M3	10	5.5	8	500
HNSM3-15-5-5-2	M3	15	5.5	10	500
HNSM3-20-5-5-2	M3	20	5.5	10	500
HNSM3-25-5-5-2	M3	25	5.5	10	500
HNSM3-30-5-5-2	M3	30	5.5	10	500
HNSM3-35-5-5-2	M3	35	5.5	10	500
HTSN-M3-5-6-2	M3	5	6	3	500
552198	M3	8	6	3	500
552191	M3	10	6	8	500
552201	M3	12	6	8	500
552211	M3	15	6	10	500
1317189	M3	18	6	10	500
552214	M3	20	6	10	500
HTSN-M3-25-6-2	M3	25	6	10	500
1317190	M3	30	6	10	500
HTSN-M3-35-6-2	M3	35	6	10	500
HTSN-M3-10-8-2	M3	10	8	8	500
HTSN-M3-15-8-2	M3	15	8	10	500
HTSN-M3-20-8-2	M3	20	8	10	500
HTSN-M3-25-8-2	M3	25	8	10	500
HTSN-M3-30-8-2	M3	30	8	10	500
HTSN-M3-35-8-2	M3	35	8	10	500
HTSN-M4-5-8-2	M4	5	8	3	500
1306280	M4	8	8	3	500
552192	M4	10	8	8	500
552209	M4	12	8	8	500
552199	M4	15	8	10	500
HTSN-M4-16-8-2	M4	16	8	10	500
1306279	M4	20	8	10	500
552195	M4	25	8	10	500
552194	M4	30	8	10	500
1317191	M4	35	8	10	500
1306281	M5	10	10	8	500
HTSN-M5-15-10-2	M5	15	10	10	500
HTSN-M5-20-10-2	M5	20	10	10	500
HTSN-M5-25-10-2	M5	25	10	10	500
HTSN-M5-30-10-2	M5	30	10	10	500
HTSN-M5-35-10-2	M5	35	10	10	500
1317192	M5	40	10	10	500



Type 1



Type 2



Type 2 Male/Male

Part Number	Thread	Dimensions (mm)			Std Pack Qty
		"L"	"H"	"B"	
HTSN-M2.5-5-3	M2.5	5	5	6	500
HTSN-M2.5-10-3	M2.5	10	5	6	500
HTSN-M2.5-12-3	M2.5	12	5	6	500
HTSN-M2.5-15-3	M2.5	15	5	6	500
HTSN-M2.5-20-3	M2.5	20	5	6	500
HTSN-M3-5-3	M3	5	6	6	500
HTSN-M3-8-3	M3	8	6	6	500
HTSN-M3-10-3	M3	10	6	6	500
HTSN-M3-12-3	M3	12	6	6	500
HTSN-M3-15-3	M3	15	6	6	500
HTSN-M3-20-3	M3	20	6	6	500
HTSN-M4-5-3	M4	5	6	6.4	500
HTSN-M4-8-3	M4	8	6	6.4	500
HTSN-M4-12-3	M4	12	6	6.4	500
HTSN-M4-15-3	M4	15	6	6.4	500
HTSN-M4-20-3	M4	20	6	6.4	500

# Threaded/Metal Spacers

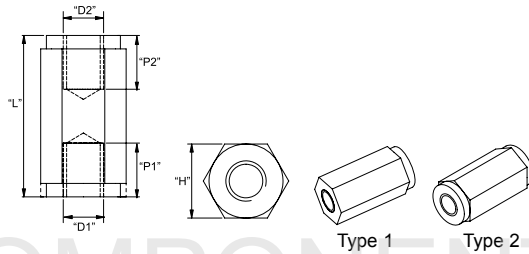
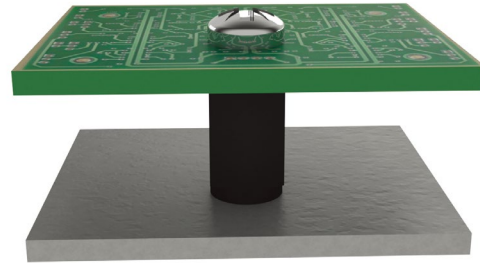
HTSN-1/HNSM-1

## Hex Threaded Standoff

Black Nylon 6, 25% Glass Filled, RMS-173



Part Number	Thread	Dimensions (mm)			Type	Std Pack Qty
		"L"	"H"	"P1/P2"		
1306268	M2	5	5	Full Thread	1	500
1306267	M2	10	5	Full Thread	1	500
HTSN-M2-15-5-1	M2	15	5	Full Thread	1	500
HTSN-M2-20-5-1	M2	20	5	Full Thread	1	500
HSNM2.5-5-5-1	M2.5	5	5	Full Thread	1	500
552200	M2.5	10	5	Full Thread	1	500
552215	M2.5	12	5	Full Thread	1	500
HSNM2.5-15-5-1	M2.5	15	5	Full Thread	1	500
HSNM2.5-20-5-1	M2.5	20	5	Full Thread	1	500
552222	M2.5	25	5	10	1	500
HSNM3-10-5-5-1	M3	10	5.5	Full Thread	2	500
HSNM3-15-5-5-1	M3	15	5.5	Full Thread	2	500
HSNM3-20-5-5-1	M3	20	5.5	Full Thread	2	500
HSNM3-25-5-5-1	M3	25	5.5	10	2	500
HSNM3-30-5-5-1	M3	30	5.5	10	2	500
1306271	M3	8	6	Full Thread	1	500
552206	M3	10	6	Full Thread	1	500
552190	M3	12	6	Full Thread	1	500
552196	M3	15	6	Full Thread	1	500
552204	M3	18	6	Full Thread	1	500
1306269	M3	20	6	Full Thread	1	500
552216	M3	25	6	10	1	500
1306270	M3	30	6	10	1	500
HTSN-M3-10-7-1	M3	10	7	Full Thread	1	500
HTSN-M3-15-7-1	M3	15	7	Full Thread	1	500
HTSN-M3-20-7-1	M3	20	7	Full Thread	1	500
HTSN-M3-25-7-1	M3	25	7	10	1	500
HTSN-M3-30-7-1	M3	30	7	10	1	500
HTSN-M3-10-8-1	M3	10	8	Full Thread	1	500
HTSN-M3-15-8-1	M3	15	8	Full Thread	1	500
HTSN-M3-20-8-1	M3	20	8	Full Thread	1	500
HTSN-M3-25-8-1	M3	25	8	10	1	500
HTSN-M3-30-8-1	M3	30	8	10	1	500
1306272	M4	10	8	Full Thread	1	500
1306273	M4	12	8	Full Thread	1	500
552205	M4	15	8	Full Thread	1	500
1306274	M4	18	8	Full Thread	1	500
552203	M4	20	8	Full Thread	1	500
1306275	M4	25	8	10	1	500
552207	M4	30	8	10	1	500
1306276	M4	35	8	10	1	500
552208	M4	40	8	10	1	500
HTSN-M4-10-10-1	M4	10	10	Full Thread	1	500
HTSN-M4-15-10-1	M4	15	10	Full Thread	1	500
HTSN-M4-20-10-1	M4	20	10	Full Thread	1	500
HTSN-M4-25-10-1	M4	25	10	10	1	500
HTSN-M4-30-10-1	M4	30	10	10	1	500
HTSN-M5-10-10-1	M5	10	10	Full Thread	1	500
HTSN-M5-15-10-1	M5	15	10	Full Thread	1	500
HTSN-M5-20-10-1	M5	20	10	Full Thread	1	500
HTSN-M5-25-10-1	M5	25	10	10	1	500
HTSN-M5-30-10-1	M5	30	10	10	1	500

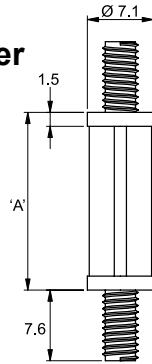
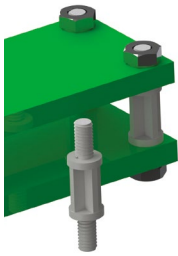


SENTRA COMPONENTS

## CBS-TMM

### Circuit Board Stacking Spacer

Natural UL94 V-2 Nylon 6/6, RMS-01



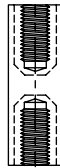
Part Number		"A" Standoff Height (mm)	Std Pack Qty
#6-32 Thread	M4 Thread		
CBS-TMM-4-01	CBS-TMM-M4-4-01	6.4	1000
CBS-TMM-6-01	CBS-TMM-M4-6-01	9.5	1000
CBS-TMM-8-01	CBS-TMM-M4-8-01	12.7	1000
CBS-TMM-10-01	CBSTMM-M4-10-01	15.9	1000

SEE TABLE FOR THREAD  
DETAIL AT BOTH ENDS

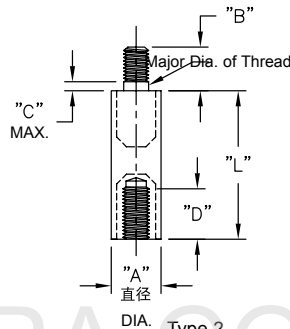
## TN

### Low Voltage Insulators

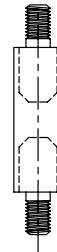
Natural UL94 V2 Nylon 6/6, RMS-133  
Inserts: RMS-231



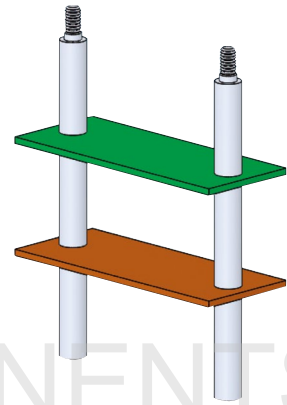
Type 1  
Female/Female



Type 2  
Female/Male



Type 3  
Male/Male



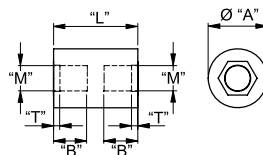
Part Number	"M" Thread	Dimensions (mm)					Std Pack Qty
		"L"	"A"	"B"	"C"	"D"	
TN4-12-632-SYLYE	#6-32	19.1	6.4	6.4	1.6	4.4	100
TN4-20-632-STYLE	#6-32	31.8	6.4	6.4	1.6	4.4	100
TN6-16-832-STYLE	#8-32	25.4	9.5	6.4	1.6	4.8	100
TN8-28-1024-STYLE	#10-24	44.5	12.7	7.1	2.4	4.8	100
TN10-32-1/420-STYLE	1/4-20	50.8	15.9	11.1	3.2	8.3	100

\* Replace "STYLE" in the part number with required configuration. 1=Female/Female,2=Female/Male,3=Male/Male

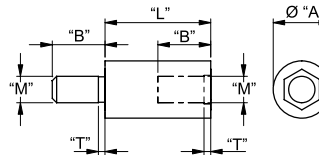
## TNM

### Metric Low Voltage Insulators

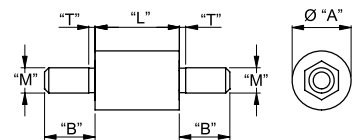
Natural UL94 V2 Nylon 6/6,  
RMS-133  
Inserts: Brass, RMS-231



Type 1  
Female/Female



Type 2  
Female/Male



Type 3  
Male/Male



Part Number	"M" Thread	Dimensions (mm)					Std Pack Qty	
		"L"	"A"	"B"	"T"	"T"		
TNM2.5-6.5-L-STYLE	M2.5	10	15	20	6.5	6	0.68	1000
TNM3-6.5-10-2	M3	10	-	-	6.6	6	0.75	100
TNM4-9.5-L-STYLE	M4	-	16	-	9.5	10	1.05	1000

\* Replace "STYLE" in the part number with required configuration.  
1=Female/Female,2=Female/Male,3=Male/Male

# Insulators

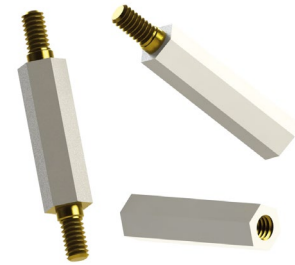
HSM

## Metric Hex Low Voltage Insulators

Natural Nylon 6, RMS-133

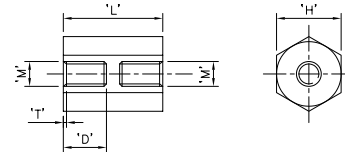
Insert: Brass, RMS-231

- Voltage breakdown > 11,000 volts/mm

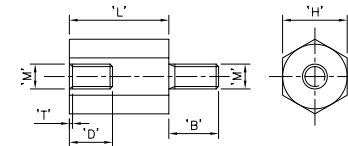


Part Number			"M"	"H"	"B"	"D"	"T"	"L"	Std Pack Qty
Female/Female	Female/Male	Male/Male							
HSM2.5-6.4-15-1	HSM2.5-6.4-15-2	HSM2.5-6.4-15-3	M2.5	6.4	6	6	0.68	15	100
HSM2.5-6.4-20-1	HSM2.5-6.4-20-2	HSM2.5-6.4-20-3	M2.5	6.4	6	6	0.68	20	100
-	HSM2.5-6.4-25-2	HSM2.5-6.4-25-3	M2.5	6.4	6	6	0.68	25	100
HSM3-6.4-15-1	HSM3-6.4-15-2	HSM3-6.4-15-3	M3	6.4	6	6	0.75	15	100
HSM3-6.4-16-1	HSM3-6.4-16-2	HSM3-6.4-16-3	M3	6.4	6	6	0.75	16	100
HSM3-6.4-20-1	HSM3-6.4-20-2	HSM3-6.4-20-3	M3	6.4	6	6	0.75	20	100
HSM3-6.4-25-1	HSM3-6.4-25-2	-	M3	6.4	6	6	0.75	25	100
HSM3-6.4-30-1	HSM3-6.4-30-2	HSM3-6.4-30-3	M3	6.4	6	6	0.75	30	100
HSM3-6.4-40-1	HSM3-6.4-40-2	HSM3-6.4-40-3	M3	6.4	6	6	0.75	40	100
HSM3-6.4-45-1	HSM3-6.4-45-2	-	M3	6.4	6	6	0.75	45	100
HSM4-8-15-1	1336223	-	M4	8	6	6	1.05	15	100
HSM4-8-20-1	-	HSM4-8-20-3	M4	8	6	6	1.05	20	100
HSM4-8-25-1	HSM4-8-25-2	HSM4-8-25-3	M4	8	6	6	1.05	25	100
HSM4-8-30-1	-	HSM4-8-30-3	M4	8	6	6	1.05	30	100
HSM4-8-40-1	HSM4-8-40-2	HSM4-8-40-3	M4	8	6	6	1.05	40	100
HSM4-8-45-1	HSM4-8-45-2	-	M4	8	6	6	1.05	45	100
HSM4-8-50-1	HSM4-8-50-2	HSM4-8-50-3	M4	8	6	6	1.05	50	100
-	HSM5-9.5-25-2	HSM5-9.5-25-3	M5	9.5	10	10	1.2	25	100
HSM5-9.5-30-1	HSM5-9.5-30-2	-	M5	9.5	10	10	1.2	30	100
HSM5-9.5-40-1	HSM5-9.5-40-2	-	M5	9.5	10	10	1.2	40	100
HSM5-9.5-45-1	HSM5-9.5-45-2	HSM5-9.5-45-3	M5	9.5	10	10	1.2	45	100
HSM5-9.5-50-1	-	HSM5-9.5-50-3	M5	9.5	10	10	1.2	50	100
HSM6-12.7-25-1	HSM6-12.7-25-2	-	M6	12.7	12.7	12.7	1.5	25	100
HSM6-12.7-30-1	HSM6-12.7-30-2	HSM6-12.7-30-3	M6	12.7	12.7	12.7	1.5	30	100
HSM6-12.7-40-1	HSM6-12.7-40-2	HSM6-12.7-40-3	M6	12.7	12.7	12.7	1.5	40	100
HSM6-12.7-45-1	HSM6-12.7-45-2	HSM6-12.7-45-3	M6	12.7	12.7	12.7	1.5	45	100
HSM6-12.7-50-1	HSM6-12.7-50-2	HSM6-12.7-50-3	M6	12.7	12.7	12.7	1.5	50	100

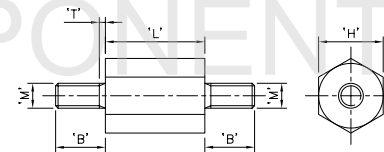
Female/Female



Female/Male



Male/Male



MTNSP

## Metric Micro Low Voltage Insulators

Natural Nylon 6, RMS-133

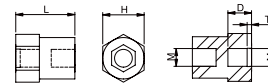
Insert: Brass, RMS-231

- Voltage breakdown > 11,000 volts/mm

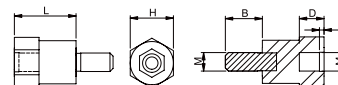
Part Number	"M" Thread	"M"	"L"	"H" Body Diameter	"B" Stud Length	"D" Insert Depth	"T"	Std Pack Qty
MTNSP-M2.5-10-1	Female/Female	M2.5	10	6	-	4	0.68	100
MTNSP-M2.5-12-1	Female/Female	M2.5	12	6	-	4	0.68	100
MTNSP-M3-10-1	Female/Female	M3	10	7	-	4	0.75	100
MTNSP-M3-12-1	Female/Female	M3	12	7	-	4	0.75	100
MTNSP-M2.5-10-2	Female/Male	M2.5	10	6	6	4	0.68	100
MTNSP-M2.5-12-2	Female/Male	M2.5	12	6	6	4	0.68	100
MTNSP-M3-8-2	Female/Male	M3	8	7	6	4	0.75	100
MTNSP-M3-10-2	Female/Male	M3	10	7	6	4	0.75	100
MTNSP-M3-12-2	Female/Male	M3	12	7	6	4	0.75	100
MTNSP-M2.5-10-3	Male/Male	M2.5	10	6	6	-	-	100
MTNSP-M2.5-12-3	Male/Male	M2.5	12	6	6	-	-	100
MTNSP-M3-10-3	Male/Male	M3	10	6	6	-	-	100
MTNSP-M3-12-3	Male/Male	M3	12	6	6	-	-	100

Unthreaded length=1.5 pitch max.

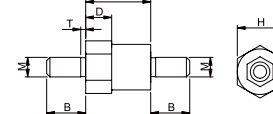
Female/Female



Female/Male



Male/Male



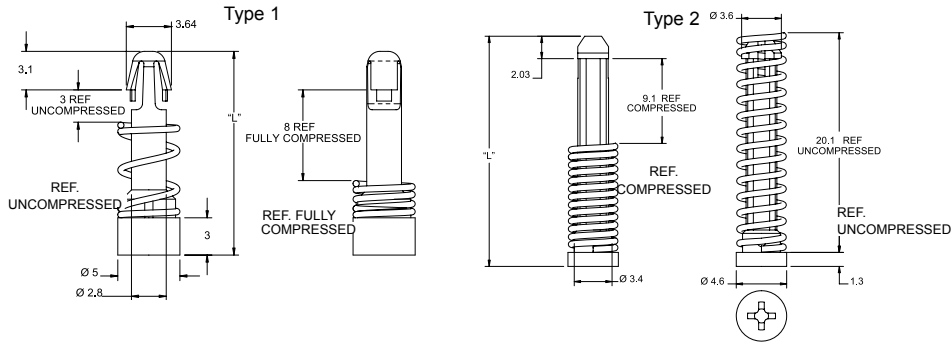
HSR

## Heat Sink Spring Mount Rivet

Rivet Material: Natural Nylon 6/6, RMS-47

Spring Material: Steel, RMS-326

Chrome Plated RMS-355



Part Number	Type	"L"	Heat Sink	Hole Chassis Hole	Std Pack Qty
HSR-1	1	16.4	3.18	3	1000
HSR-2	2	20.9	3.05	3.1	1000

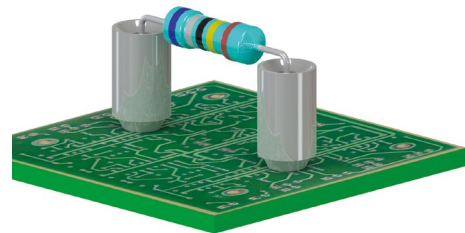
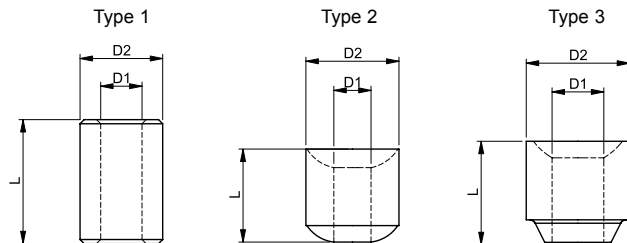
# ESSENTRA COMPONENTS

CER

## Ceramic Spacer

Natural Steatite C220 Ceramic, RMS-170

- Max. operating temperature: 1000°C
- Parts are stackable as seen in application photo



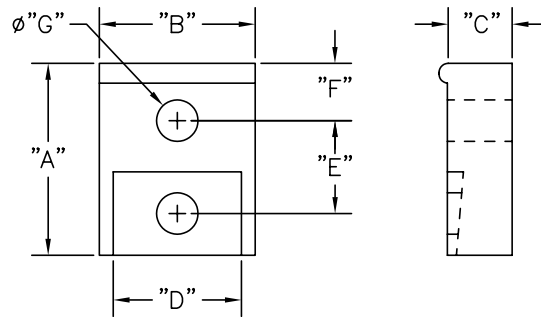
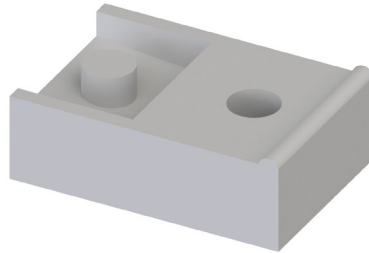
Part Number	"D1"	"D2"	"L"	Type	Std Pack Qty
CER-1	2	4	6	1	1000
CER-2	1.6	4.5	8	1	1000
CER-3	1.6	4.5	10	1	1000
CER-4	1	3	3	2	1000
CER-5	1.8	4.5	4.5	2	1000
CER-6	1	3	5	2	1000
CER-7	2.5	5	5	3	1000

## HTRTC

### High Temperature Transistor Cover

White UL94 V0 PBT, RMS-110

- Max. Temperature: 130°C



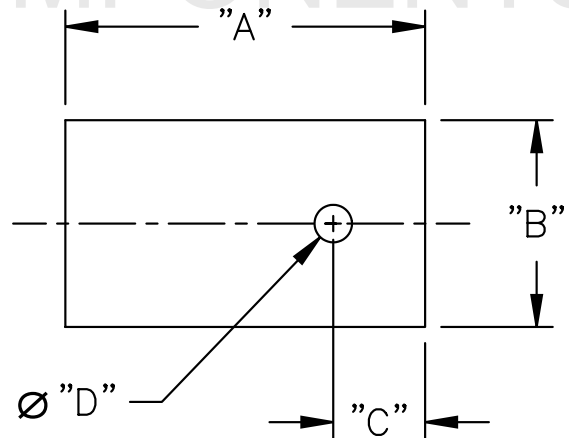
Part Number	"A"	"B"	"C"	"D"	"E"	"F"	"G"	Transistor Case Style	Std Pack Qty
HTRTC-1	16	13	5.4	10.7	8	4.7	3.5	TO-220	1000
HTRTC-1A	19.3	13	5.4	10.7	10	6	3.6	TO-220	1000

## TO

### Transistor Insulator Pad

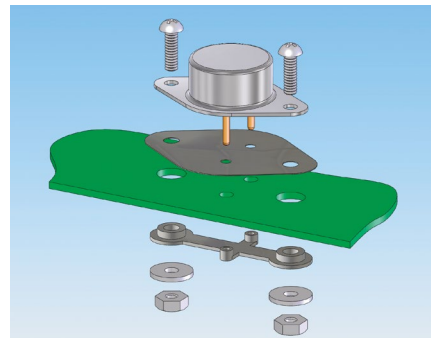
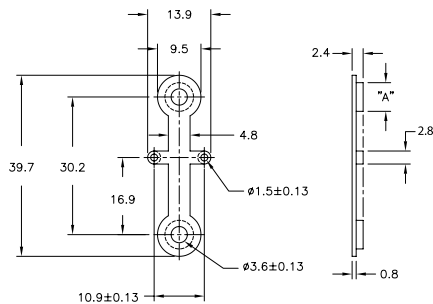
0.18 thick Silicone Rubber and Fiberglass Composite, RMS-33, Gray

- For use with Richco Part #'s IEC-TO-220, IEC-TO-220V-18, IEC-TO-218 & IEC-TO-3



Part Number	"A"	"B"	"C"	"D"	Std Pack Qty
TO-220-68	28.7	16	5.1	3.7	500
TO-218-70	35.8	20.6	9.1	3.73	500

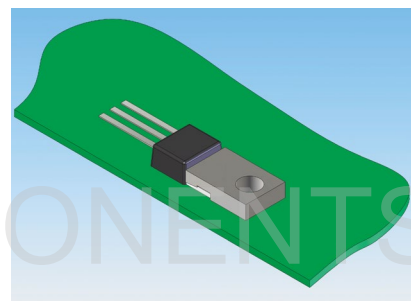
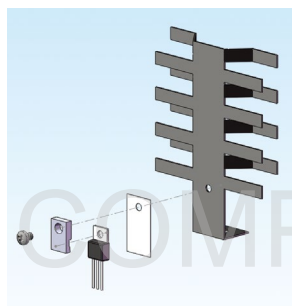
**IEC-T03**  
**Transistor Insulator**  
 Black Glass Filled Nylon,RMS-18



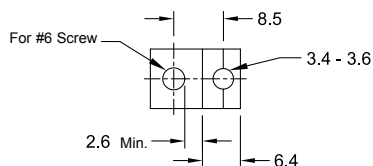
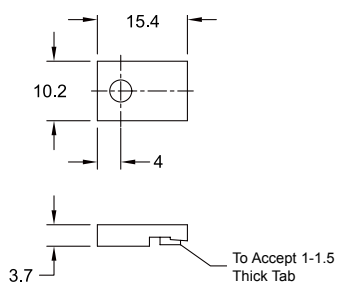
Part Number	DIA."A"	Std Pack Qty
IEC-T03-3-18	4.8	1000

**IEC**  
**Transistor Insulator**  
 Black Glass Filled Nylon,RMS-18

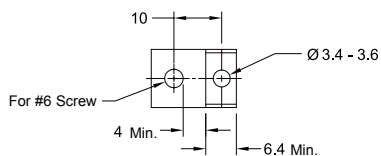
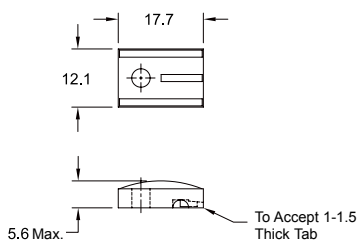
Part Number	Std Pack Qty
IEC-TO-220-18	1000
IEC-TO-220V-18	1000
IEC-TO-218-18	1000



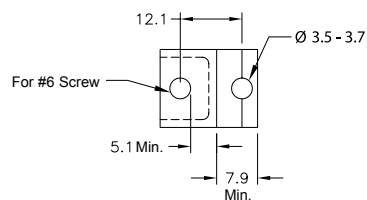
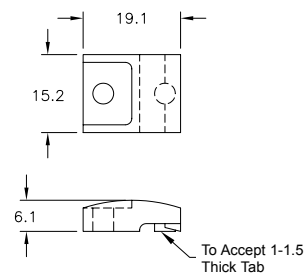
IEC-TO-220-18



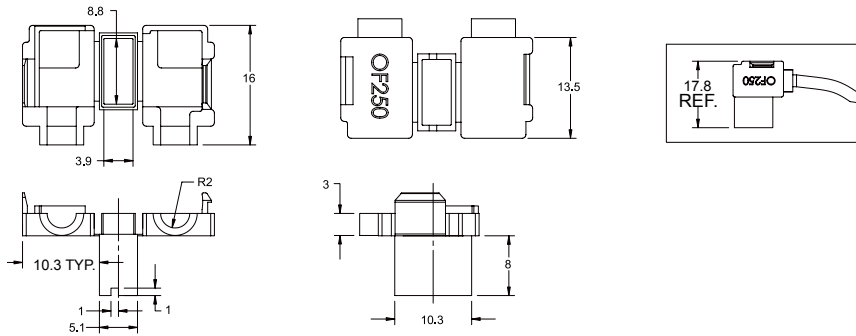
IEC-TO-220V-18



IEC-TO-218-18

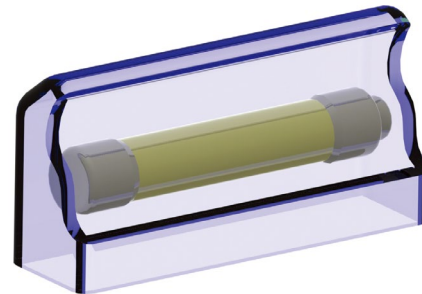
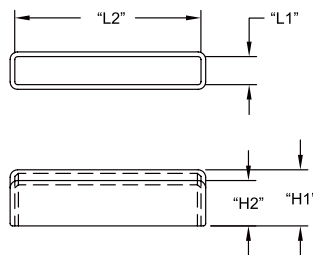


OF  
**One Touch Sleeve Insulator**  
 Natural Nylon 6, RMS-120



Part Number	Terminal Type	Wire Ø	Std Pack Qty
OF-250	Flag Type 250 Series	3.9	500

840XXX  
**Quick Fit Fuse Cover**  
 Transparent Blue, Flexible PVC, RMS-55

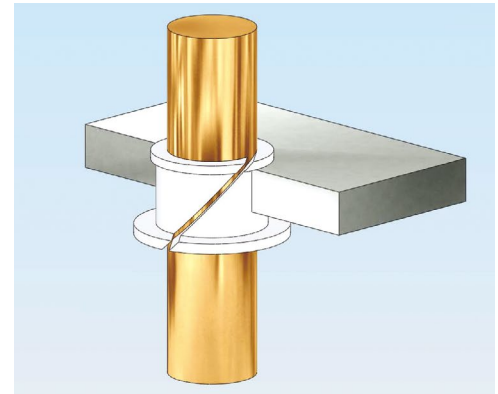
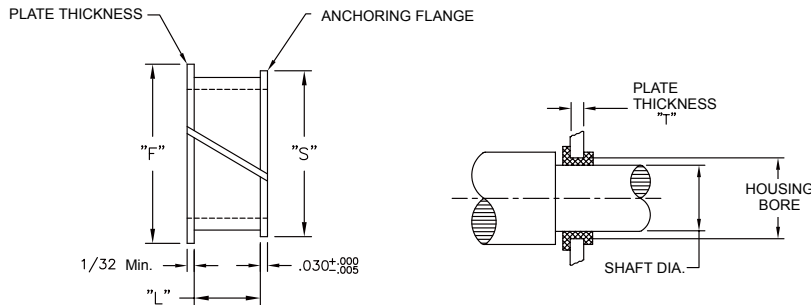


Part Number	"H1"REF.	"H2"REF.	"L1"	"L2"	Fuse Type	Std Pack Qty
840620	12.7	9.9	6.1	20.1	Metric	1000
840730	12.7	9.9	7.1	30	Metric	1000
840832	15.9	14.7	8.1	32	Metric	1000
840836	12.7	9.9	8.1	36.1	STD0.25*1.25	1000

## R Snap In Bearing

White Nylon 6/6, RMS-48

- Effective in damping out noise and vibration
- Does not require lubrication
- Axial slot helps maintain proper fit and compensate for humidity and temperature changes



Part Number	Max. Shaft Dia.	Min. *Housing Bore (mm)	Bearing I.D.** +.003/- .000 (mm)	Flange Dia. ±1/64		Bearing Length *L +.015/- .000 (mm)	Recommended *F *S Plate (mm)	Std Pack Qty
				*F	*S			
R3L1-C	3/16	.234	.189	5/16	1/4	.078	.040-.075	1000
R3L2-C	3/16	.234	.189	5/16	1/4	.140	.072-.135	1000
R4L1-C	1/4	5/16	.251	7/16	11/32	.078	.040-.075	1000
R5L1-C	5/16	3/8	.314	1/2	13/32	.078	.040-.075	1000
R6L2-C	3/8	7/16	.376	9/16	15/32	.140	.072-.135	1000
R12L1-C	3/4	13/16	.751	1	27/32	.078	.040-.075	1000

\* The minimum clearance for snap-in bearing is .001". However, snap in bearings can be used with shaft diameters a few thousandths larger or smaller than shown if housing bore is varied a corresponding amount

\*\* When installed in Housing Bore diameter shown

\*\*\* All the dimensions are in inch

### Installation

Bearing should always be installed in a housing bore that provides good support for the bearing.

When operated continuously without lubrication at the maximum permissible speed of 500 rpm shafts should be hardened or plated in the bearing area to minimize wear. Unhardened stainless steel shafts are not nickel plated shafts where corrosion is a problem.

### Correct Clearances

Housing bore diameters should not be smaller than the minimum diameters specified in tables presented in this catalog. To check bearing I.D.'s for clearance, the bearing should be installed in its housing bore. Plug gauges with diameters corresponding to the minimum and maximum recommended I.D.'s can be used to determine whether the clearance is correct for the bearing when operated on recommended shaft.

When bearing must operate in liquids, the wall thickness of the bearing will increase due to absorption of liquid. Wall thicknesses also increase when bearings are used in a consistently humid environment.

The compensation gap allows for the bearing to be collapsed sufficiently so that the small flange can be easily spiraled through the mounting hole. Position the bearing over the hole with the gap facing up. With light finger pressure immediately to the left of the compensation gap, the bearing is spiraled into position.

Bearing perform effectively in temperature ratings from -40°F to +200 °F. Bearing load ratings to 8,000 PSI and speed ratings up to 2,000 feet per minute insure durability.

### LOAD RATINGS

Radial Load Capacity in Pounds of various RPM(Non-Lubricated)

Part Number	Nominal Brg.I.D.	'Static	10 RPM	50 RPM	100 RPM	250 RPM
R3L1-C	3/16	24	4	4	3	2
R3L2-C	3/16	48	9	8	6	4
R4L1-C	1/4	32	5	5	4	2
R5L1-C	5/16	40	8	6	4	2
R6L2-C	3/8	96	19	15	10	4
R12L1-C	3/4	100	20	14	6	2.5

## Raw Material Information

### UL® File Number & UL® Yellow Cards

Underwriter's Laboratories Inc. (UL®), plastics classification number is used to describe the performance of the material. Tests conducted by UL® may include the determination of material flammability (burning characteristics), ignition characteristics from various thermal and electrical sources, electrical tracking and other electrical characteristics, physical and mechanical characteristics, and analytical tests. In addition, the effect of long-term exposure to elevated temperature (air-oven aging), water, ultraviolet light, cold, etc. on property-retention may be evaluated.

**For more information and to download the UL® Yellow Card for an Essentra Components product, please visit [www.ul.com](http://www.ul.com) and click on "Certifications".**

### UL® Flame Rating

UL94 classifications V0, V1, V2, and HB describe the flame retardancy levels for a given resin. V0 rated resins typically have the highest flame resistance followed by V1, V2, and HB.

**For more information on UL® Flame Ratings and the Vertical Burn Test, please visit [www.ul.com](http://www.ul.com).**

### Material Operating Temperatures

The Material Temperature Ranges shown in the RMS Table are based on datasheets from the respective resin manufacturers and/or UL®RTI values. The values shown are for reference only to assist in material selection for your application. As each resin manufacturer uses different methods to evaluate the performance of their resins, the temperature ranges shown cannot necessarily be used to compare materials directly.

## Adhesive Tape Usage Guidelines

### Loads & Product Usage Guidelines

Long-term maximum product application loads generally should not exceed 0.25 psi. The surface area of contact is very critical for bond strength, so the amount of tape used should be maximized based on the application. In general, the tensile strength of the adhesive is higher than the peel or shear strength, so the product should be designed to be loaded in tension whenever possible.

### Nylon & Adhesive Shelf Life

If products are kept under the Ideal Storage Conditions above, shelf life is 1 year from date of shipment.

An asterisk(\*) indicates data was not available at time of publication. Please see our website or contact your local Essentra Components Representative for the necessary documentation.

#### RAW MATERIAL SPECIFICATION/DISCLAIMER OF WARRANTY:

These Raw Material Specifications shall not be construed as creating an express warranty of description. The specifications are approximate and intended to serve only as guides and not as the basis of any sale, agreement or contract of goods sold by Essentra Components. Essentra Components reserves the right to change the raw material on any of its goods contained in this catalog without notice to any buyer. Further, these Raw Material Specifications have been provided by the manufacturer and Essentra Components does not warrant their accuracy.

## Temperature Considerations

Ideal application temperature for most Essentra Components adhesives is 70° - 100°F (21° - 38°C). Lower application temperatures should be avoided as the adhesive will be too firm and may not 'wet out' sufficiently. Operating temperatures of Essentra Components adhesives are shown in the RMS table.

### Application Guide

**Surface Condition:** The bonding surfaces must be clean, uniform, dry and free of condensation. Do not use on fabric, coarse concrete, loose paint, or rough, loose surfaces.

**Surface Preparation:** For maximum performance, clean the mounting surfaces with a cleaning solvent such as a 50/50 mixture of isopropyl alcohol and water. Be sure to follow the solvent manufacturer's directions for use. Some surfaces may require a sealant or primer to achieve the desired bonding. Test the product on your actual application.

**Application pressure:** Remove the release liner being very careful not to touch the adhesive surface and then quickly and firmly rub the product into place. Firm pressure is needed to ensure full contact and to allow the adhesive to fully wet-out on the mating surfaces.

**Dwell Time:** The bond strength is affected by the substrate surface, application temperature and dwell time. At room temperature approximately half of the bond strength will be obtained within the first half hour with the majority of the strength achieved within 24 hours. Therefore, whenever possible wait 24 hours before applying load.

**Acrylic vs. rubber based adhesives:** In general, rubber based adhesives offer higher initial tack whereas acrylic based adhesives maintain higher mechanical strength over time. One should evaluate the performance of the product on the actual end use application. Contact your local Essentra Components representative for additional physical property and chemical resistance data.

## Common Material Abbreviations

ABS = Acrylonitrile-butadiene-styrene	PPE/PS = Polyphenylene ether/ polystyrene alloy
Acetal/POM = Polyacetal	PPE/SB = Polyphenylene ether/styrene- butadiene alloy
CPVC = Chlorinated polyvinyl chloride	PPS = Polyphenylene sulfide
EPDM = Ethylene-propylene-diene-monomer	PS = Polystyrene
HDPE = High density polyethylene	PSU = Polysulfone
HIPS = High impact polystyrene	PU = Polyurethane
LCP = Liquid Crystal Polymer	PVC = Polyvinyl chloride
LDPE = Low density polyethylene	PVDF = Polyvinylidene fluoride
Nitrile Rubber = Acrylonitrile rubber	SEBS = Styrene-ethylene butylene-styrene block copolymer
Nylon = Polyamide (PA)	SIR = Silicone molding compound
PBT = Polybutylene terephthalate	TPE = Thermoplastic elastomer
PC = Polycarbonate	TPR = Thermoplastic rubber
PE = Polyethylene	
PEI = Polyether imide	
PP = Polypropylene	

RMS No.	Material Description	UL File No.	UL Flame Rating	RoHS Compliance	Material Temperature Range			
					°C		°F	
01	Nylon 6/6	E70062	V-2	Y	-40	- 85	-40	- 185
02	ABS	E38989	HB	Y	-40	- 95	-40	- 203
03	PC	E45587	HB	Y	-40	- 115	-40	- 239
04	PVC - Rigid	E41877	V-0	Y	0	- 50	32	- 122
05	PPE+PS	E121562	V-0	Y	-40	- 110	-40	- 230
06	LDPE	NO U.L.	Not rated	Y	-40	- 65	-40	- 149
07	HDPE	E41877	V-0	N	0	- 50	32	- 122
08	PP	E169973	HB	Y	0	- 65	32	- 149
09	ABS	E44741	HB	Y	0	- 60	32	- 140
10	PP	E169973	HB	Y	0	- 65	32	- 149
11	CPVC	E106426	V-0	Y	0	- 50	32	- 122
12	CAP	E31879	HB	Y	-20	- 50	-4	- 122
13	HDPE	NO U.L.	Not rated	Y	-20	- 65	-4	- 149
14	Acetal - US	E38860	HB	Y	-50	- 100	-58	- 212
14A	Acetal - UK	E42337	HB	Y	-50	- 100	-58	- 212
15	Acrylic adhesive / PU foam tape / PE liner	MH16770	Not rated	Y	0	- 85	32	- 185
16A	HIPS - UK	E141073	HB	Y	-20	- 50	-4	- 122
16B	HIPS - US	E57787	HB	Y	-20	- 50	-4	- 122
17	Nylon 6/6	E41938	V-2	Y	-40	- 85	-40	- 185
18	Nylon 6/6, Heat Stabilized, 33% Glass Filled - US	E41938	HB	Y	-30	- 140	-22	- 284
18A	Nylon 6/6, F.R., 25% Glass Filled - UK	E41938	V-0	Y	-30	- 130	-22	- 266
19	Nylon 6/6, F.R.	E70062	V-0	Y	-40	- 110	-40	- 230
20	PVC - Rigid	E53006	V-0	Y	0	- 50	32	- 122
21	Nylon 66/6	E41938	HB	Y	-40	- 65	-40	- 149
23	PC, F.R.	E121562	V-0	Y	-40	- 130	-40	- 266
24	Rubber adhesive / PE foam tape / HDPE liner	NO U.L.	Not rated	Y	-20	- 60	-4	- 140
25	PVC - Flexible	NO U.L.	Not rated	Y	0	- 50	32	- 122
26	PVC - Flexible	E54709	V-0	Y	0	- 90	32	- 194
27	Nylon 6/6, F.R., 25% Glass Filled	E170540	V-0	Y	-30	- 65	-22	- 149
28	Polyester Felt Fiber	NO U.L.	Not rated	Y	-	-	-	-
29	304 Stainless Steel	NO U.L.	Not rated	Y	-200	- 870	-328	- 1598
30	CAP	NO U.L.	Not rated	Y	-	-	-	-
31	Aluminum	NO U.L.	Not rated	Y	-	-	-	-
32	PVC - Rigid	E41877	V-0	Y	0	- 50	32	- 122
33	Silicone Rubber and Fiberglass, F.R.	E59150	V-0	Y	-60	- 150	-76	- 302
34	Rubber adhesive / PE foam tape	NO U.L.	Not rated	Y	-40	- 71	-40	- 160
35	Nylon 6/6, 14% Glass Filled	E41938	HB	Y	-20	- 65	-4	- 149
38	Nylon 6, 30% Glass Filled	NO U.L.	Not rated	Y	-20	- 140	-4	- 284
39	Acetal	E41938	HB	Y	-40	- 95	-40	- 203
42	TPE	E80017	HB	Y	-60	- 95	-76	- 203
43	Nylon 6/6, F.R.	E53898	V-0	Y	-40	- 120	-40	- 248
45	Nylon 6/6, Heat Stabilized	E41938	HB	Y	-40	- 85	-40	- 185
46	Nylon 6/6, UV Stabilized	E70062	V-2	Y	-40	- 85	-40	- 185
47	Nylon 6/6, Heat Stabilized	E41938	V-2	Y	-40	- 125	-40	- 257
48	Nylon 6/6	E41871	V-2	Y	-40	- 90	-40	- 194
49	Nylon 6/6, F.R., 25% Glass Filled	E41871	V-0	Y	-40	- 130	-40	- 266
50	PPS, 40% Glass Filled	E54700	V-0	Y	-40	- 220	-40	- 428
51	PSU	E41871	V-2	Y	0	- 155	32	- 311
52	Nylon 6	E41871	V-2	Y	-40	- 115	-40	- 239
53	PBT	E121562	V-0	Y	-30	- 140	-22	- 284
54	PP	E169973	HB	Y	0	- 65	32	- 149
55	PVC - Flexible	E137220	V-0	Y	-35	- 50	-31	- 122
56	Nylon 4/6, Heat Stabilized	E172082	V-2	Y	-40	- 130	-40	- 266
58	Nylon 6	E148796	HB	Y	-20	- 65	-4	- 149
60	Nylon 6	E36632	V-2	Y	-40	- 65	-40	- 149
62	Nylon 6	E41871	V-2	Y	-40	- 115	-40	- 239
64	PU	E177325	HB	Y	0	- 50	32	- 122
65	Acrylic adhesive / PE coated paper liner	NO U.L.	Not rated	Y	-18	- 121	0	- 250

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#### NYLON STORAGE GUIDELINES/SHELF LIFE:

All nylon parts are packaged in sealed plastic bags and contain an appropriate level of moisture. When stored in the original unopened bags at 73°F (23°C) and 50% RH, parts shelf life is one year from date of shipment.

# RMS Specifications

RMS No.	Material Description	UL File No.	UL Flame Rating	RoHS Compliance	Material Temperature Range					
					°C		°F			
66	Nylon 6/6, F.R.	E78964	V-0	Y	-40	-	65	-40	-	149
67	TPE	E80017	HB	Y	-60	-	95	-76	-	203
68	Rubber adhesive / PE coated paper liner	NO U.L.	Not rated	Y	-18	-	82	0	-	180
70	PVC, F.R.	E86418	V-0	Y	0	-	50	32	-	122
71	Nylon 6	E36632	V-2	Y	-40	-	85	-40	-	185
72	PC	E123529	V-2	Y	-40	-	80	-40	-	176
73	Nylon 6/6	E41938	HB	Y	-40	-	85	-40	-	185
74	Nylon 6/6	E41938	V-2	Y	-40	-	85	-40	-	185
75	Nylon 6/6, F.R.	E116324	V-0	Y	-40	-	85	-40	-	185
76	TPE	E80017	HB	Y	-50	-	95	-58	-	203
78	Nylon 6/6	E53898	HB	Y	-40	-	105	-40	-	221
79	PC	E50075	V-2	Y	-40	-	105	-40	-	221
80	TPR	E80017	HB	Y	-40	-	50	-40	-	122
81	Nylon 6/6	E41797	V-2	Y	-40	-	85	-40	-	185
83	PVC	NO U.L.	Not rated	Y	0	-	50	32	-	122
84	Nylon 6/6	E36632	V-2	Y	-40	-	85	-40	-	185
85	Nylon 6	NO U.L.	Not rated	Y	-40	-	100	-40	-	212
86	PP	NO U.L.	Not rated	Y	0	-	65	32	-	149
87	Nylon 6, F.R.	E41797	V-0	Y	-40	-	130	-40	-	266
88	Nylon 6	E36632	HB	Y	-40	-	120	-40	-	248
91	Nylon 6/6, F.R.	E88499	V-0	Y	-20	-	120	-4	-	248
92	Acrylic adhesive / Acrylic foam tape / Paper liner	MH17478	Not rated	Y	-40	-	93	-40	-	199
93	Acrylic adhesive / PE foam tape / PE paper liner	NO U.L.	Not rated	Y	-40	-	70	-40	-	158
94	PP	NO U.L.	Not rated	Y	0	-	65	32	-	149
95	Nylon 6, F.R., Heat Stabilized	E147510	V-0	Y	-40	-	65	-40	-	149
96	Hot Melt Adhesive	R6022	Not rated	Y	-	-	-	-	-	-
98	TPE	NO U.L.	Not rated	Y	-40	-	120	-40	-	248
99	Acrylic adhesive / PU foam tape / PE liner	NO U.L.	Not rated	Y	-40	-	100	-40	-	212
100	TPE	NO U.L.	Not rated	Y	-40	-	70	-40	-	158
102	Rubber adhesive / PE foam tape / PE film liner	MH15436	Not rated	Y	-18	-	66	0	-	150
103	Nylon 6/66, F.R.	E41871	V-0	Y	-40	-	120	-40	-	248
104	Nylon 6/6, F.R., Heat Stabilized, 25% Glass Filled	E41938	V-0	Y	-40	-	130	-40	-	266
105	PPE/PS	E148878	V-0	Y	-30	-	100	-22	-	212
106	Nylon 66	NO U.L.	Not rated	Y	-40	-	120	-40	-	248
107	PC	E146413	V-0	Y	-40	-	80	-40	-	176
109	Nylon 4/6, Heat Stabilized	E47960	V-2	Y	-40	-	130	-40	-	266
110	PBT, F.R., 30% Glass Filled	E130155	V-0	Y	-30	-	140	-22	-	284
111	PBT	E45575	V-0	Y	-30	-	130	-22	-	266
112	Nylon 6/6, F.R., 25% Glass Filled	E36632	V-0	Y	-40	-	130	-40	-	266
113	Acrylic adhesive / PE foam tape / PE liner	NO U.L.	Not rated	Y	-18	-	107	0	-	225
114	ABS	E56070	HB	Y	0	-	85	32	-	185
115	Nylon 6/6	E41938	V-2	Y	-30	-	85	-22	-	185
116	Nylon 6/6	NO U.L.	Not rated	Y	-20	-	85	-4	-	185
117	Polystyrene, F.R.	E140692	V-0	Y	-20	-	50	-4	-	122
118	PVC - Flexible	NO U.L.	Not rated	Y	0	-	50	32	-	122
119	Rubber adhesive / PE foam tape / PE liner	NO U.L.	Not rated	Y	18	-	65	65	-	149
120	Nylon 6	E53664	V-2	Y	-40	-	85	-40	-	185
121	Acetal	E41938	HB	Y	-50	-	95	-58	-	203
122	Nylon 6	E41938	V-2	Y	-40	-	85	-40	-	185
123	Silicone Rubber	E224733	HB	Y	-40	-	150	-40	-	302
124	PP	E41877	V-2	Y	0	-	105	32	-	221
126	PP	NO U.L.	Not rated	Y	0	-	65	32	-	149
127	Acetal	NO U.L.	Not rated	Y	-50	-	90	-58	-	194
128	Rubber adhesive/PE foam tape/Silicone coated paper liner	NO U.L.	Not rated	Y	18	-	65	65	-	149
129	Rubber adhesive/PE foam tape/Silicone coated paper liner	NO U.L.	Not rated	Y	18	-	65	65	-	149
130	PPE/PS	E45587	V-0	Y	-40	-	110	-40	-	230
131	Acrylic adhesive / Rubber foam tape	NO U.L.	Not rated	Y	-40	-	85	-40	-	185
132	Adhesive Transfer Tape	MH17478	Not rated	Y	-34	-	150	-30	-	302

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## NYLON STORAGE GUIDELINES/SHELF LIFE:

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RMS No.	Material Description	UL File No.	UL Flame Rating	RoHS Compliance	Material Temperature Range					
					°C			°F		
133	Nylon 6/6	E53898	HB	Y	-40	-	105	-40	-	221
134	LDPE	NO U.L.	Not rated	Y	0	-	65	32	-	149
135	Acrylic adhesive / Silicone foam	E57750	V-0	Y	-29	-	150	-20	-	302
136	Rubber adhesive / PE foam tape / PE liner	NO U.L.	Not rated	Y	-40	-	60	-40	-	140
138	Nylon 66/6, F.R., Heat Stabilized	E44716	V-0	Y	-50	-	95	-58	-	203
140	PBT	E245249	V-0	Y	-30	-	125	-22	-	257
141	PVDF	E54699	V-0	Y	-30	-	50	-22	-	122
142	LDPE/HDPE	NO U.L.	Not rated	Y	0	-	70	32	-	158
143	Acrylic adhesive / PE foam tape / PP liner	NO U.L.	Not rated	Y	-40	-	70	-40	-	158
144	PVC	NO U.L.	Not rated	Y	0	-	50	32	-	122
145	PPE/PS	E45329	V-0	Y	-30	-	65	-22	-	149
146	Nylon 6/10, F.R.	E41797	V-0	Y	-40	-	65	-40	-	149
147	Nylon 66	E141008	V-2	Y	-40	-	85	-40	-	185
148	Nylon 6/6	E70062	HB	Y	-40	-	65	-40	-	149
149	ASA/AES	E44741	HB	Y	-40	-	50	-40	-	122
150	PP	NO U.L.	Not rated	Y	0	-	65	32	-	149
150A	PP	E231371	HB	Y	0	-	65	32	-	149
151	PP, Conductive	E45195	HB	Y	0	-	65	32	-	149
152	Aluminum	NO U.L.	Not rated	Y	-200	-	400	-328	-	752
153	EPDM Rubber	NO U.L.	Not rated	Y	-40	-	110	-40	-	230
154	Nylon 6	E76261	V-2	Y	-30	-	85	-22	-	185
155	LDPE/HDPE Blend, UV Stabilized	NO U.L.	Not rated	Y	0	-	65	32	-	149
156	Nylon 6/6	E53664	V-0	Y	-40	-	120	-40	-	248
157	Nylon 6, Heat Stabilized	NO U.L.	Not rated	Y	-40	-	130	-40	-	266
158	TPE	E80017	HB	Y	-50	-	95	-58	-	203
159	Nylon 6	E47960	V-2	Y	-30	-	85	-22	-	185
160	Acetal	E45034	HB	Y	-50	-	100	-58	-	212
161	PC	E41179	V-2	Y	-40	-	125	-40	-	257
162	PEI	E247337	V-0	Y	-40	-	200	-40	-	392
163	HIPS	E108538	HB	Y	-20	-	50	-4	-	122
164	Nylon 6/6, Heat Stabilized	E70062	V-2	Y	-40	-	125	-40	-	257
165	Nylon 6/6, UV Stabilized	E70062	V-2	Y	-40	-	85	-40	-	185
166	EPDM Rubber	NO U.L.	Not rated	Y	-40	-	50	-40	-	122
167	TPE	E80017	HB	Y	-40	-	50	-40	-	122
168	TPE	E80017	HB	Y	-40	-	50	-40	-	122
169	Nylon 6/6, F.R.	E53898	V-0	Y	-40	-	120	-40	-	248
170	Ceramic	NO U.L.	Not rated	Y	-40	-	1700	-40	-	3092
171	ABS	E56070	HB	Y	0	-	60	32	-	140
172	Nylon 6/6, Heat Stabilized	E41938	HB	Y	-40	-	110	-40	-	230
173	Nylon 6, 25% Glass Filled	NO U.L.	Not rated	Y	-20	-	140	-4	-	284
174	Nylon 6/6	E86615	V-2	Y	0	-	65	32	-	149
175	Mild Steel	NO U.L.	Not rated	Y	-	-	-	-	-	-
176	PVC/TPE	NO U.L.	Not rated	Y	-30	-	100	-22	-	212
177	PP	E54080	V-2	Y	0	-	65	32	-	149
179	Nylon 6/6	E86615	V-2	Y	-20	-	65	-4	-	149
180	EPDM Rubber	NO U.L.	Not rated	Y	-20	-	90	-4	-	194
181	PC	E121254	V-0	Y	-40	-	80	-40	-	176
182	TPE	E80017	HB	Y	-30	-	95	-22	-	203
183	HDPE	NO U.L.	Not rated	Y	0	-	65	32	-	149
184	LCP	E83005	V-0	Y	0	-	130	32	-	266
185	TPE	NO U.L.	Not rated	Y	-50	-	130	-58	-	266
186	PVC	NO U.L.	Not rated	Y	-10	-	50	14	-	122
187	PVC, UV Stabilized - Rigid	NO U.L.	Not rated	Y	-20	-	70	-4	-	158
188	PVC - Rigid	NO U.L.	Not rated	Y	-20	-	60	-4	-	140
189	Nylon 66, 15% Glass Filled	NO U.L.	Not rated	Y	-20	-	85	-4	-	185
190	Neoprene Rubber	NO U.L.	Not rated	Y	-40	-	50	-40	-	122
191	PVC - Rigid	NO U.L.	Not rated	Y	0	-	50	32	-	122
192	Nylon 11 Coating	NO U.L.	Not rated	Y	-40	-	140	-40	-	284

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# RMS Specifications

RMS No.	Material Description	UL File No.	UL Flame Rating	RoHS Compliance	Material Temperature Range					
					°C		°F			
193	PVC - Rigid	NO U.L.	Not rated	Y	0	-	50	32	-	122
194	Aluminum	NO U.L.	Not rated	Exempt	-	-	-	-	-	-
195	PVC - Rigid	NO U.L.	Not rated	Y	0	-	50	32	-	122
196	PVC Coating	NO U.L.	Not rated	Y	0	-	50	32	-	122
197	30301 Stainless Steel	NO U.L.	Not rated	Y	-129	-	287.8	-200	-	550
198	Cold Rolled Steel	NO U.L.	Not rated	Y	-	-	-	-	-	-
199	Aluminum	NO U.L.	Not rated	Y	-	-	-	-	-	-
200	TPE	NO U.L.	Not rated	Y	0	-	50	32	-	122
201	Nitrile Rubber	NO U.L.	Not rated	Y	-40	-	80	-40	-	176
202	Acetal	E38860	HB	Y	-50	-	100	-58	-	212
203	Soft Steel	NO U.L.	Not rated	Exempt	-	-	-	-	-	-
204	PC	E121562	HB	Y	-40	-	130	-40	-	266
205	Nylon 6/6, 25% Glass Filled	E116324	V-0	Y	-40	-	95	-40	-	203
206	Spring Steel	NO U.L.	Not rated	Y	-	-	-	-	-	-
207	Natural Rubber	NO U.L.	Not rated	Y	0	-	50	32	-	122
208	PVC	NO U.L.	Not rated	Y	0	-	50	32	-	122
209	Silicone Oil	NO U.L.	Not rated	Y	-	-	-	-	-	-
210	Silicone Rubber	NO U.L.	Not rated	Y	-40	-	150	-40	-	302
211	Nylon 66, Heat Stabilized	NO U.L.	Not rated	Y	-40	-	65	-40	-	149
212	Carbon Steel	NO U.L.	Not rated	Y	-	-	-	-	-	-
213	TPE	NO U.L.	Not rated	Y	-50	-	90	-58	-	194
214	TPE	NO U.L.	Not rated	Y	-50	-	90	-58	-	194
215	PC	E157291	V-2	Y	-40	-	120	-40	-	248
216	Black Oxide & Oil Coating	NO U.L.	Not rated	Y	-	-	-	-	-	-
217	Nickel Tin Plating	NO U.L.	Not rated	Y	-	-	-	-	-	-
218	PC	E121562	HB	Y	-40	-	100	-40	-	212
219	Zinc Plating	NO U.L.	Not rated	Y	-	-	-	-	-	-
220	Nylon 6/6	E41938	V-2	Y	-40	-	85	-40	-	185
221	Nylon 6/6, UV Stabilizer	E41938	V-2	Y	-40	-	85	-40	-	185
222	Nylon 6/6, 30% Glass Filled	E84658	V-0	Y	-30	-	140	-22	-	284
223	ABS, F.R.	E162823	V-0	Y	0	-	60	32	-	140
224	Stainless Steel - Passivated	NO U.L.	Not rated	Y	-	-	-	-	-	-
225	Polyolefin	NO U.L.	Not rated	Y	0	-	65	32	-	149
226	Modified PE Adhesive	NO U.L.	Not rated	Y	-	-	-	-	-	-
227	Stainless Spring Steel	NO U.L.	Not rated	Exempt	-129	-	287.8	-200	-	550
228	Stainless Steel	NO U.L.	Not rated	Y	-	-	-	-	-	-
229	Nickel Chrome Plating	NO U.L.	Not rated	Y	-	-	-	-	-	-
230	Stainless Spring Steel	NO U.L.	Not rated	Y	-129	-	287.8	-200	-	550
231	Brass	NO U.L.	Not rated	Exempt	-	-	-	-	-	-
232	Mild Steel	NO U.L.	Not rated	Exempt	-	-	-	-	-	-
233	409 Stainless Steel	NO U.L.	Not rated	Y	-	-	-	-	-	-
234	Nickel Plating	NO U.L.	Not rated	Y	-	-	-	-	-	-
235	Zinc Bichromate Plating	NO U.L.	Not rated	Y	-	-	-	-	-	-
236	Zinc Plating	NO U.L.	Not rated	Y	-	-	-	-	-	-
237	Mild Steel	NO U.L.	Not rated	Y	-	-	-	-	-	-
238	Spring Steel	NO U.L.	Not rated	Y	-	-	-	-	-	-
239	Painted Marking	NO U.L.	Not rated	Y	-	-	-	-	-	-
240	Rubber & Nylon - Fiber	NO U.L.	Not rated	Y	0	-	38	-18	-	100
241	Neoprene Rubber	NO U.L.	Not rated	Y	-40	-	80	-40	-	176
242	Carbon Steel	NO U.L.	Not rated	Y	-	-	-	-	-	-
243	Soft Electrogalvanized Steel	NO U.L.	Not rated	Y	-	-	-	-	-	-
244	Nylon 66	E41938	V-2	Y	-40	-	85	-40	-	185
245	Copper Flat Wire	NO U.L.	Not rated	Exempt	-	-	-	-	-	-
246	Tin Plating	NO U.L.	Not rated	Y	-	-	-	-	-	-
247	Aluminum	NO U.L.	Not rated	Y	-200	-	400	-328	-	752
248	Nylon 66, F.R.	E41938	V-0	Y	-40	-	85	-40	-	185
249	PE Hook	NO U.L.	Not rated	Y	0	-	60	32	-	140
250	Nylon Buckle	NO U.L.	Not rated	Y	-40	-	65	-40	-	149

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RMS No.	Material Description	UL File No.	UL Flame Rating	RoHS Compliance	Material Temperature Range			
					°C		°F	
251	Nylon Loop	NO U.L.	Not rated	Y	-40	- 65	-40	- 149
252	Ferrite Terminal	NO U.L.	Not rated	Exempt	-	-	-	-
253	Nylon 66, Glass Filled	NO U.L.	Not rated	Y	-40	- 65	-40	- 149
254	Stainless Steel	NO U.L.	Not rated	Exempt	-129	- 287.8	-200	- 550
255	PP/Polyester Blend	NO U.L.	Not rated	Y	-	-	-	-
256	ABS/PC	E168806	V-0	Y	0	- 60	32	- 140
257	Phosphor Bronze	NO U.L.	Not rated	Y	-	-	-	-
258	Chrome Plating	NO U.L.	Not rated	Y	-	-	-	-
259	Spring Steel	NO U.L.	Not rated	Y	-	-	-	-
260	Brass	NO U.L.	Not rated	Exempt	-	-	-	-
261	Electroplated Steel	NO U.L.	Not rated	Y	-	-	-	-
262	TPE	E80017	HB	Y	-50	- 95	-58	- 203
263	TPE, F.R.	E80017	V-0	Y	-40	- 90	-40	- 194
264	PE Foam Coating	NO U.L.	Not rated	Y	0	- 65	32	- 149
265	PVC - Flexible	NO U.L.	Not rated	Y	0	- 50	32	- 122
266	Galvanized Steel	NO U.L.	Not rated	Y	-	-	-	-
267	Acetal	E120354	HB	Y	-50	- 100	-58	- 212
268	PP	NO U.L.	Not rated	Y	0	- 65	32	- 149
269	PVC	NO U.L.	Not rated	Y	0	- 50	32	- 122
271	PP	NO U.L.	Not rated	Y	0	- 65	32	- 149
272	Chrome Plating	NO U.L.	Not rated	Y	-	-	-	-
273	PC	E41179	V-2	Y	-40	- 125	-40	- 257
274	Yellow Chromate Zinc Plating	NO U.L.	Not rated	Y	-	-	-	-
275	Polyolefin Writing Surface	NO U.L.	Not rated	Y	0	- 60	32	- 140
276	Brass	NO U.L.	Not rated	Exempt	-	-	-	-
277	ABS	NO U.L.	Not rated	Y	0	- 60	32	- 140
278	Spring Steel	NO U.L.	Not rated	Y	-	-	-	-
279	Neoprene Rubber	NO U.L.	Not rated	Y	-40	- 80	-40	- 176
280	321 Stainless Steel	NO U.L.	Not rated	Exempt	-	-	-	-
281	Masterbatch	NO U.L.	Not rated	Y	-	-	-	-
282	Stainless Steel	NO U.L.	Not rated	Y	-	-	-	-
283	304 Stainless Steel	NO U.L.	Not rated	Y	-	-	-	-
284	HDPE	NO U.L.	Not rated	Y	0	- 60	32	- 140
285	LDPE	NO U.L.	Not rated	Y	0	- 50	32	- 122
286	TPE	NO U.L.	Not rated	Y	-50	- 90	-58	- 194
287	Nylon 6/6	NO U.L.	Not rated	Y	-40	- 65	-40	- 149
289	Brass	NO U.L.	Not rated	Y	-	-	-	-
290	PBT, 6% Glass Filled	NO U.L.	Not rated	Y	-30	- 120	-22	- 248
291	PTFE	NO U.L.	Not rated	Y	-70	- 400	-94	- 752
292	Silicone	NO U.L.	Not rated	Y	-40	- 150	-40	- 302
293	Pressure Sensitive Acrylic Adhesive	NO U.L.	Not rated	Y	-29	- 93	-20	- 199
294	Stainless Steel	NO U.L.	Not rated	Y	-	-	-	-
295	PP	NO U.L.	Not rated	Y	0	- 65	32	- 149
296	Silicone Compound	NO U.L.	Not rated	Y	-	-	-	-
297	Kevlar	NO U.L.	Not rated	Y	-100	- 400	-148	- 752
298	PVC - Flexible	NO U.L.	Not rated	Y	0	- 50	32	- 122
299	Nickel Plating	NO U.L.	Not rated	Y	-	-	-	-
300	Polyester Elastomer	NO U.L.	Not rated	Y	-40	- 140	-40	- 284
301	Epoxy Glue	NO U.L.	Not rated	Y	-	-	-	-
302	Ferrite Core	NO U.L.	Not rated	Exempt	-	-	-	-
303	Ferrite Core	NO U.L.	Not rated	Y	-	-	-	-
304	Ferrite Core	NO U.L.	Not rated	Exempt	-	-	-	-
305	Stainless Steel	NO U.L.	Not rated	Exempt	-	-	-	-
306	Tin Coated Copper Wire	NO U.L.	Not rated	Y	-	-	-	-
307	Tin Coated Copper Wire	NO U.L.	Not rated	Y	-	-	-	-
308	Tin Coated Copper Wire	NO U.L.	Not rated	Y	-	-	-	-
309	Steel Piano Wire	NO U.L.	Not rated	Exempt	-	-	-	-
310	Pressure Sensitive Acrylic Adhesive	NO U.L.	Not rated	Y	-29	- 93	-20	- 199

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# RMS Specifications

RMS No.	Material Description	UL File No.	UL Flame Rating	RoHS Compliance	Material Temperature Range			
					°C		°F	
311	Polyethylene Hook	NO U.L.	Not rated	Y	0	- 50	32	- 122
312	Nylon Loop	NO U.L.	Not rated	Y	0	- 50	32	- 122
313	Pressure Sensitive Adhesive	NO U.L.	Not rated	Y	0	- 50	32	- 122
314	Acrylic adhesive / PE film / Silicone paper liner	NO U.L.	Not rated	Y	-80	- 100	-112	- 212
315	Nylon 6/6	E41938	V-2	Y	-40	- 85	-40	- 185
316	Silicone Rubber	NO U.L.	Not rated	Y	-40	- 150	-40	- 302
317	PVC - Flexible	NO U.L.	Not rated	Y	0	- 50	32	- 122
318	Epoxy Cover	NO U.L.	Not rated	Y	-	-	-	-
320	302 Stainless Steel	NO U.L.	Not rated	Y	-200	- 870	-328	- 1598
321	Silicone Rubber	NO U.L.	Not rated	Y	-40	- 150	-40	- 302
322	Silicone Rubber	E111943	HB	Y	-40	- 150	-40	- 302
323	Plastic Washer	NO U.L.	Not rated	Y	-	-	-	-
324	Rubber adhesive / PE foam tape / HDPE liner	NO U.L.	Not rated	Y	-40	- 100	-40	- 212
325	Fiberglass	NO U.L.	Not rated	Y	-	-	-	-
326	Spring Steel	NO U.L.	Not rated	Y	-	-	-	-
327	Spring Steel	NO U.L.	Not rated	Y	-	-	-	-
328	Stainless Steel	NO U.L.	Not rated	Y	-	-	-	-
329	Ferrite - Ceramic	NO U.L.	Not rated	Exempt	-	-	-	-
330	Ferrite - Paper Packaging Carrier Tape	NO U.L.	Not rated	Y	-	-	-	-
331	Wire - 2UEW	NO U.L.	Not rated	Y	-	-	-	-
332	Ceramic Body	NO U.L.	Not rated	Exempt	-	-	-	-
333	Copper Wire	NO U.L.	Not rated	Exempt	-	-	-	-
334	Ferrite K-15	NO U.L.	Not rated	Exempt	-	-	-	-
335	EVOH	NO U.L.	Not rated	Y	-	-	-	-
336	Stainless Steel	NO U.L.	Not rated	Y	-	-	-	-
337	Zinc Plating	NO U.L.	Not rated	Y	-	-	-	-
338	Steel	NO U.L.	Not rated	Y	-	-	-	-
339	Zinc Plating	NO U.L.	Not rated	Y	-	-	-	-
340	Steel	NO U.L.	Not rated	Exempt	-	-	-	-
341	Zinc Plating	NO U.L.	Not rated	Y	-	-	-	-
342	Polyester/PP Hook	NO U.L.	Not rated	Y	0	- 50	32	- 122
343	Hook and Loop	NO U.L.	Not rated	Y	0	- 50	32	- 122
344	Acrylic Adhesive	NO U.L.	Not rated	Y	0	- 50	32	- 122
345	Ferrite - Polystyrene Carrier Tape	NO U.L.	Not rated	*	-	-	-	-
346	Color Code Stripe Printing Ink	NO U.L.	Not rated	Y	-	-	-	-
347	Ferrite - Polyethylene Carrier Tape	NO U.L.	Not rated	*	-	-	-	-
348	Rubber IIR Bromobutyl	NO U.L.	Not rated	Y	-40	- 140	-40	- 284
349	Brass	NO U.L.	Not rated	Y	-	-	-	-
350	Double Coated Polyurethane Foam Tape	NO U.L.	Not rated	Y	-29	- 104	-20	- 219
351	TPE	NO U.L.	Not rated	Y	-40	- 100	-40	- 212
352	Carbon Steel	NO U.L.	Not rated	Y	-	-	-	-
353	Stainless Steel	NO U.L.	Not rated	Y	-	-	-	-
354	Zinc with Clear Dichromate Plating	NO U.L.	Not rated	Y	-	-	-	-
355	Chrome Plating	NO U.L.	Not rated	Y	-	-	-	-
356	Black Phosphate Coating	NO U.L.	Not rated	Y	-	-	-	-
357	Steel	NO U.L.	Not rated	Y	-	-	-	-
358	Zinc Plating	NO U.L.	Not rated	Y	-	-	-	-
359	Acrylic adhesive / PE foam tape / PE paper liner	NO U.L.	Not rated	Y	-40	- 95	-40	- 203
360	Butyl Rubber	NO U.L.	Not rated	Y	-40	- 140	-40	- 284
361	Acrylic adhesive / Acrylic foam / PE film liner	MH17478	Not rated	Y	-35	- 90	-31	- 194
362	PVC	NO U.L.	Not rated	Y	0	- 50	32	- 122
363	Nylon Buckle	NO U.L.	Not rated	Y	-40	- 85	-40	- 185
364	Silicone Rubber	NO U.L.	Not rated	Y	-40	- 150	-40	- 302
365	304 Stainless Steel	NO U.L.	Not rated	Y	-200	- 870	-328	- 1598
366	PE Hook	NO U.L.	Not rated	Y	0	- 50	32	- 122
367	Acrylic adhesive / PE copolymer foam / PE film liner	NO U.L.	Not rated	Y	-40	- 125	-40	- 257
368	Silicone Rubber	NO U.L.	Not rated	Y	-40	- 150	-40	- 302
369	18-8 Stainless Steel	NO U.L.	Not rated	Y	-	-	-	-

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RMS No.	Material Description	UL File No.	UL Flame Rating	RoHS Compliance	Material Temperature Range				
					°C		°F		
370	304 Stainless Steel	NO U.L.	Not rated	Y	-200	- 870	-328	-	1598
371	Nylon 6, F.R., 30% Glass Filled	E140692	V-0	Y	-40	- 65	-40	-	149
372	Black Oxide Finish	NO U.L.	Not rated	Y	-	-	-	-	-
373	Brass	NO U.L.	Not rated	Y	-	-	-	-	-
374	TPE	E80017	HB	Y	-60	- 95	-76	-	203
375	Rubber adhesive / PE foam / Silicone paper liner	NO U.L.	Not rated	Y	0	- 70	32	-	158
376	Acrylic adhesive / Acrylic foam / PE liner	MH17478	Not rated	Y	-35	- 90	-31	-	194
377	Blue Polyolefin Pin	NO U.L.	Not rated	Y	0	- 50	32	-	122
378	Silicone Rubber	NO U.L.	Not rated	*	-40	- 150	-40	-	302
379	Silicone Rubber	NO U.L.	Not rated	Y	-40	- 150	-40	-	302
380	Nylon Tie	NO U.L.	Not rated	Y	-40	- 85	-40	-	185
381	304 Stainless Steel	NO U.L.	Not rated	Y	-200	- 870	-328	-	1598
382	316 Stainless Steel	NO U.L.	Not rated	Y	-200	- 870	-328	-	1598
383	Silicone Rubber	NO U.L.	Not rated	Y	-40	- 150	-40	-	302
384	TPE	E80017	HB	Y	-50	- 95	-58	-	203
385	Nylon 6/6	E41938	V-2	Y	0	- 85	32	-	185
386	Polyether Sulfone	E108538	V-0	Y	-30	- 190	-22	-	374
387	TPE	NO U.L.	Not rated	Y	-40	- 150	-40	-	302
388	PVC	NO U.L.	Not rated	Y	0	- 50	32	-	122
389	TPE	NO U.L.	Not rated	Y	0	- 60	32	-	140
390	Nylon 6, F.R.	NO U.L.	Not rated	Y	-40	- 85	-40	-	185
391	Acrylic adhesive / PP film / Silicone paper liner	NO U.L.	Not rated	Y	-	-	-	-	-
392	Nylon 6, Conductive	NO U.L.	Not rated	Y	0	- 60	-32	-	140
393	PBT	E36632	HB	Y	-30	- 140	-22	-	284
395	TPE	E80017	V-1	Y	-60	- 90	-76	-	194
396	Aluminum	NO U.L.	Not rated	Y	-40	- 115	-40	-	239
397	PP	NO U.L.	Not rated	*	0	- 65	32	-	149
398	Silicone Rubber	E207571	V-0	*	-40	- 150	-40	-	302
399	Nylon 6.6, UV Resistant	NO U.L.	V-2	*	-40	- 65	-40	-	149
400	Acrylic adhesive / PE foam / PE film liner	NO U.L.	Not rated	*	-	-	-	-	-
401	PP	NO U.L.	Not rated	Y	-	-	-	-	-
402	Polychloroprene Rubber	NO U.L.	Not rated	Y	-	-	-	-	-
403	Brass	NO U.L.	Not rated	Y	-	-	-	-	-
404	TPE	E80017	HB	Y	-60	- 85	-76	-	185
405	304 Stainless Steel	NO U.L.	Not rated	Y	-200	- 870	-328	-	1598
406	Nylon 6/6	E48285	V-2	Y	-40	- 85	-40	-	185
407	Liquid Silicone	NO U.L.	Not rated	Y	-40	- 150	-40	-	302
408	Magnetic Rubber	NO U.L.	Not rated	Y	-	-	-	-	-
409	LDPE	NO U.L.	Not rated	Y	-	-	-	-	-
410	Acrylic adhesive / PE foam tape / PE film liner	NO U.L.	Not rated	Y	-40	- 100	-40	-	212
411	PPE+PS, F.R.	E45329	V-0	Y	-30	- 65	-22	-	149
412	LDPE	NO U.L.	Not rated	Y	-	-	-	-	-
413	Nylon 6	NO U.L.	Not rated	Y	-	-	-	-	-
414	Acrylic Adhesive / Silicone Liner	MH13557	Not rated	Y	-29	- 150	-20	-	302
415	Mild Steel, Zinc Plated	NO U.L.	Not rated	Y	-	-	-	-	-
416	TPE	E80017	HB	Y	-60	- 85	-76	-	185
417	Silicone Rubber	NO U.L.	Not rated	Y	-40	- 150	-40	-	302
418	LDPE	NO U.L.	Not rated	Y	0	- 65	32	-	149
420	EPDM	NO U.L.	Not rated	Y	-20	- 90	-4	-	194
421	LDPE	NO U.L.	Not rated	Y	0	- 65	32	-	149
422	PP, Modified	E111275	HB	Y	0	- 65	32	-	149
423	Nylon 6, Heat Stabilized	E47960	HB	Y	-40	- 65	-40	-	149
424	Nylon 6	E53898	V-0	Y	-40	- 120	-40	-	248
425	Silicone Rubber	E55519	HB	Y	-40	- 150	-40	-	302
426	Silicone Rubber	E55519	HB	Y	-40	- 150	-40	-	302
427	EPDM Rubber	NO U.L.	Not rated	Y	-20	- 90	-4	-	194
428	Neoprene Rubber	NO U.L.	Not rated	Y	-40	- 80	-40	-	176
429	EPDM Rubber	NO U.L.	Not rated	Y	-20	- 90	-4	-	194

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RMS No.	Material Description	UL File No.	UL Flame Rating	RoHS Compliance	Material Temperature Range					
					°C			°F		
430	Rubber Adhesive / PE Foam	NO U.L.	Not rated	Y	-20	-	70	-4	-	158
431	Acrylic Adhesive/PE Foam/Silicone Coated Paper Liner	E327895	Not rated	Y	0	-	50	32	-	122
432	HDPE	NO U.L.	Not rated	Y	-20	-	60	-4	-	149
433	TPE	NO U.L.	Not rated	Y	-60	-	85	-76	-	185
434	Acetal	E36632	HB	Y	-40	-	105	-40	-	221
435	Nylon 6	E86034	V-0	Y	-40	-	119	-40	-	239
436	PVC, UV Stabilized	NO U.L.	Not rated	Y	0	-	50	32	-	122
437	Nylon 6/6	E70062	V-2	Y	-40	-	85	-40	-	185
438	Nylon 6	E47960	V-2	Y	-40	-	85	-40	-	185
439	PVC	NO U.L.	Not rated	Y	0	-	50	32	-	122
440	EPDM Rubber	NO U.L.	Not rated	Y	-20	-	90	-4	-	194
441	EPDM Rubber	NO U.L.	Not rated	Y	-20	-	90	-4	-	194
442	EPDM-CR-SBR	NO U.L.	Not rated	Y	-40	-	93	-40	-	199
448	PVC	E335039/192387	V-0	Y	0	-	50	32	-	122
449	LDPE	NO U.L.	HB	Y	-30	-	50	-22	-	122
450	PP	NO U.L.	Not rated	Y	-25	-	100	-13	-	212
451	PPA, 45% Glass Filled	NO U.L.	HB	Y	-	-	150	-	-	302
452	PVC	NO U.L.	Not rated	Y	-30	-	50	-22	-	122
453	PVDF	NO U.L.	V-0	Y	-	-	110	-	-	230

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ESSENTRA COMPONENTS

## Conditions of Sale

BUYER'S ATTENTION IS DRAWN TO CONDITIONS 5, 11 and 12

### 1. General

- 1.1 The terms and conditions set out below (as amended from time to time by Seller by notice in writing to Buyer or by notice on Seller's Website), (the "Conditions") shall form part of every contract between Seller and Buyer for the sale and purchase of Products or Tooling (a "Contract") and shall apply to any dealings between Seller and Buyer to the express exclusion of any other terms and conditions (including any which Buyer purports to apply under any purchase order, confirmation of order, acknowledgement of delivery, Specifications or any such other documents or by endorsement upon the documents issued by Seller or otherwise).
- 1.2 No addition to, or modification of, any provision of these Conditions, or any representation, advice or recommendation relating to the Products given by any representative of Seller, shall be binding upon the parties unless made in writing and signed by an authorised representative of each of the parties with the intention of modifying or supplementing these Conditions being clearly expressed.

### 2. Interpretation

- 2.1 In these Conditions: "Buyer" means the person who purchases the Products from Seller; "Buyer's Tooling" means any die, mould, pattern, tool or other equipment, which is the property of Buyer and/or which was made, purchased or received by Seller from or at the direction of Buyer; "Custom Products" means any goods, other than Standard Products, supplied or to be supplied by Seller; "Group" means any subsidiary and any holding company of Seller and any subsidiary of any such holding company in each case from time to time; "Intellectual Property Rights" means all intellectual property rights including any patent (including supplementation protection certificates) utility model, rights in invention, copyright, rights in the nature of copyright, database rights, moral right, design right, registered and unregistered designs, registered and unregistered trademark, trade names and get-up, goodwill, know-how and confidential information (whether or not all or any of the same are registered and including all applications and rights to apply therefor) and anything analogous to any of the foregoing in any part of the world; "Losses" means all losses, claims, liabilities, costs, charges, expenses and damages of any kind irrespective of whether they were reasonably foreseeable or avoidable; "Order Acceptance" means a written acceptance of an order issued by an authorised signatory of Seller in accordance with condition 3.2; "Products" means any Standard Products and/or any Custom Products or any part thereof; "Sample" means, in relation to a sale by sample, the sample provided by Seller, subject to any tolerances or other variations reflected in any specifications or guidance notes supplied by Seller in relation to the sample, which an authorised signatory of Seller confirms is applicable to the Contract in the Order Acceptance; "Seller" means Essentra Components Pte Ltd, Essentra Malaysia Sdn Bhd, Essentra (India) Private Limited, Essentra FZE or Essentra Pty Ltd; "Seller's Catalogue" means Seller's product catalogue, as published by Seller from time to time including any catalogue on Seller's Website; "Seller's Tooling" means any dies, moulds, patterns, tools or other equipment other than Buyer's Tooling used or to be used in connection with the manufacture of the Custom Products; "Seller's Website" means [www.essentracomponents.com](http://www.essentracomponents.com) or any successor website; "Specifications" means: 2.1.1 in respect of Standard Products, the specifications for the relevant Standard Product as set out in the latest publication of Seller's Catalogue at the time such Standard Product is ordered; 2.1.2 in respect of Custom Products, the specifications for the relevant Custom Product which an authorised signatory of Seller has confirmed are the final specifications for such Custom Product; and 2.1.3 in the absence of any such specifications, the specifications that Seller may, acting reasonably, determine to be appropriate from time to time; "Standard Products" means any goods which are offered for sale by product number in Seller's Catalogue; and "Tooling" means Seller's Tooling and Buyer's Tooling.

- 2.2 In these Conditions: headings are for convenience only and shall not affect their interpretation; references to a "person" include any individual, company, corporation, firm, partnership, association, organisation, institution, trust or agency, whether or not having a separate legal personality; words in the singular shall include the plural and vice versa as the context admits or requires; any reference to any statute or statutory provision shall, unless the context otherwise requires, be construed as a reference to that statute or statutory provision as time to time amended, consolidated, modified, extended, re-enacted or replaced; and the word "including" shall, unless the context otherwise requires, mean "including without limitation".

### 3. Quotes and Orders

- 3.1 Quotes are valid for 30 days from the date of the quote, unless otherwise specified by Seller, but are not binding until an order is accepted by Seller in accordance with condition.
- 3.2 Each order for Products made by Buyer from Seller shall be deemed to be an offer by Buyer to purchase the Products specified in the order on the terms and conditions set out in these Conditions. An order is not binding on Seller until it is accepted by Seller issuing the Order Acceptance or (if earlier) by Seller either commencing manufacture of the Products or any related Tooling or samples, apportioning the Products to Buyer's order or dispatching the Products to Buyer.
- 3.3 Once accepted, an order may only be cancelled, varied or suspended by Buyer with the express prior written agreement of Seller.
- 3.4 The quantity and type of Products ordered shall be as set out in the order form or, if different, on the Order Acceptance.

### 4. Descriptions, Samples and Literature

- 4.1 All drawings, specifications and advertising issued by Seller and any descriptions, details or illustrations contained in any Seller's Catalogue are issued or published for the sole purpose of giving an approximate idea of the Products described in them and will not be relied on by Buyer or form part of the Contract except as provided in condition and condition.
- 4.2 Any typographical, clerical or other error or omission in any Seller's Catalogue, quote, price list, acceptance of offer, Order Acceptance, label, packaging, invoice or other document or information issued by Seller may be corrected by Seller, without liability to Buyer, at any time either by correcting any such matter in public or by publishing the correction on Seller's Website or by notifying Buyer in writing and such correction shall be binding upon Buyer forthwith.
- 4.3 Except as otherwise required by law, the Contract shall not be: (a) a sale by sample (even if samples have been provided) unless Seller expressly states on the Order Acceptance that the Contract is to be a sale by sample; or (b) a sale by description even if a description has been provided.

### 5. Specifications

- 5.1 Buyer will ensure that it undertakes adequate tests to ensure that where the Product meets the Specifications or, if applicable conforms to the Sample, in all material respects it is of satisfactory quality and fit for all of Buyer's purposes. Subject to condition, Buyer expressly acknowledges that, irrespective of any guidance provided to it by Seller, it is not relying on Seller's skill and judgement in determining whether the Products will be fit for all its purposes.
- 5.2 If Buyer wishes to rely on Seller's skill and judgement in relation to a Custom Product being fit for a particular purpose then prior to placing an order Buyer must expressly advise Seller in writing of the particular purpose and that it wishes to rely on Seller's confirmation rather than conducting its own testing. Seller shall advise Buyer of any additional charges which would apply if such confirmation is given. Buyer shall only be entitled to rely on the Custom Product being fit for that particular purpose if Buyer has provided all the information which Seller would need to undertake the requisite testing and an authorised signatory of Seller has expressly confirmed in the Order Acceptance that the Custom Product can fulfil that particular purpose.
- 5.3 Seller shall be entitled to make any changes to any Specifications which do not materially affect the quality or performance of the Products or, subject to notifying Buyer and at Buyer's cost, any material changes which Seller considers are required to be made to Custom Products to comply with any applicable statutory or European Community safety or other requirements. Seller shall not be responsible for ensuring that any Products comply with any applicable statutory or European Community safety or other requirements if the Specifications for such Products have been provided by, or developed or varied pursuant to a request of, Buyer.
- 5.4 In respect of any Specifications supplied to Seller by or on behalf of Buyer or variations to Specifications made at the request of Buyer and any Tooling either derived from any such Specifications or supplied by or on behalf of Buyer, Buyer warrants, represents and undertakes that such Specifications and/or Tooling: 5.4.1 fully and accurately reflect Buyer's requirements for the Products to be made pursuant to such Specifications or using such Tooling; 5.4.2 are complete and fit for the purpose of Seller producing and/or supplying (if agreed) Products complying with such Specifications and will result in Products which are fit for Buyer's purpose; 5.4.3 will not infringe the Intellectual Property Rights of any third parties and Seller, its Group and agents are entitled to use any Intellectual Property Rights comprised in such Specifications or Tooling or in any product or process described in the Specifications for the purposes of manufacturing the Products; and 5.4.4 will comply with all applicable laws and regulations.
- 5.5 Except as otherwise expressly provided in the Contract or agreed in writing between Seller and Buyer, Seller shall own all of the Intellectual Property Rights created by Seller, its Group or agents in the course of the performance of the Contract or otherwise in connection with the manufacture of the Products or the Tooling.

### 6. Tooling

- 6.1 If Seller agrees to supply Custom Products and it notifies Buyer that it requires Buyer's Tooling to do so, then Buyer shall either supply Buyer's Tooling capable of producing the Custom Products or, if agreed between the parties, Seller shall manufacture Buyer's Tooling or obtain it on Buyer's behalf at a price agreed between the parties and subject to having received payment in accordance with clause 6.2.
- 6.2 Following acceptance of Buyer's first order for the Custom Products to be manufactured using the relevant Buyer's Tooling and subject to receipt of Seller's invoice for such Buyer's Tooling, Buyer shall: 6.2.1 forthwith pay fifty percent (50%) of the whole price of such Buyer's Tooling and shall pay the remaining fifty percent (50%) of such price upon Seller sending samples produced using such Buyer's Tooling to Buyer; or 6.2.2 if requested by Seller, forthwith pay the whole price of such Buyer's Tooling.
- 6.3 Title to any Buyer's Tooling made or purchased by Seller shall remain with Seller until Seller has received the full price due in respect of such Buyer's Tooling in cash or cleared funds whereupon title shall pass to Buyer. Until title to Buyer's Tooling passes to Buyer the terms of conditions 10.3 and 10.4 shall apply to Buyer's Tooling on the same terms as they apply to the Products. Upon title to Buyer's Tooling transferring to Buyer, Buyer shall be entitled to a licence of the Intellectual Property Rights comprised in Buyer's Tooling to the extent necessary to use Buyer's Tooling to make the relevant Custom Products.
- 6.4 Risk of loss or damage to Buyer's Tooling supplied to, or purchased on Buyer's behalf by, Seller shall remain with Buyer. Risk of loss or damage to Buyer's Tooling made by Seller shall pass to Buyer upon completion of its manufacture. Buyer shall ensure that Buyer's Tooling is appropriately and adequately insured with a reputable insurer for so long as it remains at Seller's premises and will bear the costs of any necessary repairs or replacement.
- 6.5 Seller shall notify Buyer of any loss or damage to Buyer's Tooling whilst in Seller's possession. Seller, its Group or agents shall have no liability to Buyer in respect of any loss or damage to Buyer's Tooling whilst such Buyer's Tooling is in their possession of Seller except to the extent caused by their negligence or intentional damage.
- 6.6 Seller shall store Buyer's Tooling free of charge for a period of 2 years from the date of last delivery of Products made using Buyer's Tooling. On expiry of this period, Seller may use for its own purposes or continue to store, return or destroy Buyer's Tooling, the cost of which shall be payable by Buyer.
- 6.7 Where Buyer has indicated that it wishes to purchase a minimum quantity of Custom Products and is aware that Seller will invest or has invested in the manufacture of Seller's Tooling in respect of those Custom Products and Buyer orders or takes delivery of a smaller quantity of such Custom Products than the minimum it previously indicated then Seller may invoice Buyer, pro rata to the quantity of such Custom Products ordered, for the cost of its investment in such Seller's Tooling and for its reasonable administration and handling charges.
- 6.8 The Intellectual Property Rights in and title to any Seller's Tooling shall remain at all times with Seller except as otherwise expressly agreed in writing. If Buyer purchases Seller's Tooling, then title and risk in Seller's Tooling shall pass to Buyer upon payment in full by Buyer of an amount notified by Seller in writing. Buyer acknowledges that any Seller's Tooling which it purchases will have been used by Seller and that Buyer shall be entitled on reasonable notice to inspect it prior to purchasing it and shall be deemed to have satisfied itself that it is of satisfactory quality and fit for its purposes. Upon title and risk in any Seller's Tooling passing to Buyer it shall thereafter be treated as Buyer's Tooling for the purposes of these Conditions.

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- 6.9 If Seller is required to redesign, repair or replace or otherwise incur any expenditure in relation to any Tooling for use in producing Custom Products, Buyer shall promptly reimburse Seller for all such costs incurred by Seller, including any tooling and re-tooling costs, except to the extent such costs were caused by Seller's negligence or wilful abuse.
- 6.10 Seller shall be entitled to utilise the Tooling for any purpose at its discretion including for the purpose of manufacturing the Custom Products.
- 7 Price**
- 7.1 Subject to condition, the price of the Products or the Tooling shall be the price specified in the applicable quote or, in the absence of an applicable quote, the price set out in Seller's price list in force as at the time the order is accepted (the "Price"). The Price is inclusive of standard packaging in accordance with Seller's current practice. The Price reflects the limitations on liability set out in these Conditions but, if requested by Buyer, Seller will advise Buyer of the additional costs which would apply if Seller agrees to any variations to such limitations on liability.
- 7.2 Seller reserves the right, by giving notice to Buyer at any time before delivery, to increase the Price to reflect any increase in the cost to Seller of supplying any Products or Tooling which is due to: 7.2.1 any factor beyond the reasonable control of Seller; 7.2.2 any increase in the cost of labour or materials including any storage costs if the Products are not collected or delivered in accordance with the Contract; 7.2.3 any variation requested by Buyer to delivery dates, quantities, Specifications or the scope of Seller's instructions; 7.2.4 any delay or additional work or materials caused by any instructions, neglect or default of Buyer; or 7.2.5 any failure of Buyer to procure the supply to Seller of adequate and timely information, instructions, specifications or, if applicable, Tooling.
- 7.3 The Price is exclusive of any applicable value added tax or other taxes or duties and of all costs and charges in relation to non-standard packaging, loading, unloading, carriage and insurance or similar costs, which (if any) shall be paid in addition by Buyer at the time it is due to pay for the Products or the Tooling. Where carriage or other costs to be borne by Buyer are initially paid by Seller, Seller shall be entitled to render an invoice forthwith in respect of such costs.
- 8 Payment**
- 8.1 Seller shall at its discretion be entitled to invoice Buyer for payment of the Price or any other amounts payable by Buyer in advance.
- 8.2 Seller shall be entitled to: 8.2.1 offer and withdraw credit accounts at any time; 8.2.2 request references and make credit reference searches in relation to Buyer.
- 8.3 Subject to condition, payment of any Seller's invoice is due (without deduction, discount, abatement or set-off) within 30 days of the date of the invoice, notwithstanding that delivery may not have taken place or that property in the Products or the Tooling has not passed to Buyer. Unless otherwise expressly agreed by Seller, payment shall be made in the same currency as the Price. The time of payment of sums due from Buyer shall be of the essence of these Conditions. No payment will be deemed received until received by Seller in cash or cleared funds. Interest will be payable on overdue amounts at the rate of 3% percent per annum above the Lloyds TSB Bank Plc base rate from time to time.
- 8.4 If any sums are not paid on or before the due date for payment, interest will accrue on the amount unpaid until payment in full is made (both before and after any judgment). The parties agree that the provisions of this condition provide a substantial contractual remedy for the late payment of sums due pursuant to these Conditions.
- 8.5 If Buyer fails to make any payment when due pursuant to these Conditions and/or pursuant to any other contract between Buyer and Seller in accordance with its terms then, without prejudice to any other right or remedy available to Seller, Seller shall be entitled to: 8.5.1 terminate the Contract or any other contract between Buyer and Seller; 8.5.2 deduct outstanding sums from any sums owed by Seller to Buyer under the Contract or otherwise; 8.5.3 require Buyer to pay any costs of storage of the Products and any Tooling; 8.5.4 suspend any further deliveries to Buyer under the Contract or any other contract until paid; 8.5.5 treat the Contract as repudiated and terminated; 8.5.6 resell any Products not yet delivered to Buyer; and/or 8.5.7 retain any sums paid as deposit for the Products.
- 9 Delivery**
- 9.1 Unless otherwise agreed in writing, Products will be sent to Buyer by a carrier service chosen by Seller, acting reasonably. Delivery of the Products to Buyer shall be effected by Seller delivering them to the carrier or by collection by the carrier. Thereafter, transport of such Products shall be subject to the carrier's conditions which shall be notified to Buyer, if requested. Seller may deliver early or inform Buyer. Seller shall be no obligation under laws and regulations.
- 9.2 Where it is agreed in writing that the Products shall be delivered by a method other than that referred to in condition then delivery shall be effected: 9.2.1 where the Products are to be collected by Buyer from Seller's premises, by Seller notifying Buyer that the Products are ready for collection; 9.2.2 where the Products are delivered by Seller, by Seller delivering the Products to the address nominated by Buyer for delivery; or 9.2.3 where the Products are to be transported by a third party, by collection by or delivery to that third party of the Products.
- 9.3 Any periods of time or dates quoted for delivery of the Products are approximate only. Time for delivery shall not be of the essence. Seller shall not be liable for any delay in delivery of the Products. Seller may deliver up to 10 per cent. more or 10 per cent. less than the quantity of Products specified in the order and Buyer shall accept such variation in quantity and shall pay the Price as adjusted to reflect such variation in quantity.
- 9.4 Seller shall not be responsible for any Losses incurred or suffered by Buyer as a result of a failure to deliver the Products or for short delivery unless Buyer has informed Seller in writing within ten working days from the estimated date of delivery in relation to a failure to deliver or the actual date of delivery in relation to a short delivery. In any event, subject always to condition, where for any reason Seller is so liable, Seller's liability shall be limited to: 9.4.1 the amount by which the price in the cheapest available market of similar goods to replace those not delivered exceeds the Price of the Product not delivered; or 9.4.2 if there is no such market, an amount equal to the Price applicable to the Products not delivered.
- 9.5 Where the Products are to be delivered in instalments, each delivery shall constitute a separate obligation and neither any failure by Seller to deliver nor any claim in respect of any one or more instalments by Buyer shall entitle Buyer to treat the Contract as a whole as repudiated.
- 9.6 Where Buyer fails to take delivery of the Products or fails to give Seller adequate delivery instructions in advance of the time stated for delivery (otherwise than by reason of any cause beyond Buyer's reasonable control or by reason of Seller's neglect or default) then the Products shall be deemed to have been delivered at the time stated for delivery and, without prejudice to any other right or remedy available to Seller, Seller may: 9.6.1 store the Products until actual delivery and charge Buyer for the reasonable costs (including insurance) of storage, if applicable but without any obligation on Seller to procure insurance; or 9.6.2 where Buyer has failed to take delivery of the Products on or before the fifth working day following the intended day for delivery, sell the Products at the best price readily obtainable and (after deducting all reasonable storage and selling expenses) shall account to Buyer for the excess over the Price or invoice Buyer for any shortfall below the Price.
- 9.7 If, upon delivery of the Products, Buyer discovers that it has incorrectly ordered those Products, Seller's standard handling charge from time to time will be payable by Buyer if Seller agrees (at its sole discretion) to accept return of those Products.
- 10 Risk and Property in the Products**
- 10.1 Products supplied by Seller shall be at Buyer's risk immediately on and after delivery and so Buyer should arrange appropriate insurance from that point.
- 10.2 Title (legal and beneficial) in all Products supplied or sold by Seller shall be retained by Seller until the earlier of: 10.2.1 Seller having received in either cash or cleared funds all sums due in respect of the Products and on any account whatsoever from Buyer to Seller; or 10.2.2 (on an item by item basis) the Products having been used or incorporated into other products.
- 10.3 Until such time as the property in the Products passes to Buyer, Buyer must: 10.3.1 hold such Products (on a fiduciary basis for and on behalf of Seller) as Seller's bailee and act in good faith to protect Seller's interests in the Products; 10.3.2 store such Products (at no cost to Seller) separately from all other goods of Buyer in such a way that such Products remain identifiable as property of Seller and shall not mix them with any other goods; 10.3.3 not pledge or allow any lien, charge, or other interest to arise over the Products or their documents of title; 10.3.4 not destroy or deface any identifying marks on such Products or relevant packaging and maintain such Products in satisfactory condition; and 10.3.5 keep such Products insured on Seller's behalf and in the event of any claim hold the proceeds of such insurance on trust for Seller.
- 10.4 Seller shall be entitled at any time to require Buyer to deliver up any Products to Seller prior to property in the Products passing to Buyer. Buyer grants Seller and its agents an irrevocable licence at any time to enter any premises where such Products are stored to inspect or, if Buyer has failed to deliver up possession when requested by Seller, to repossess such Products.
- 11 Quality**
- 11.1 Subject to the remaining provisions of these Conditions; Seller warrants that on delivery: 11.1.1 all Products and Buyer's Tooling will be of satisfactory quality; and 11.1.2 where Seller has issued a confirmation in relation to fitness for a particular purpose in accordance with condition, the Products will be reasonably fit for that particular purpose. Buyer expressly agrees that a Product will be deemed to be of satisfactory quality and fit for its purpose if (a) in relation to a sale by sample, the Product complies with the Sample in all material respects; or (b) in all other cases, the Product complies with its Specifications in all material respects.
- 11.2 The warranties contained in condition shall not apply unless: 11.2.1 in respect of defects that are apparent on inspection of the Products or Tooling, Buyer notifies Seller, in writing, setting out in reasonable detail the nature of the breach of warranty within fourteen days after the delivery of the Products; or 11.2.2 in relation to defects that are not apparent on inspection of the Products or Tooling, Buyer notifies Seller in writing setting out in reasonable detail the nature of the breach of warranty within 14 days after the defect became apparent or ought to have become apparent to Buyer, and in any event within 12 months of the date of delivery of the Products; and 11.2.3 after receiving such notice of the defect, Seller is given reasonable opportunity to inspect the Products or Tooling and, at Seller's request (acting reasonably), the Products or Tooling are returned to Seller's place of business for the purposes of such inspection; and 11.2.4 the total price for the Products has been paid by Buyer.
- 11.3 Seller shall not be liable for any breach of any of the warranties in condition if: 11.3.1 the Product conforms to its Specifications, or if applicable Sample, in all material respects; 11.3.2 the breach was caused directly or indirectly by Buyer's breach of condition or by Buyer's Tooling, except to the extent caused by Seller's negligent actions or omissions in respect of the manufacture or use of Buyer's Tooling; 11.3.3 the breach was caused directly or indirectly by the acts or omissions of any persons not expressly authorised by Seller, including repairs, additions or changes made to the Products by or on behalf of Buyer; 11.3.4 the breach was caused directly or indirectly by parts, materials or equipment incorporated into a Product but not manufactured by Seller, in respect of which Buyer shall only be entitled to the benefit of any such warranty or guarantee as was given by the manufacturer to Seller and which is capable of being assigned to Buyer (at Buyer's cost); 11.3.5 Buyer makes further use of or resells the Products after giving notice of a defect or fails to comply with Seller's reasonable instructions in relation to a product hold or recall; or 11.3.6 the breach was caused directly or indirectly by environmental conditions or use or storage or handling of the Products outside the parameters of its Specifications or instructions supplied by Seller or by any matter specifically excluded by Seller by notice in writing including carelessness, mishandling, operating errors, vandalism or unforeseen events.
- 11.4 Subject to conditions and, where Products or parts thereof returned to Seller are found, in the reasonable opinion of Seller, not to conform with the warranty contained in condition or any other warranties, quality standards or conditions implied by law, Seller shall discharge any liability in full by, at its sole discretion, repairing or replacing the whole or part of all or any of the Products or refunding the Price of the non-conforming Products. Any Products which have been so replaced shall be owned by Seller.
- 11.5 Subject to the provisions of condition, the warranties contained in condition shall be the sole extent of Seller's liability arising out of or in connection with the Products.
- 11.6 Buyer shall comply with all reasonable instructions of Seller in relation to any product hold or product recall campaign organised in respect of the Products or any other corrective action reasonably taken by or on behalf of Seller in respect of the Products after delivery to Buyer.
- 12 Limitation of Liability**
- 12.1 For the purposes of this condition 12: 12.1.1 "Claim" means a claim arising out of or in connection with the supply of any Products or Tooling to Buyer or as a result of breach of these Conditions or of any duty of any nature whatsoever by Seller or pursuant to any use made by Buyer or resale by Buyer of any Products (or of any product incorporating any of the Products) or of any Tooling or as a result of any representation, statement, act or omission including negligence arising under or in connection with these Conditions or the Contract; 12.1.2 "Claim Limit" means, in respect of any calendar year, the greater of: 12.1.2.1 the aggregate amount

- payable to Seller by Buyer for goods of the type that are the subject of the Claims purchased by Buyer from Seller in that year (the "Relevant Goods"); 12.1.2.2 in the first three months of that year, the aggregate amount payable by Seller to Buyer for the Relevant Goods purchased in the previous year; or 12.1.2.3 where no Relevant Goods were purchased in the previous year or the Claim does not relate to the purchase of goods, to an aggregate sum of (a) where the Relevant Goods are exclusively Standard Products, £50,000; or (b) where the Relevant Goods include Custom Products or Tooling, £100,000.
- 12.2 Without prejudice to conditions and, Seller's aggregate liability (including any liability for the acts or omissions of its employees, agents, sub-contractors or other members of its Group) to Buyer for all Claims whether arising in contract, tort (including negligence or breach of a statutory duty), misrepresentation, restitution or otherwise shall be limited as follows: 12.2.1 Seller's aggregate liability for a Claim in relation to any single item of Product shall be limited to the Price payable to Seller by Buyer for that item; 12.2.2 Seller's aggregate liability for a Claim in relation to any item of Tooling shall be limited to the depreciated value of such item or its replacement price, whichever is the lower; and 12.2.3 Seller's aggregate liability to Buyer for all Claims arising in each calendar year shall be limited to the Claim Limit.
- 12.3 Without prejudice to condition 12.6, where a Court adjudicates that the exclusion of liability in condition is for any reason unenforceable, Seller's liability for the matters described in condition or, arising pursuant to the sale and purchase of the goods, tooling and related matters, shall be limited in respect of all Claims arising in any calendar year to the greater of: (a) the aggregate amount payable to Seller by Buyer in respect of the Products or Tooling to which any of the Claims relate; or (b) where the Claims relate exclusively to Standard Products, £100,000 and where the Claims do not exclusively relate to Standard Products, £200,000; in each case in aggregate in that calendar year.
- 12.4 Seller shall not be liable to Buyer or any other party for any (a) indirect Losses, (b) economic loss, (c) loss of profits or anticipated profits, (d) loss of expected future business, (e) damage to reputation or goodwill, nor (f) any claim for consequential compensation whatsoever (however caused), which arises in connection with the supply of Products or Tooling or related services by Seller, in each case whether direct or indirect or consequential and, whether such losses are suffered by Buyer or by any other party.
- 12.5 Subject to condition, unless otherwise expressly provided in these Conditions all implied warranties, terms and conditions are excluded from the Contract to the fullest extent permitted by law and Seller will not be liable to Buyer for any loss of any kind whatsoever which arises out of the breach of implied warranties, terms or conditions, or breach of any duty of any kind imposed on Seller by operation of law.
- 12.6 If Buyer becomes aware that any third party has made or appears likely to make any claim in respect of the Products (including, without limitation, as to defects in them or rights infringed by them) it shall: 12.6.1 promptly notify Seller of such claim or circumstance; 12.6.2 promptly provide such assistance to Seller and take such action as Seller may request to avoid, dispute, defend, mitigate, resist, appeal or compromise such claim or circumstance including but not limited to allowing Seller to take full control of any proceedings or negotiations in connection with the claim; and 12.6.3 not settle or compromise, make any admissions, nor agree any matter in the conduct of any dispute, without the prior written approval of Seller.
- 12.7 Without prejudice to any other provision of these Conditions, Seller will not be in breach of the terms of the Contract for any delay in performing, or failure to perform, its obligations under the Contract if that failure or delay was due to any cause or circumstance beyond Seller's reasonable control, which shall, without limiting the generality of the term, be deemed to include war or other action of military forces, terrorism, riot, civil commotion, sabotage, vandalism, accident, break down or damage to machinery or equipment, fire, flood, acts of God, strike, lock-out or other industrial disputes (whether or not involving employees of Seller) or shortage of materials at the market rates existing when the Agreement is made, legislative or administrative interference or was due to any failure, neglect or delay on the part of Buyer or its agents or representatives.
- 12.8 Seller reserves the right to defer the date of delivery or to terminate the Contract or reduce the volume of the Products ordered by Buyer (without liability to Buyer) if it is prevented from or delayed in the carrying on of its business due to an event referred to in condition occurring, provided that where the event in question continues for a continuous period in excess of 30 days either party shall be entitled to give notice in writing to the other to terminate the Contract with no liability due to or by either party.
- 12.9 Buyer acknowledges that the limitations of liability set out in these Conditions are reasonable and reflect the commercial intentions of the parties in the context of the anticipated earnings of Seller under the Contract and any other contracts and the ability of Buyer to protect itself through insurance. Seller may be willing to vary the limitations on liability in relation to specific Products if requested by Buyer subject to Buyer bearing the additional costs as notified to it by Seller. For the avoidance of doubt, any payment made by Seller to Buyer in any calendar year in respect of any Claim made by Buyer pursuant to any contract or otherwise shall operate to reduce the amount of the Claim Limit, and the limit of liability set out in condition, which is available for further Claims in that calendar year.
- 13. Termination**
- 13.1 Without affecting any other rights and remedies it may have, Seller may terminate the Contract forthwith if: 13.1.1 Buyer breaches any terms of any contract with Seller; 13.1.2 Buyer makes any composition or voluntary arrangement with its creditors or any step, application, order, proceeding or appointment is made or taken by or in respect of Buyer (including, without limitation, the making of an application or the giving of any notice) by Buyer or any other person for a distress, execution, winding up, dissolution, or to appoint an administrator of Buyer or (being an individual or firm) becomes bankrupt or (being a company) goes into liquidation (otherwise than for the purposes of a solvent amalgamation or reconstruction); 13.1.3 an encumbrance takes possession, or a receiver (administrative or otherwise) is appointed, of any of the property or assets of Buyer; or Buyer ceases, or threatens to cease, to carry on business; or 13.1.4 Seller reasonably apprehends that any of the events mentioned in conditions to above is about to occur in relation to Buyer and notifies Buyer accordingly.
- 13.2 Buyer may, on 30 days written notice, terminate: 13.2.1 the Contract within 30 days of receiving notice from Seller pursuant to conditions or that the Price of the Products which are the subject of the Contract is increasing by more than 10% of the original Price specified in applicable to the Products at the time the Contract is concluded; or 13.2.2 that part of the Contract relating to Custom Products on 30 days written notice if it does not wish (acting reasonably) to accept the changes to the Specifications of the Custom Products notified by Seller pursuant to condition.
- 13.3 Where Seller terminates the Contract in accordance with conditions or then, without prejudice to any other right or remedy available to Seller: 13.3.1 Seller shall be entitled to terminate any other contract or suspend any further deliveries under the Contract or any other contract; 13.3.2 where the Products have been delivered, but not paid for, subject to condition, Buyer's right to possession shall terminate and Seller may dispose or use any of the Products as it wishes; and 13.3.3 the Price shall become immediately due and payable notwithstanding any previous agreement or arrangement to the contrary.
- 13.4 Termination of the Contract, for whatever reason, shall not affect any of its provisions which are intended to continue to have effect after it has come to an end, including conditions 6, 10, 11, 12, 13, 14 and 15.
- 14. Indemnity**
- 14.1 Without prejudice to Seller's other rights and remedies, Buyer shall indemnify and keep indemnified Seller, its Group and their employees and agents on demand in full against any Losses incurred or suffered as a result of: 14.1.1 cancellation, variation or suspension of an order by the Buyer pursuant to condition 3.3; 14.1.2 any claim brought by any third party in respect of Losses, injury or damage caused by the Custom Products or Buyer's Tooling or by any Products which, following delivery, have been subjected to any use other than the authorised use for such Products (being the use for which such Products are commonly supplied or a use expressly authorised in accordance with condition) or modified or repaired by a person other than Seller or any event has occurred (including any act or omission) which would result in condition ceasing to apply to those Products; 14.1.3 the use of Specifications or Tooling supplied by or on behalf of Buyer or modified at the request of Buyer; 14.1.4 any breach of condition 5.4 and any claims by any third party in relation to any infringement or alleged infringement of any of its Intellectual Property Rights as a result of the use, possession or supply of any Custom Product or any Specifications and/or Tooling supplied by or on behalf of or modified at the request of Buyer; and 14.1.5 any termination pursuant to conditions 8.6 or 13.1.
- 15. Miscellaneous**
- 15.1 Seller may perform any of its obligations or exercise any of its rights hereunder by itself or through its subcontractors or agents or any member of its Group. Any act or omission of any such subcontractor or agent or member of its Group shall be deemed to be the act or omission of Seller and shall be subject to the exclusions or limitations on liability set out in these Conditions. Buyer shall not transfer, assign or sub-contract any of its rights or obligations under the Contract without Seller's prior written consent and in any event shall remain responsible for the performance of the Contract by any transferee, assign or sub-contractor.
- 15.2 Any notice shall be in writing addressed to the other party at, in the case of Seller, Essentra Components Pte Ltd, 238A Thomson Road #25-04/05 Novena Square Singapore 307684, (65) 6841 5481 or Essentra Malaysia Sdn. Bhd, D5-5-6, Solaris Dutamas 1 Jalan Dutamas 1, 50480 Kuala Lumpur, Malaysia, (60) 3 6207 3232 or Essentra (India) Private Limited No. 3 (Old Plot nos. 18 & 23) 3rd Main Road Peenya Industrial Area, Phase 1 Yeshwantpur Hobli Bangalore 560 058 India, (91) 0 80 4545 3618 or Essentra FZE, PO Box No 261392 Plot No. S20403 Jebel Ali Free Zone (JAFZA) Dubai United Arab Emirates, (971) 4 8806919 or Essentra Pty Ltd 503 Victoria Street Wetherill Park NSW, 2164 Australia, (61) 02 96844521 and in the case of Buyer at its registered address or such other address as may at the relevant time have been notified to Seller. Hand delivered notices shall take effect immediately, postal notices, two working days after posting by first class post and, if sent by fax, at the date and time on the sender's transmission acknowledgement slip or (if lost) on receipt.
- 15.3 No waiver by Seller of any breach of the Contract by Buyer shall be considered as a waiver of any subsequent breach of the same or any other provision. Failure by Seller to enforce any term of the Contract shall not be waiver of Seller's rights.
- 15.4 If any provision of the Contract is held by any competent authority to be invalid or unenforceable in whole or in part, the validity of the other provisions of the Contract and the remainder of the provision in question shall not be affected thereby.
- 15.5 The Contract contains the entire agreement and understanding of the parties and supersedes all prior agreements, understandings or arrangements (both oral and written) in respect of the Products (save that neither party seeks to exclude liability for fraudulent pre-contractual misrepresentation upon which the other party can be shown to have relied).
- 15.6 The Contract shall be governed by the laws. Any dispute shall be referred to the exclusive jurisdiction of the Courts save that Seller shall retain the right to bring proceedings against Buyer in any other court.
- 15.7 Save in respect of the rights, indemnities or warranties expressly stated to be given in favour of the Group, or Seller's agents, all of which shall accrue directly for their benefit, the parties to the Contract do not intend that any term of the Contract will be enforceable under the Contracts by any person that is not a party to it. No such person shall have any rights relating to any extension, waiver and/or amendment to the Contract including but not limited to, any rights to approve any extension, waiver and/or amendment to the Contract.

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ACCESS HARDWARE  
APPLICATION GUIDE

# CABINET BUILDING WITH ACCESS HARDWARE

Our Essentials Guide to cabinet building using Access Hardware is designed to help you find the most appropriate solution for your project.

When building outdoor enclosures, HVAC units, generators and data cabinets there are many different access hardware components you can consider. The solutions you choose can help deliver cabinet security, controlled access, productive operation and a reduction in unnecessary repair costs. Explore our guide.

## HINGES

Often a full, restricted or controlled range of door motion is required when accessing your cabinet. Hinges allow you to vary this range of motion, no matter the door, frame or mounting area. Using the right hinge for your application can easily drive increased functionality for the end user.

We recommend:

- Torque hinge
- Metal leaf hinge
- Lift off hinge



Torque Hinge  
(Pg 517)

## LOCKS

Cabinets can be susceptible to tampering, ingress of dirt or liquids. Using a suitable lock enables peace of mind for you and your customers. A durable polyamide or corrosion resistant stainless steel will offer high potential IP ratings as well as strength, ensuring security is upheld.

We recommend:

- Quarter turn latch with spring
- T-Handle Heavy duty paddle lock
- T & L Handle lock



Quarter turn latch with spring  
(Pg 398)

## SWING HANDLES

For when security is paramount you need to be sure you can trust your cabinet is fully protected. Use a swing handle gear box with a three-point locking system to prevent tampering, keeping your cabinets fully operational.

We recommend:

- Lift & turn cam latches
- Off set compression lever latches
- Flush compression lever latches



Lift & turn cam latches  
(Pg 430)

## PULL HANDLES

Crucial when finishing your cabinet and maintaining quick and seamless functionality. Pull handles can offer ergonomic use and flush fitting installation to help users stay efficient and safe in a busy work space.

We recommend:

- Bridge Handles
- Stainless Steel Cabinet U Handle
- Stainless Steel Bolt on Flush Handle



Bridge Handles  
(Pg 554)

## LATCHES & CATCHES

When your application is in constant use you often require a secure yet easily accessed door. Maintain ease of access and save time in a busy environment using easy open latches and catches.

We recommend:

- Heavy duty magnetic catch
- Recessed Magnetic catches
- Lift and turn compression latch



Magnetic Catch  
(Pg 470)

For free samples, no-obligation quotes, advice about our products or to place an order, please contact us by phone, email or web. Refer to the back cover of this catalogue for contact information.

# CAPS AND PLUGS APPLICATION GUIDE

The Caps and Plugs edition of the Essentials Guide has been created to outline specific protection solutions for your project, in a number of key industrial manufacturing applications.

Many products that you manufacture are likely shipped to another location or customer, or simply moved along an assembly line as part of your production process. During these transits and end uses, it's important to protect vital parts to ensure efficient processes, safe use and reduced downtime. Explore our guide to see what we recommend when protecting your products.

## EQUIPMENT MANUFACTURING

Ensure smooth assembly and transit to your customers by protecting critical internal and external profiles from damage, maintaining quality and a timely delivery. Key equipment to protect includes enclosures, indoor and outdoor cabinets, HVAC units and generators.

Essentra recommends protecting with:



*Domed  
Blanking Plug  
(Pg 259)*



*Silicone Cap  
(Pg 76)*



## VEHICLES

In applications where precision is everything, it's essential to guard fuel lines from potential debris contamination and protect vital threads from damage during shipment and masking. Key vehicle parts to protect are diesel/petrol pumps, engines, specialist vehicle fittings, powertrains and brake systems.

Essentra recommends protecting with:



*Sealing Slottex Plug  
(Pg 33)*



*Tapered Cap  
(Pg 3)*

## METAL FABRICATION

Guarantee a professional finish every time by masking holes, studs and contact points during painting, blasting, and finishing processes. By protecting important areas of fabricated metal with easy-to-fit caps and plugs, you can successfully increase customer satisfaction and minimise recall of finished products. Key areas to guard include electrical contact points, threaded holes or studs and welding areas.

Essentra recommends protecting with:



*Masking Washer Plug  
(Pg 85)*



*Multi-Flex Caps  
(Pg 19)*

## HOSES & HYDRAULICS

Safe operation of devices using hydraulic fluid calls for specialist hose-fitting protection and coverage. The right cap or plug can help mitigate fluid spills and maintain hose integrity when looking to ensure constant machinery uptime and user safety. Key hydraulic parts that need safeguarding include grease nipples, DKO-compression fittings, fuel lines and banjo unions.

Essentra recommends protecting with:



*Hexagonal Caps  
(Pg 54)*



*Banjo Union Cap  
(Pg 56)*

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