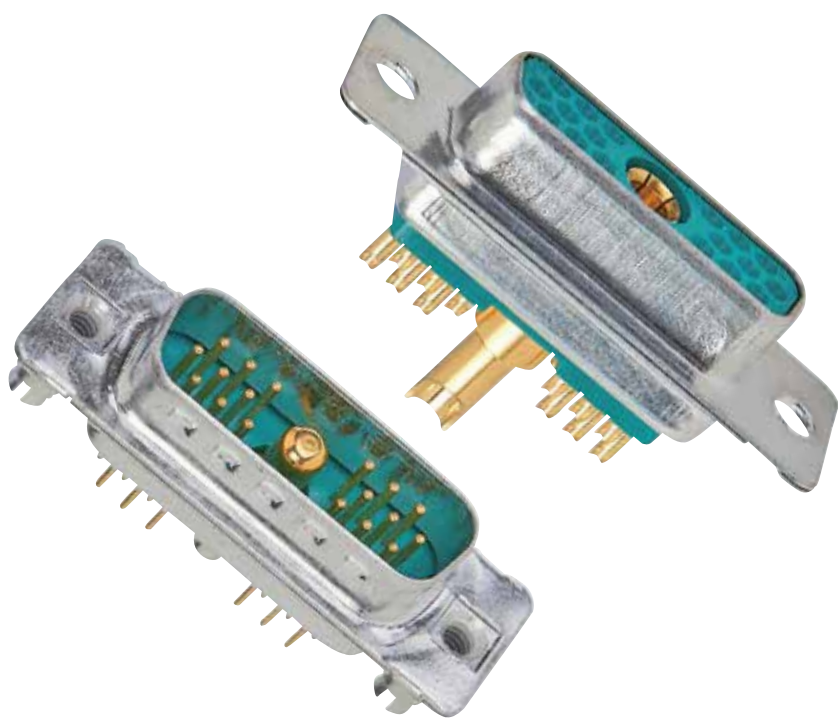


SECTION 2

COMBINATION D-SUB CONNECTORS

Combination D-SUB Connectors provide the ideal solution for applications to require power, signal and coaxial connections within one connector. This series of connectors achieves space saving on PCB's and I/O designs.

Within this product family are various pin out configurations possible. Almost endless selections can be created mixing power, signal and coaxial contacts.



Examples are coaxial contacts handling frequencies up to 2 GHz. Power contacts from 10 amp to 40 amp current handling. Signal contacts in various styles complete the product offering.

PART NUMBER CREATOR

for standard version

3 003W3 S X X 6 1 A 1 0 X

Product Line 3 = Shell steel tin plated 1 = Brass tin plated* 5 = Shell yellow chromated* (not RoHS compliant) A = Stainless steel*		*on request	
Shell size and design 1 = 5W1, 2W2C 2 = 3W3, 7W2, 11W1, 3W3C 3 = 5W5, 9W4, 13W3, 17W2, 21W1 4 = 8W8, 13W6, 17W5, 21WA4, 25W3, 27W2 5 = 24W7, 36W4, 43W2, 47W1		Empty positions ADD „0“ = 003W3	
Contact type P = Plug connector S = Socket connector			
Surface/Quality class for SIGNAL contacts A = Quality class 3 = 50 mating cycles B = Quality class 2 = 200 mating cycles* C = Quality class 1 = 500 mating cycles J = Special application = > 500 mating cycles (on request)* X = Crimp and 3W3, 5W5, 8W8, 2W2C, 3W3C (no contacts are supplied with the connector)		*on request	
Termination only for SIGNAL contacts K = Crimp without contacts M = Solder cup N = Wire wrap, .500" / 12.7 mm P = Press fit R = Solder pin, straight, .220" / 5.6 mm T = Solder pin, angled, .280" / 7.19 mm		U = Solder pin, angled, .370" / 9.40 mm W* = Solder pin, angled, .450" / 11.43 mm X = 3W3, 5W5, 8W8, 2W2C, 3W3C Z* = Solder pin, angled, .540" / 13.84 mm * = please contact us	
Termination for HIGH POWER- or COAXIAL contacts			
Quality class 3 / Quality class 1 C1 = Solder/Crimp angled 10 A C2 = Solder/Crimp angled 20 A C3 = Solder/Crimp angled 30 A C4 = Solder/Crimp angled 40 A F2,61 / F1,41 = Solder cup 10 A F4,62 / F3,42 = Solder cup 20 A F6,63 / F5,43 = Solder cup 30 A F8,64 / F7,44 = Solder cup 40 A 68 / 48 = Solder pin, straight 20 A, D= .077" / 1.95 mm 69 / 49 = Solder pin, straight 20 A, D= .102" / 2.60 mm 70 / 50 = Solder pin, straight 20 A, D= .110" / 2.85 mm 71 / 51 = Solder pin, straight 30 A, D= .130" / 3.18 mm 72 / 52 = Solder pin, straight 40 A, D= .150" / 3.75 mm		Quality class 3 / Quality class 1 59 / 55 = Solder pin, angled 15 A 73 / 56 = Solder pin, angled 20 A 74 / 57 = Solder pin, angled 30 A 75 / 58 = Solder pin, angled 40 A 77 / 60 = Solder pin, angled 40 A 81 / 66 = Solder pin, angled 20 A 82 / 67 = Solder pin, angled 30 A 85 / 65 = Solder pin, angled 30 A G7 / 76 = 3 Solder pins Straight 50 Ω G9 / 78 = 3 Solder pins angled 50 Ω H1 / 79 = 3 Solder pins angled 50 Ω H4 / 80 = 5 Solder pins angled 50 Ω G8 / 86 = 3 Solder pins Straight 75 Ω	
		Quality class 3 / Quality class 1 H2 / 88 = 3 Solder pins angled 75 Ω H3 / 89 = 3 Solder pins angled 75 Ω H5 / 90 = 5 Solder pins angled 75 Ω 91 = Screw termination 20 A / P1 = press fit 30A / P2 = press fit 30A / P4 = press fit 30A 99 = no high power, coax or crimp contacts loaded Coaxial contacts with cable termination must be ordered separately.	
Mounting style A1 = Riveted A2 = M3 threaded insert A3 = 4-40 UNC threaded insert A4 = M3 threaded rear spacer A5 = 4-40 UNC threaded rear spacer A6 = Float fastening A7 = Threaded rear spacer for M3 press fit A8 = Threaded rear spacer for 4-40 UNC press fit C1 = M3 threaded rear spacer with PCB clip, PCB .063" / 1.60 mm C2 = 4-40 UNC threaded rear spacer with PCB clip, PCB .063" / 1.60 mm C3 = M3 threaded rear spacer with PCB clip, PCB .091" / 2.30 mm C4 = 4-40 UNC threaded rear spacer with PCB clip, PCB .091" / 2.30 mm C5 = M3 threaded rear spacer with PCB clip, PCB .126" / 3.20 mm C6 = 4-40 UNC Threaded rear spacer with PCB clip, PCB .126" / 3.20 mm D1 = M3 clip and threaded rear spacer with PCB clip, PCB .063" / 1.60 mm D2 = 4-40 UNC clip and threaded rear spacer with PCB clip, PCB .063" / 1.60 mm D3 = M3 clip and threaded rear spacer with PCB clip, PCB .091" / 2.30 mm D4 = 4-40 UNC clip and threaded rear spacer with PCB clip, PCB .091" / 2.30 mm D5 = M3 clip and threaded rear spacer with PCB clip, PCB .126" / 3.20 mm D6 = 4-40 UNC clip and threaded rear spacer with PCB clip, PCB .126" / 3.20 mm E1 = M3 threaded rear spacer with PCB clip, PCB .063" / 1.60 mm E2 = 4-40 UNC threaded rear spacer with PCB clip, PCB .063" / 1.60 mm E3 = M3 threaded rear spacer with PCB clip, PCB .091" / 2.30 mm E4 = 4-40 UNC threaded rear spacer with PCB clip, PCB .091" / 2.30 mm E5 = M3 threaded rear spacer with PCB clip, PCB .126" / 3.20 mm		E6 = 4-40 UNC threaded rear spacer with PCB clip, PCB .126" / 3.20 mm F1 = M3 clip and threaded rear spacer with PCB clip, PCB .063" / 1.60 mm F2 = 4-40 UNC clip and threaded rear spacer with PCB clip, PCB .063" / 1.60 mm F3 = M3 clip and threaded rear spacer with PCB clip, PCB .091" / 2.30 mm F4 = 4-40 UNC clip and threaded rear spacer with PCB clip, PCB .091" / 2.30 mm F5 = M3 clip and threaded rear spacer with PCB clip, PCB .126" / 3.20 mm F6 = 4-40 UNC clip and threaded rear spacer with PCB clip, PCB .126" / 3.20 mm G1 = Metal bracket, M3 threaded insert for .370" / 9.40 mm G2 = Metal bracket, 4-40 UNC threaded insert for .370" / 9.40 mm G3 = Metal bracket, M3 threaded insert and clip for .370" / 9.40 mm G4 = Metal bracket, 4-40 UNC threaded insert and clip for .370" / 9.40 mm H1 = Metal bracket, M3 threaded lock for .370" / 9.40 mm H2 = Metal bracket, 4-40 UNC threaded lock for .370" / 9.40 mm H3 = Metal bracket, M3 threaded lock and clip for .370" / 9.40 mm H4 = Metal bracket, 4-40 UNC threaded lock and clip for .370" / 9.40 mm N1 = Metal bracket, M3 threaded insert for .280" / 7.19 mm N2 = Metal bracket, 4-40 UNC threaded insert for .280" / 7.19 mm N3 = Metal bracket, M3 threaded insert and clip for .280" / 7.19 mm N4 = Metal bracket, 4-40 UNC threaded insert and clip for .280" / 7.19 mm P1 = Metal bracket, M3 threaded lock for .280" / 7.19 mm P2 = Metal bracket, 4-40 UNC threaded lock for .280" / 7.19 mm P3 = Metal bracket, M3 threaded lock and clip for .280" / 7.19 mm P4 = Metal bracket, 4-40 UNC threaded lock and clip for .280" / 7.19 mm W1 = Threaded rear spacer with M3 press in pin W2 = Threaded rear spacer with 4-40 UNC press in pin	
OX = Standard			

PART NUMBER CREATOR

for High Density

3 H19W1 S C M 4 1 A 1 O X

Product Line

- 1 = Shell brass tin plated
- 3 = Shell tin plated*
- 5 = Shell yellow chromated* (not RoHS compliant)
- A = Shell stainless steel* *on request

Shell size and design

- 2 =19W1
- 3 =15W4
- 4 =45W2 H = High Density

Contact type

- P = Plug connector
- S = Socket connector

Quality class for SIGNAL contacts

- A = Quality class 3 = 50 mating cycles
- B = Quality class 2 = 200 mating cycles*
- C = Quality class 1 = 500 mating cycles
- J = Special application = > 500 mating cycles* *on request

Termination only for SIGNAL contacts

- M = Solder cup
- P = Press-fit*
- R = Solder pin, straight
- W = Solder pin, angled .450" / 11,43 mm*
- T = Solder pin, angled .350" / 7,98 mm *on request

Termination for HIGH POWER- or COAXIAL contacts

Quality class 3/Quality class 1

- F2,61/F1,41 = Solder cup 10 A
- F4,62/F3,42 = Solder cup 20 A
- F6,63/F5,43 = Solder cup 30 A
- F8,64/F7,44 = Solder cup 40 A
- 68/48 = Solder pin, straight 20 A, D= .077"/1.95 mm
- 69/49 = Solder pin, straight 20 A, D= .102"/2.60 mm
- 70/50 = Solder pin, straight 20 A, D= .110"/2.85 mm
- 71/51 = Solder pin, straight 30 A, D= .130"/3.18 mm
- 72/52 = Solder pin, straight 40 A, D= .150"/3.75 mm
- 59/55 = Solder pin, angled 15 A
- 73/56 = Solder pin, angled 20 A
- 74/57 = Solder pin, angled 30 A
- 75/58 = Solder pin, angled 40 A

Quality class 3/Quality class 1

- 77/60 = Solder pin, angled 40 A
- 81/66 = Solder pin, angled 20 A
- 82/67 = Solder pin, angled 30 A
- 85/65 = Solder pin, angled 30 A
- G7/76 = 3 Solder pins Straight 50 Ω
- G9/78 = 3 Solder pins angled 50 Ω
- H1/79 = 3 Solder pins angled 50 Ω
- H4/80 = 5 Solder pins angled 50 Ω
- G8/86 = 3 Solder pins Straight 75 Ω
- H2/88 = 3 Solder pins angled 75 Ω
- H3/89 = 3 Solder pins angled 75 Ω
- H5/90 = 5 Solder pins angled 75 Ω
- 91 = Screw termination 20 A

Quality class 1

- P1 = press fit 30A
 - P2 = press fit 30A
 - P4 = press fit 30A
 - 99 = no high power, coax or crimp contacts loaded
- Coaxial contacts with cable termination must be ordered separately.

Mounting style

- | | |
|--|--|
| A1 = Riveted | F3 = M3 clip and threaded rear spacer with PCB clip, PCB .091"/2.30 mm |
| A2 = M3 threaded insert | F4 = 4-40 UNC clip and threaded rear spacer with PCB clip, PCB .091"/2.30 mm |
| A3 = 4-40 UNC threaded insert | F5 = M3 clip and threaded rear spacer with PCB clip, PCB .126"/3.20 mm |
| A4 = M3 threaded rear spacer | F6 = 4-40 UNC clip and threaded rear spacer with PCB clip, PCB .126"/3.20 mm |
| A5 = 4-40 UNC threaded rear spacer | G5 = Metal bracket, M3 threaded insert for .350"/7,98 mm |
| A6 = Float fastening | G6 = Metal bracket, 4-40 UNC threaded insert for .350"/7,98 mm |
| A7 = Threaded rear spacer for M3 press fit | G7 = Metal bracket, M3 threaded insert and Clip for .350"/7,98 mm |
| A8 = Threaded rear spacer for 4-40 UNC press fit | G8 = Metal bracket, 4-40 UNC threaded insert and Clip for .350"/7,98 mm |
| E1 = M3 threaded rear spacer with PCB clip, PCB .063"/1.60 mm | H5 = Metal bracket, M3 threaded lock for .350"/7,98 mm |
| E2 = 4-40 UNC threaded rear spacer with PCB clip, PCB .063"/1.60 mm | H6 = Metal bracket, 4-40 UNC threaded lock for .350"/7,98 mm |
| E3 = M3 threaded rear spacer with PCB clip, PCB .091"/2.30 mm | H7 = Metal bracket, M3 threaded lock and Clip for .350"/7,98 mm |
| E4 = 4-40 UNC threaded rear spacer with PCB clip, PCB .091"/2.30 mm | H8 = Metal bracket, 4-40 UNC threaded lock and Clip for .350"/7,98 mm |
| E5 = M3 threaded rear spacer with PCB clip, PCB .126"/3.20 mm | W1 = Threaded rear spacer with M3 press in pin |
| E6 = 4-40 UNC threaded rear spacer with PCB clip, PCB .126"/3.20 mm | W2 = Threaded rear spacer with 4-40 UNC press in pin |
| F1 = M3 clip and threaded rear spacer with PCB clip, PCB .063"/1.60 mm | |
| F2 = 4-40 UNC clip and threaded rear spacer with PCB clip, PCB .063"/1.60 mm | |

- OX = Standard

TECHNICAL DATA

Standard version

Materials	Connector with signal contacts	Coaxial contacts	High power contacts	High voltage contacts
Insulator Green standard / black crimp	PBTP, GV (UL94 V-0)			
Shell	steel tin plated brass tin / stainless steel on request			
Contact plating	Gold plated over nickel			
Contact material	CU alloy			
Retaining clip	CU alloy			
Insulator		PTFE/PBTP/PI		PTFE
Mechanical and electrical characteristics				
Current rating	7,5A (UL) / 5A (CSA, VDE)			
Test voltage between 2 contacts contact and shell	1000 V, 50Hz 1 min.		1000 V, 50Hz 1 min.	
Resistance between mated contacts	max. 8 mΩ	max. 2.7 mΩ	max. 1 mΩ	max. 2.7 mΩ
Insulation resistance	≥5 GΩ	≥ 10 GΩ	≥ 5 GΩ	≥ 2x10 ⁷ MΩ
Volume resistivity	10 ¹⁶ Ωcm			
Dielectric impedance	50KV/mm			
Characteristic impedance		50/75 Ω		
VSWR-value at according MIL-C-39012	1.2GHz 1.5GHz 2.0GHz	≤1,2 ≤1,3 ≤1,5		
Dielectric voltage		750V 50Hz		3.8kV
Frequency range		0-2GHz		
Working voltage	250 V	250 V	250 V	max. 2.8kV
Temperature range	-55°C to +125°C			
Insertion force per contact	3.4N	7N	7N	5N
Extraction force per contact	0.2N	7N	approx. 5N	approx. 2.5N
Mating cycles	A = Quality class 3 = 50 mating cycles, B = Quality class 2 = 200 mating cycles, C = Quality class 1 = 500 mating cycles			

Technical specifications are subject to change without notice.

TECHNICAL DATA

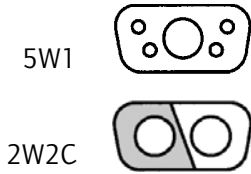
High Density

Materials	Connector with signal contacts	Coaxial contacts	High power contacts	High voltage contacts
Insulator Green standard / black crimp	PBTP, GV (UL94 V-0)			
Shell	steel tin plated brass tin / stainless steel on request			
Contact plating	Gold plated over nickel			
Contact material	CU alloy			
Retaining clip	CU alloy			
Insulator		PTFE/PBTP/PI		PTFE
Mechanical and electrical characteristics				
Current rating	3 A (ULVDE) / 2,5 A (CSA)			
Test voltage between 2 contacts contact and shell	1000 V, 50Hz 1 min.		1000 V, 50Hz 1 min.	
Resistance between mated contacts	max. 10m Ω	max. 2.7m Ω	max. 1m Ω	max. 2.7m Ω
Insulation resistance	$\geq 5G\Omega$	$\geq 10G\Omega$	$\geq 5G\Omega$	$2 \times 10^7 M\Omega$
Volume resistivity	$10^{16} \Omega \text{cm}$			
Dielectric impedance	50kV/mm			
Characteristic impedance		50/75 Ω		
VSWR-value at according MIL-C-39012	1.2GHz 1.5GHz 2.0GHz	≤ 1.2 ≤ 1.3 ≤ 1.5		
Dielectric voltage		750V 50Hz		3.8kV
Frequency range		0-2GHz		
Working voltage	60V	250 V	250 V	max. 2.8kV
Temperature range	-55°C to +125°C			
Insertion force per contact	3,4N	7N	7N	5N
Extraction force per contact	0,2N	7N	approx. 5N	approx. 2.5N
Mating cycles	A =Quality class 3 = 50 mating cycles, B =Quality class 2 = 200 mating cycles, C = Quality class 1 = 500 mating cycles			

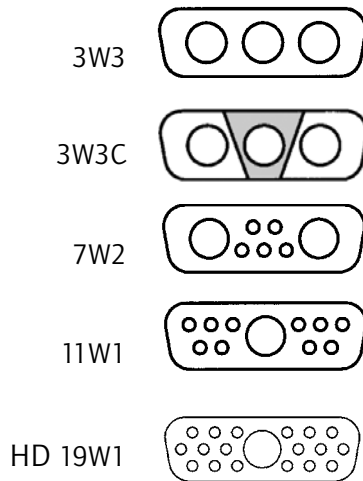
Technical specifications are subject to change without notice.

PIN CONFIGURATION – MATING SIDE OF SOCKET CONNECTOR

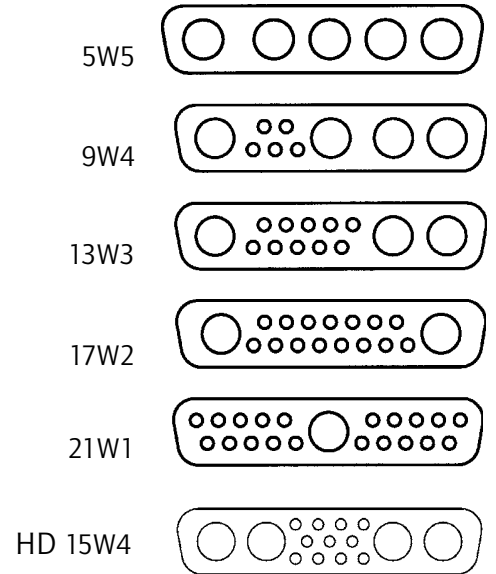
SHELL SIZE 1



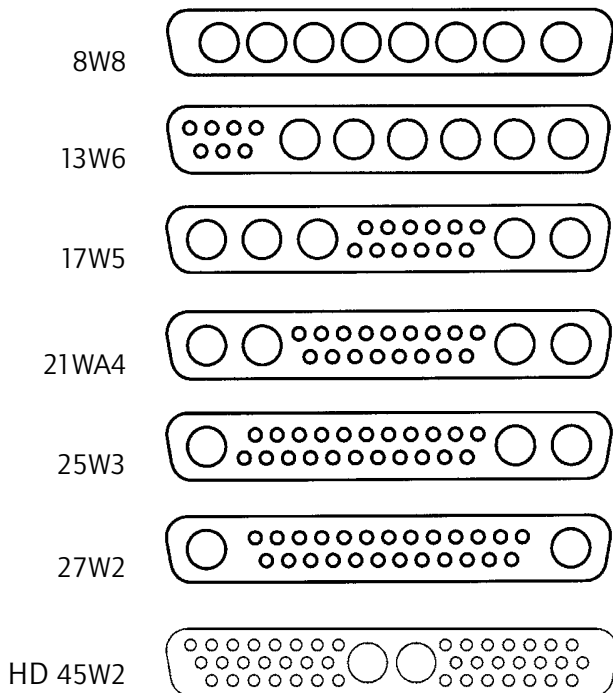
SHELL SIZE 2



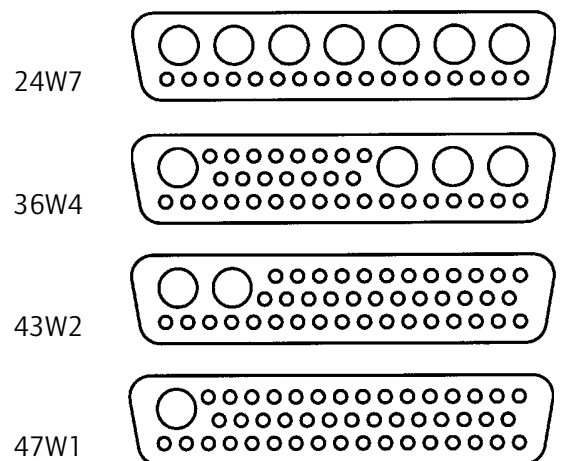
SHELL SIZE 3



SHELL SIZE 4



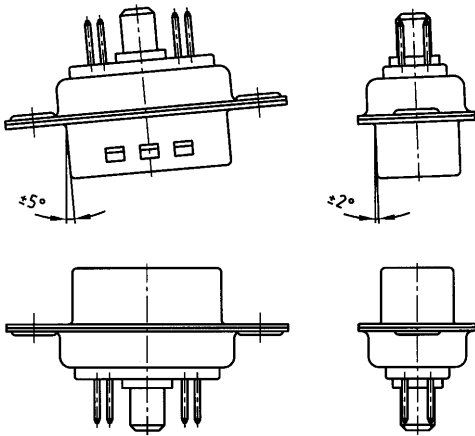
SHELL SIZE 5



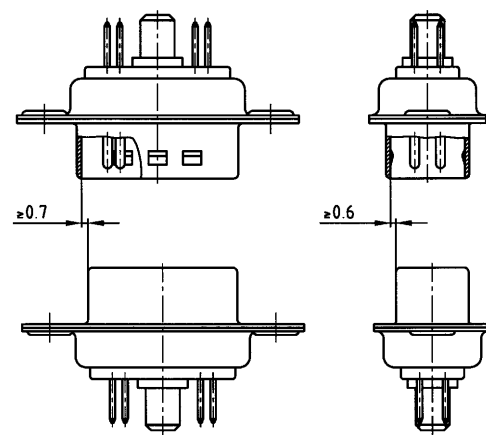
Connectors 3W3, 5W5 and 8W8 with female insulators: Socket contacts are fingerprobe safe according to UL 1950 and CSA 22.2.950.

MATING CONDITIONS

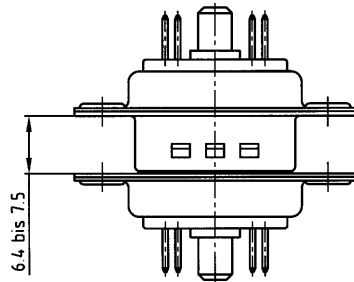
Float mount tolerance guide



Rigid mount tolerance guide

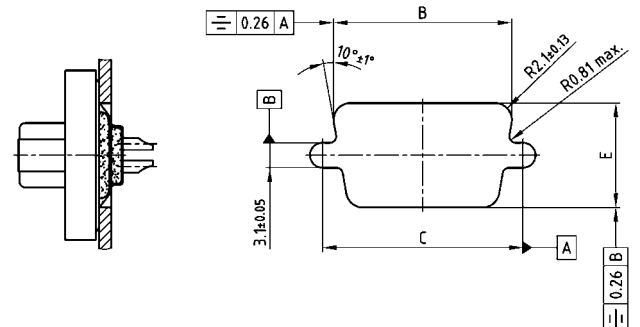
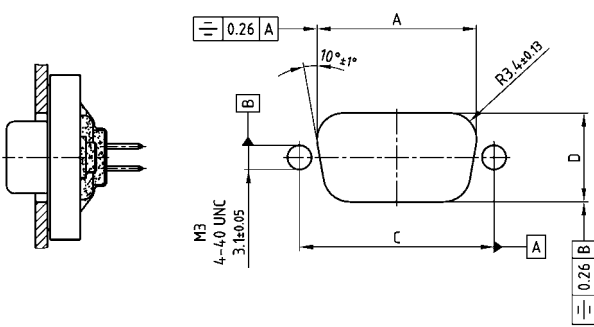


Rigid mount vertical to tolerance guide



PANEL CUT-OUT

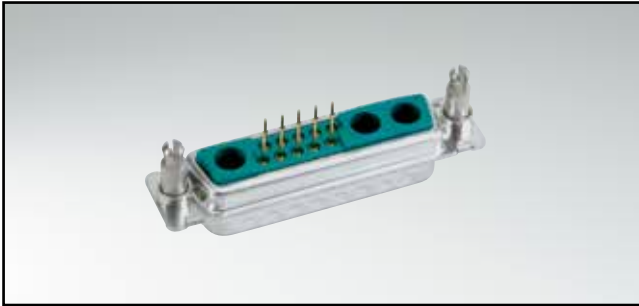
Rear panel mounting	Front panel mounting
---------------------	----------------------



Shell size	A $\pm 0,13$	B $\pm 0,13$	C $\pm 0,13$	D $\pm 0,13$	E $\pm 0,13$
1	20.50	22.20	25.00	11.40	13.00
2	28.80	30.50	33.30	11.40	13.00
3	42.50	44.30	47.04	11.40	13.00
4	59.10	60.70	63.50	11.40	13.00
5	56.30	58.30	61.10	14.10	15.80

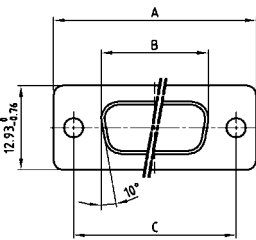
COMBINATION D-SUB WITH SIGNAL CONTACTS

Solder pin – Straight – Precision machined contacts



RoHS compliant – CSA listed, File No.: LR 115000-1 – UL listed, File No.: E 228329

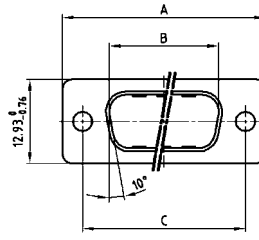
SOCKET CONNECTOR



Shellsize	A -0.76	B -0.25	C
1	31.19	16.46	25.00 ^{+0.12} _{-0.13}
2	39.52	24.79	33.30 ^{+0.15} _{-0.10}
3	53.42	38.50	47.04 ^{+0.13}
4	69.70	54.96	63.50 ^{+0.13}
5	67.31	52.55	61.10 ^{+0.14} _{-0.11}

Shell size 1-4

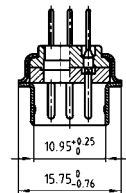
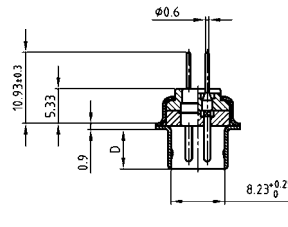
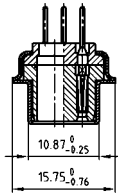
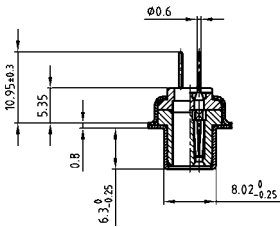
Shell size 5



Shellsize	A -0.76	B -0.25	C	D -0.30
1	31.19	16.79	25.00 ^{+0.12} _{-0.13}	6.12
2	39.52	25.12	33.30 ^{+0.15} _{-0.10}	6.12
3	53.42	38.84	47.04 ^{+0.13}	5.99
4	69.70	55.30	63.50 ^{+0.13}	5.99
5	67.31	52.68	61.10 ^{+0.14} _{-0.11}	5.99

Shell size 1-4

Shell size 5



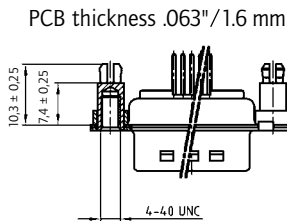
ORDER DATA

SOCKET CONNECTOR

Design	Mounting style 4-40 UNC	Part Number
5W1	Threaded rear spacer PCB clip	3005W1SAR99E20X
7W2	Threaded rear spacer PCB clip	3007W2SAR99E20X
11W1	Threaded rear spacer PCB clip	3011W1SAR99E20X
9W4	Threaded rear spacer PCB clip	3009W4SAR99E20X
13W3	Threaded rear spacer PCB clip	3013W3SAR99E20X
17W2	Threaded rear spacer PCB clip	3017W2SAR99E20X
21W1	Threaded rear spacer PCB clip	3021W1SAR99E20X
13W6	Threaded rear spacer PCB clip	3013W6SAR99E20X
17W5	Threaded rear spacer PCB clip	3017W5SAR99E20X
21WA4	Threaded rear spacer PCB clip	321WA4SAR99E20X
25W3	Threaded rear spacer PCB clip	3025W3SAR99E20X
27W2	Threaded rear spacer PCB clip	3027W2SAR99E20X
24W7	Threaded rear spacer PCB clip	3024W7SAR99E20X
36W4	Threaded rear spacer PCB clip	3036W4SAR99E20X
43W2	Threaded rear spacer PCB clip	3043W2SAR99E20X
47W1	Threaded rear spacer PCB clip	3047W1SAR99E20X

PLUG CONNECTOR

Design	Mounting style 4-40 UNC	Part Number
5W1	Threaded rear spacer PCB clip	3005W1PAR99E20X
7W2	Threaded rear spacer PCB clip	3007W2PAR99E20X
11W1	Threaded rear spacer PCB clip	3011W1PAR99E20X
9W4	Threaded rear spacer PCB clip	3009W4PAR99E20X
13W3	Threaded rear spacer PCB clip	3013W3PAR99E20X
17W2	Threaded rear spacer PCB clip	3017W2PAR99E20X
21W1	Threaded rear spacer PCB clip	3021W1PAR99E20X
13W6	Threaded rear spacer PCB clip	3013W6PAR99E20X
17W5	Threaded rear spacer PCB clip	3017W5PAR99E20X
21WA4	Threaded rear spacer PCB clip	321WA4PAR99E20X
25W3	Threaded rear spacer PCB clip	3025W3PAR99E20X
27W2	Threaded rear spacer PCB clip	3027W2PAR99E20X
24W7	Threaded rear spacer PCB clip	3024W7PAR99E20X
36W4	Threaded rear spacer PCB clip	3036W4PAR99E20X
43W2	Threaded rear spacer PCB clip	3043W2PAR99E20X
47W1	Threaded rear spacer PCB clip	3047W1PAR99E20X



PCB clip .122" / 3.1 ± .004" / 0.10 mm hole diameter

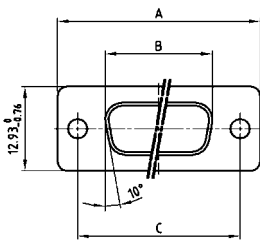
COMBINATION D-SUB WITH SIGNAL CONTACTS

Solder pin – Straight – Precision machined contacts



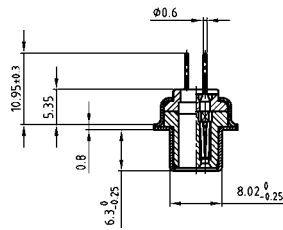
RoHS compliant – CSA listed, File No.: LR 115000-1 – UL listed, File No.: E 228329

SOCKET CONNECTOR

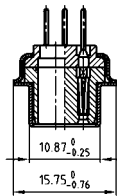


Shellsize	A -0.76	B -0.25	C
1	31.19	16.46	25.00 ^{+0.12} _{-0.13}
2	39.52	24.79	33.30 ^{+0.15} _{-0.10}
3	53.42	38.50	47.04 ^{+0.13}
4	69.70	54.96	63.50 ^{+0.13}
5	67.31	52.55	61.10 ^{+0.14} _{-0.11}

Shell size 1-4



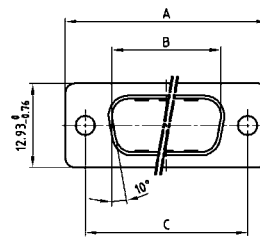
Shell size 5



DESCRIPTION

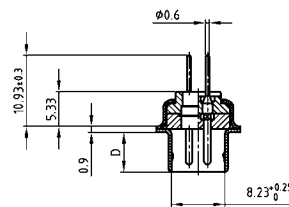
- Threaded rear spacer .256"/6.5 mm
- Mounting style:
 - with 4-40 UNC threaded rear spacer with PCB clip
 - for PCB thickness .063"/1.6 mm
 - for PCB thickness .091"/2.3 mm
 - for PCB thickness .126"/3.2 mm
- M3 and PCB clip with front spacer available on request
- Quality class 3 (also available in quality class 1)
- Shell: Steel tin plated
(brass tin plated or stainless steel available on request)

PLUG CONNECTOR

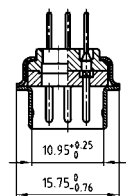


Shellsize	A -0.76	B -0.25	C	D -0.30
1	31.19	16.79	25.00 ^{+0.12} _{-0.13}	6.12
2	39.52	25.12	33.30 ^{+0.15} _{-0.10}	6.12
3	53.42	38.84	47.04 ^{+0.13}	5.99
4	69.70	55.30	63.50 ^{+0.13}	5.99
5	67.31	52.68	61.10 ^{+0.14} _{-0.11}	5.99

Shell size 1-4



Shell size 5



ORDER DATA

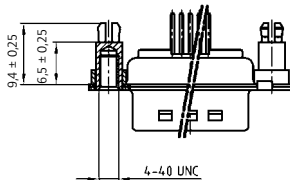
SOCKET CONNECTOR

Design	Mounting style 4-40 UNC	Part Number
5W1	Threaded rear spacer PCB clip	3005W1SAR99C20X
7W2	Threaded rear spacer PCB clip	3007W2SAR99C20X
11W1	Threaded rear spacer PCB clip	3011W1SAR99C20X
9W4	Threaded rear spacer PCB clip	3009W4SAR99C20X
13W3	Threaded rear spacer PCB clip	3013W3SAR99C20X
17W2	Threaded rear spacer PCB clip	3017W2SAR99C20X
21W1	Threaded rear spacer PCB clip	3021W1SAR99C20X
13W6	Threaded rear spacer PCB clip	3013W6SAR99C20X
17W5	Threaded rear spacer PCB clip	3017W5SAR99C20X
21WA4	Threaded rear spacer PCB clip	321WA4SAR99C20X
25W3	Threaded rear spacer PCB clip	3025W3SAR99C20X
27W2	Threaded rear spacer PCB clip	3027W2SAR99C20X
24W7	Threaded rear spacer PCB clip	3024W7SAR99C20X
36W4	Threaded rear spacer PCB clip	3036W4SAR99C20X
43W2	Threaded rear spacer PCB clip	3043W2SAR99C20X
47W1	Threaded rear spacer PCB clip	3047W1SAR99C20X

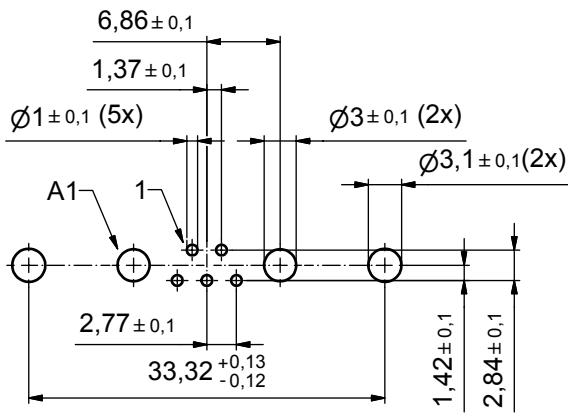
PLUG CONNECTOR

Design	Mounting style 4-40 UNC	Part Number
5W1	Threaded rear spacer PCB clip	3005W1PAR99C20X
7W2	Threaded rear spacer PCB clip	3007W2PAR99C20X
11W1	Threaded rear spacer PCB clip	3011W1PAR99C20X
9W4	Threaded rear spacer PCB clip	3009W4PAR99C20X
13W3	Threaded rear spacer PCB clip	3013W3PAR99C20X
17W2	Threaded rear spacer PCB clip	3017W2PAR99C20X
21W1	Threaded rear spacer PCB clip	3021W1PAR99C20X
13W6	Threaded rear spacer PCB clip	3013W6PAR99C20X
17W5	Threaded rear spacer PCB clip	3017W5PAR99C20X
21WA4	Threaded rear spacer PCB clip	321WA4PAR99C20X
25W3	Threaded rear spacer PCB clip	3025W3PAR99C20X
27W2	Threaded rear spacer PCB clip	3027W2PAR99C20X
24W7	Threaded rear spacer PCB clip	3024W7PAR99C20X
36W4	Threaded rear spacer PCB clip	3036W4PAR99C20X
43W2	Threaded rear spacer PCB clip	3043W2PAR99C20X
47W1	Threaded rear spacer PCB clip	3047W1PAR99C20X

PCB thickness .063"/1.6 mm

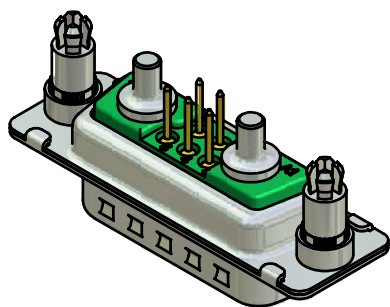
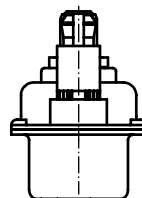
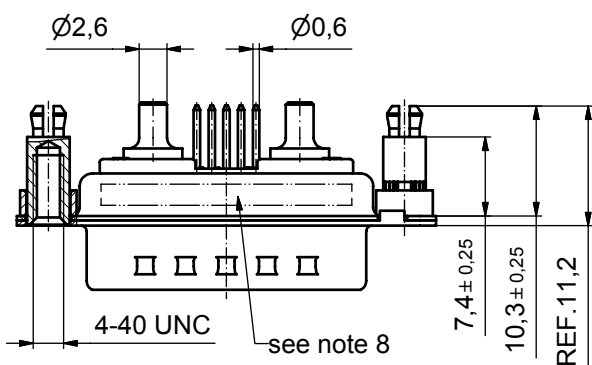
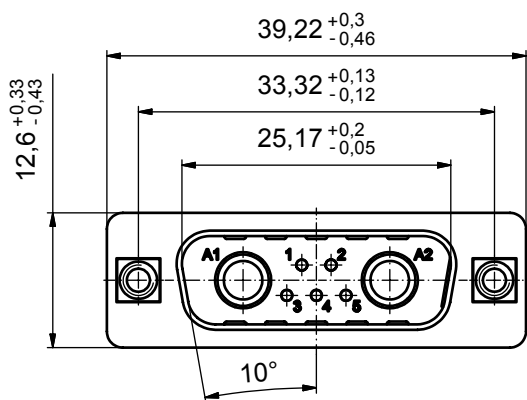
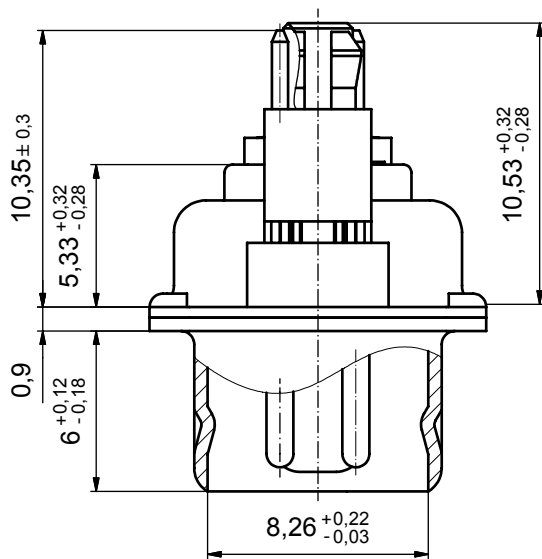


PCB clip .122"/3.1 ± .004"/0.10 mm hole diameter



P.C.B. HOLE DRILLINGS

(5:1)



NOTES:

1. METALSHELLS: STEEL; min. 315µin TIN over 40-80µin NICKEL
2. INSULATORS: PBT GF UL 94 V-0, GREEN
3. SIGNAL CONTACTS: COPPER ALLOY
PLATING: 30µin HARD GOLD over min.. 50µin NICKEL
4. HIGH POWER CONTACTS 20A: COPPER ALLOY
PLATING MATING AREA: 30µin HARD GOLD over min. 50µin NICKEL
PLATING TERMINATION SIDE: 160-240µin TIN over 80µin NICKEL
5. THREADED SPACER CLIP: COPPER ALLOY; min. 200µin TIN over 80µin NICKEL
PCB-HOLE: Ø3.1 ± 0.1; PCB THICKNESS 1,6mm
6. COLLAR: COPPER ALLOY; min. 200µin TIN over 80µin NICKEL
7. MAXIMUM TORQUE VALUE FOR THREAD: 6 in.LB
8. CONNECTOR IS PART MARKED: 3007W2PCR49E20X CONEC ABC

Directive 2002/95/EC
"RoHS"
Compliant

APPROVAL # FREIGABE # DEBLOCAGE # AUTORIZACION # APPROVAL	
CUSTOMER APPROVAL DATE:	
NAME:	TITLE:
COMPANY NAME:	
APPROVAL # FREIGABE # DEBLOCAGE # AUTORIZACION # APPROVAL	

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DO NOT ALTER CAD DRAWING BY HAND			
rev.	description	date	name

tolerance	dim. in mm
date	name
drawn	16.10.07 Schmidt
appd.	16.10.07 Mickenbecker
norm	
d-old	

scale:	2:1 (5:1)	
material:	see notes	
title:		
D-SUB COMBINATION MALE		
7W2P		
with threaded spacer clip		
dwg no:	Inventor 10	DIN-A3
	13K1A2291	sh: 1
part no:	3007W2PCR49E20X	



COMBINATION D-SUB CONTACTS

High power contacts – Solder pin – Straight



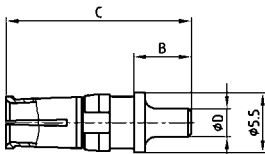
RoHS compliant – CSA listed, File No.: LR 115000-1 – UL listed, File No.: E 228329

DESCRIPTION

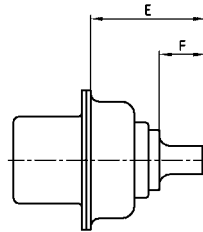
- Precision machined contacts
- Quality class 3: 50 mating cycles (gold plated)
- Quality class 1: 500 mating cycles (gold plated)
- Mating side gold plated
- Termination side tin plated
- Other quality classes on request
- To order these preassembled in the connector, use the termination code shown below, in the part number creator at the front of this section

PRODUCT DRAWING

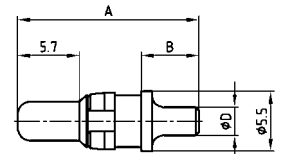
Socket contact



Installation dimension

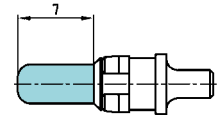


Plug contact



Current rating	Termination	A	B	C	Ø D	E	F
20A	48/68**	15.84	4.60	15.98	1.95	9.65	3.80
20A	49/69	16.84	5.30	16.98	2.60	10.65	4.30
20A	50/70**	16.24	4.70	16.38	2.85	10.05	3.70
30A	51/71	19.04	7.50	19.18	3.18	12.85	6.70
40A	52/72	17.29	5.75	17.43	3.75	11.10	4.75

Premating contact



PCB hole diameter at:

- 1.95 = 2.30 ± 0.1
- 2.60 = 3.00 ± 0.1
- 2.85 = 3.20 ± 0.1
- 3.18 = 3.60 ± 0.1
- 3.75 = 4.10 ± 0.1

ORDER DATA

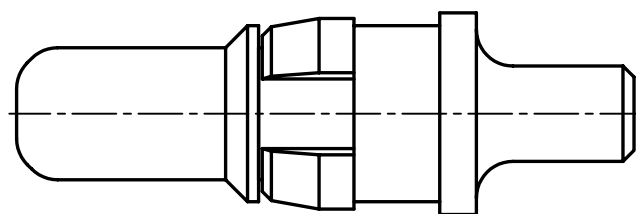
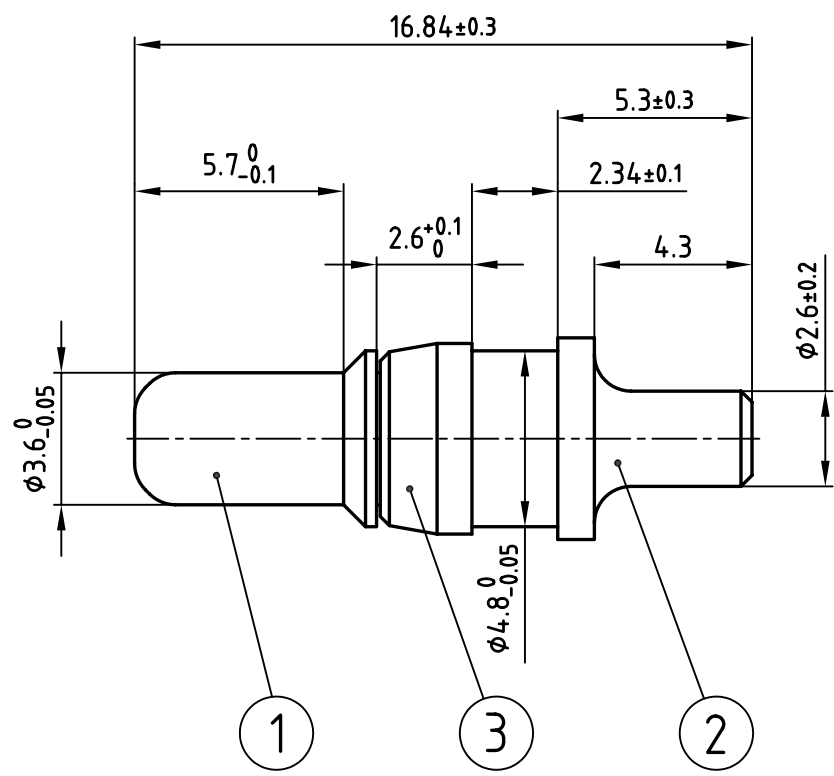
SOCKET CONTACT				
Contact type	Ampere	Quality class	Termination*	Part Number
Socket	20 A	1	48**	132C12019X
Socket	20 A	3	68**	132A12019X
Socket	20 A	1	49	132C12029X
Socket	20 A	3	69	132A12029X
Socket	20 A	1	50**	132C12039X
Socket	20 A	3	70**	132A12039X
Socket	30 A	1	51	132C12049X
Socket	30 A	3	71	132A12049X
Socket	40 A	1	52	132C12059X
Socket	40 A	3	72	132A12059X

PLUG CONTACT				
Contact type	Ampere	Quality class	Termination*	Part Number
Plug	20 A	1	48**	131C12019X
Plug	20 A	3	68**	131A12019X
Plug	20 A	1	49	131C12029X
Plug	20 A	3	69	131A12029X
Plug	20 A	1	50**	131C12039X
Plug	20 A	3	70**	131A12039X
Plug	30 A	1	51	131C12049X
Plug	30 A	3	71	131A12049X
Plug	40 A	1	52	131C12059X
Plug	40 A	3	72	131A12059X

PREMATING CONTACT			
Contact type	Ampere	Quality class	Part Number
Plug premating	20A/ Ø .077"/1.95	1	131C12119X
Plug premating	20A/ Ø .102"/2.60	1	131C12129X
Plug premating	20A/ Ø .112"/2.85	1	131C12139X
Plug premating	30A/ Ø .125"/3.18	1	131C12149X
Plug premating	40A/ Ø .148"/3.75	1	131C12159X

*Code use with part number creator
 **not suitable for PCB 2.3 + 3.2 mm

used for: D-SUB COMBINATION



NOTES:

- 1. MATERIAL: COPPER ALLOY
- 2. PLATING:
 ITEM 1: min. 30µ" HARD GOLD OVER min. 50µ" NICKEL
 ITEM 2: TIN PLATED
 ITEM 3: NICKEL PLATED



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tolerance		ISO 2768-m			
1998	date			name	
drawn	23.03.			Barcinski	
appd.	23.03.			Mickenbecker	
norm					
d-old					
rev.	description	date			

scale:	5:1	
material:	SEE NOTES	
title:	HIGH POWER CONTACT MALE SOLDER PIN STRAIGHT $\phi 2.6$ 20A D-SUB COMBINATION	
dwg no:	CAD/ REL.13	DIN-A
	13K1ID6A	4
product no:	131C12029X	
		sh: 1/1

GF Machining Solutions
Rue du Pré-de-la-Fontaine 8
1217 Meyrin

Fax : 022 783 06 12

Offre

Page 1 / 1

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Date 10.02.2015
Valable jusqu'au 10.03.2015
Numéro de client 15777
Votre demande E-Mail du 06.02.2015 Rémi Jouanneau, 022 783 31 39
Emis par Claudio Coati Tel: +41 (0)32 366 69 34 Fax: +41 (0)32 366 69 20

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CH-1217 Meyrin
Conditions de livraison EXW Brügg / Poste
Conditions de paiement 30 jours net

Accords spéciaux

Pos.	Quantité/Délai	Référence/Désignation	Prix unitaire Rabais	Unité de quantité	Total net par ligne Monnaie: EUR
010	60 PCE 6 semaines	717154 3007W2SCR49E20X TVA collectée 8.00 % Tarif douanier: 8536.6953 / DE CONEC Combination D-Sub female	5,86	1 PCE	351,60
020	60 PCE 6 semaines	717155 3007W2PCR49E20X TVA collectée 8.00 % Tarif douanier: 8536.6953 / DE CONEC Combination D-Sub male	4,76	1 PCE	285,60

Total des postes				637,20
TVA	8,00	%		50,98
Total				688,18

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Precimation AG

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