

New!

MDG, MDS, MPG & MPS SERIES DIP SWITCHES

DPST, SPDT, 3PST, 4PST & DPDT MODELS

FEATURES

Gold or silver plated contacts.
Self-cleaning contacts.
UL94V-O materials used throughout.
Process compatible with tape seal.
Dual in-line .100" x .300" term. spacing.

GENERAL SPECIFICATIONS

ELECTRICALS

Electrical life	2000 cycles minimum
Contact rating, non-switching	100 mA at 50 VDC
Contact rating, switching	25 mA at 24 VDC
Contact resistance	50 mΩ max. initial - 100 mΩ max. after life test
Insulation resistance at 100 VDC	1000 MΩ minimum
Dielectric strength	500 VDC for 1 minute
Capacitance	5 pf. max. between adjacent terminals

MECHANICALS, THERMALS

Mechanical life	3000 cycles minimum
Operating force	MDG/MDS: 800 grams max. per pole. MPG/MPS: 400 grams max. per pole.
Vibration	Per MIL-STD-202, METHOD 204B
Humidity	95% relative humidity, 40°C for 96 hours
Temperature range	Operating: -25°C to 70°C Storage: -40°C to 85°C

SOLDERING & CLEANING RECOMMENDATIONS

Hand soldering	320°C max. for 2 seconds max. (30 watt iron max.)
Wave soldering	230°C max. for 3 seconds max.
Cleaning (with standard tape seal in place)	Ultrasonic clean 120 seconds maximum.

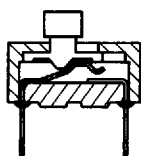
MATERIALS

Cover	UL94V-O, Polyamide
Actuators	UL94V-O, Polyamide
Contacts & Terminals (MDG & MPG)	Gold over nickel plate over brass
Contacts & Terminals (MDS & MPS)	Silver over nickel plate over brass
Sealing	Epoxy
Tape seal	Polyester film

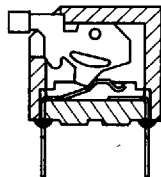
PACKAGING

DIP switches are shipped in standard IC tubes with all actuators in the "OFF" position

SWITCH CROSS SECTIONS



MDG & MDS



MPG & MPS

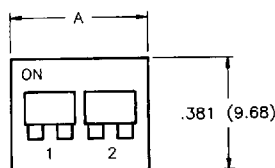
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MDG & MDS Series Slides DPST



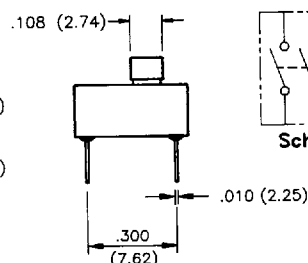
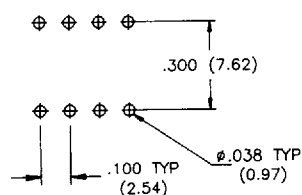
MDG201S

Mechanical Outline



Printed circuit board layout

Hole size and layout tolerance
 $\pm .002$ (0.05) non-cumulative

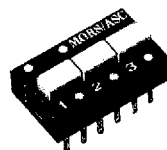


Schematic

Actuator Style & Contact Material	MODEL NO. with no tape seal	MODEL NO. with tape seal	No. of Pos.	'A' Dimension $\pm .012$ (0,30mm)
Standard Actuator	MDG201S	MDG201ST	1	.264 (6,7)
	MDG202S	MDG202ST	2	.461 (11,7)
	MDG203S	MDG203ST	3	.657 (16,7)
	MDG204S	MDG204ST	4	.854 (21,7)
	MDG205S	MDG205ST	5	1.050 (26,7)
	MDG206S	MDG206ST	6	1.250 (31,8)
Gold Contacts	MDG201S	MDG201ST	1	.264 (6,7)
	MDG202S	MDG202ST	2	.461 (11,7)
	MDG203S	MDG203ST	3	.657 (16,7)
	MDG204S	MDG204ST	4	.854 (21,7)
	MDG205S	MDG205ST	5	1.050 (26,7)
	MDG206S	MDG206ST	6	1.250 (31,8)
Standard Actuator	MDS201S	MDS201ST	1	.264 (6,7)
	MDS202S	MDS202ST	2	.461 (11,7)
	MDS203S	MDS203ST	3	.657 (16,7)
	MDS204S	MDS204ST	4	.854 (21,7)
	MDS205S	MDS205ST	5	1.050 (26,7)
	MDS206S	MDS206ST	6	1.250 (31,8)
Silver Contacts	MDS201S	MDS201ST	1	.264 (6,7)
	MDS202S	MDS202ST	2	.461 (11,7)
	MDS203S	MDS203ST	3	.657 (16,7)
	MDS204S	MDS204ST	4	.854 (21,7)
	MDS205S	MDS205ST	5	1.050 (26,7)
	MDS206S	MDS206ST	6	1.250 (31,8)

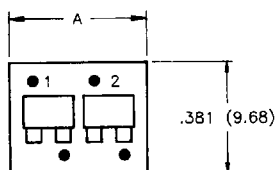
Note: Right angle configurations available- consult factory

MDG & MDS Series Slides SPDT



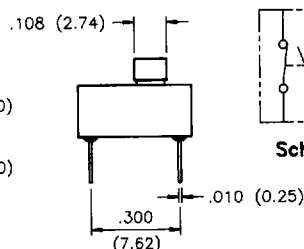
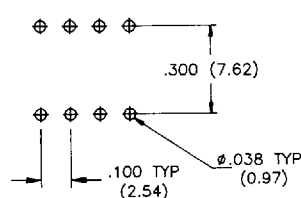
MDG303S

Mechanical Outline



Printed circuit board layout

Hole size and layout tolerance
 $\pm .002$ (0.05) non-cumulative



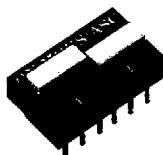
Schematic

Actuator Style & Contact Material	MODEL NO. with no tape seal	MODEL NO. with tape seal	No. of Pos.	'A' Dimension $\pm .012$ (0,30mm)
Standard Actuator	MDG301S	MDG301ST	1	.264 (6,7)
	MDG302S	MDG302ST	2	.461 (11,7)
	MDG303S	MDG303ST	3	.657 (16,7)
	MDG304S	MDG304ST	4	.854 (21,7)
	MDG305S	MDG305ST	5	1.050 (26,7)
	MDG306S	MDG306ST	6	1.250 (31,8)
Gold Contacts	MDG301S	MDG301ST	1	.264 (6,7)
	MDG302S	MDG302ST	2	.461 (11,7)
	MDG303S	MDG303ST	3	.657 (16,7)
	MDG304S	MDG304ST	4	.854 (21,7)
	MDG305S	MDG305ST	5	1.050 (26,7)
	MDG306S	MDG306ST	6	1.250 (31,8)
Standard Actuator	MDS301S	MDS301ST	1	.264 (6,7)
	MDS302S	MDS302ST	2	.461 (11,7)
	MDS303S	MDS303ST	3	.657 (16,7)
	MDS304S	MDS304ST	4	.854 (21,7)
	MDS305S	MDS305ST	5	1.050 (26,7)
	MDS306S	MDS306ST	6	1.250 (31,8)
Silver Contacts	MDS301S	MDS301ST	1	.264 (6,7)
	MDS302S	MDS302ST	2	.461 (11,7)
	MDS303S	MDS303ST	3	.657 (16,7)
	MDS304S	MDS304ST	4	.854 (21,7)
	MDS305S	MDS305ST	5	1.050 (26,7)
	MDS306S	MDS306ST	6	1.250 (31,8)

Note: Right angle configurations available- consult factory

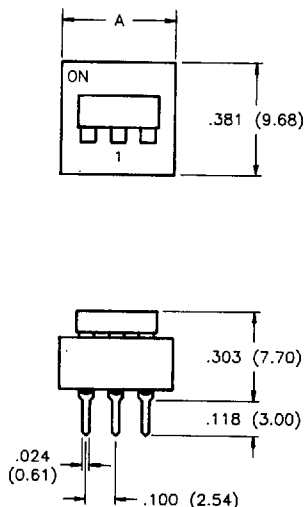
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MDG & MDS Series Slides 3PST



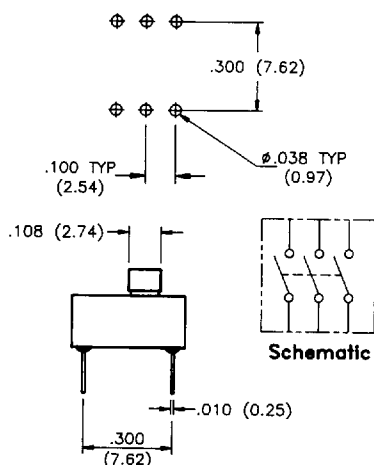
MDS402S

Mechanical Outline



Printed circuit board layout

Hole size and layout tolerance
±.002 (0.05) non-cumulative

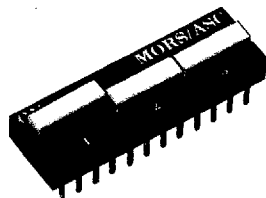


Actuator Style & Contact Material	MODEL NO. with no tape seal	MODEL NO. with tape seal	No. of Pos.	'A' Dimension ±.012 (0,30mm)
Standard Actuator Gold Contacts	MDG401S	MDG401ST	1	.362 (9,2)
	MDG402S	MDG402ST	2	.657 (16,7)
	MDG403S	MDG403ST	3	.953 (24,2)
	MDG404S	MDG404ST	4	1.250 (31,8)
Standard Actuator Silver Contacts	MDS401S	MDS401ST	1	.362 (9,2)
	MDS402S	MDS402ST	2	.657 (16,7)
	MDS403S	MDS403ST	3	.953 (24,2)
	MDS404S	MDS404ST	4	1.250 (31,8)

Note: Right angle configurations available- consult factory

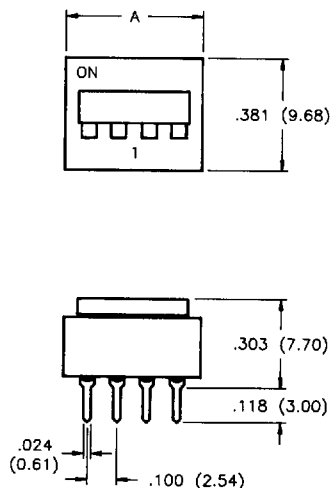
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

MDG & MDS Series Slides 4PST



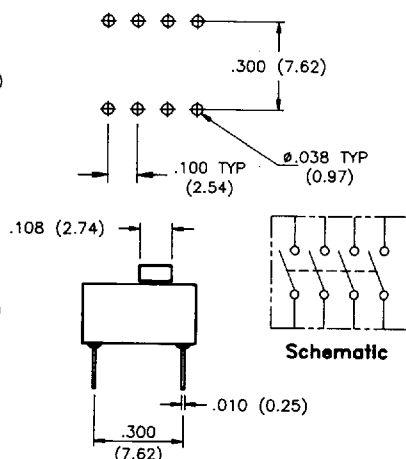
MDS503S

Mechanical Outline



Printed circuit board layout

Hole size and layout tolerance
±.002 (0.05) non-cumulative

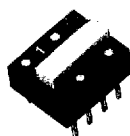


Actuator Style & Contact Material	MODEL NO. with no tape seal	MODEL NO. with tape seal	No. of Pos.	'A' Dimension ±.012 (0,30mm)
Std'd Act. Gold Contacts	MDG501S	MDG501ST	1	.461 (11,7)
	MDG502S	MDG502ST	2	.854 (21,7)
	MDG503S	MDG503ST	3	1.250 (31,8)
Std'd Act. Silver Contacts	MDS501S	MDS501ST	1	.461 (11,7)
	MDS502S	MDS502ST	2	.854 (21,7)
	MDS503S	MDS503ST	3	1.250 (31,8)

Note: Right angle configurations available- consult factory

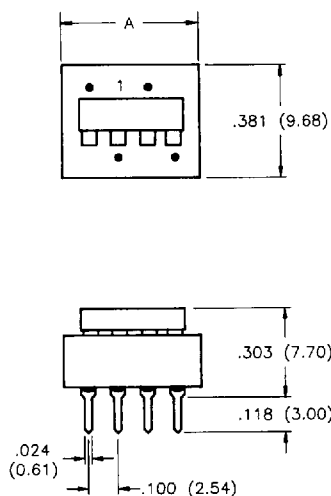
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MDG & MDS Series Slides DPDT



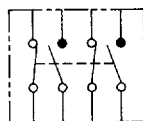
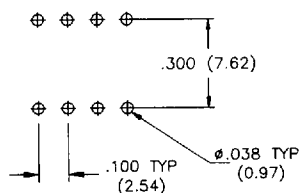
MDG601S

Mechanical Outline



Printed circuit board layout

Hole size and layout tolerance
±.005 (0.12) non-cumulative



Actuator Style & Contact Material	MODEL NO. with no tape seal	MODEL NO. with tape seal	No. of Pos.	'A' Dimension ±.012 (0,30mm)
Std'd Act. Gold Cont.	MDG601S	MDG601ST	1	.461 (11,7)
	MDG602S	MDG602ST	2	.854 (21,7)
	MDG603S	MDG603ST	3	1.250 (31,8)
Sd'd Act. Silver Cont.	MDS601S	MDS601ST	1	.461 (11,7)
	MDS602S	MDS602ST	2	.854 (21,7)
	MDS603S	MDS603ST	3	1.250 (31,8)

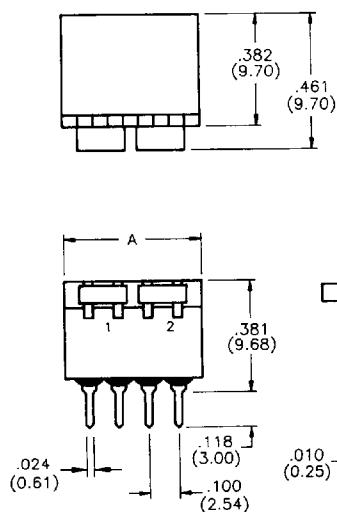
Note: Right angle configurations available- consult factory

MPG & MPS Series Piano DPST



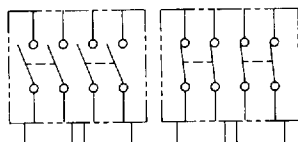
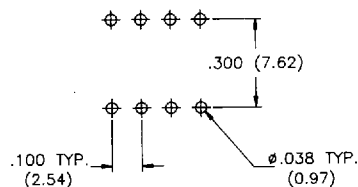
MPS202B

Mechanical Outline



Printed circuit board layout

Hole size and layout tolerance
±.002 (0.05) non-cumulative



(Contacts are open when actuator is in up position.)

(Contacts are closed when actuator is in up position.)

Act. Style, Schematic & Contact Material	MODEL NO. with no tape seal	MODEL NO. with tape seal	No. of Pos.	'A' Dimension ±.012 (0,30mm)
Piano Schematic 'A'	MPG201A	MPG201AT	1	.264 (6,7)
	MPG202A	MPG202AT	2	.461 (11,7)
	MPG203A	MPG203AT	3	.657 (16,7)
	MPG204A	MPG204AT	4	.854 (21,7)
Gold Contacts	MPG205A	MPG205AT	5	1.050 (26,7)
	MPG206A	MPG206AT	6	1.250 (31,8)
Piano Schematic 'A'	MPS201A	MPS201AT	1	.264 (6,7)
	MPS202A	MPS202AT	2	.461 (11,7)
	MPS203A	MPS203AT	3	.657 (16,7)
	MPS204A	MPS204AT	4	.854 (21,7)
Silver Contacts	MPS205A	MPS205AT	5	1.050 (26,7)
	MPS206A	MPS206AT	6	1.250 (31,8)
Piano Schematic 'B'	MPG201B	MPG201BT	1	.264 (6,7)
	MPG202B	MPG202BT	2	.461 (11,7)
	MPG203B	MPG203BT	3	.657 (16,7)
	MPG204B	MPG204BT	4	.854 (21,7)
Gold Contacts	MPG205B	MPG205BT	5	1.050 (26,7)
	MPG206B	MPG206BT	6	1.250 (31,8)
Piano Schematic 'B'	MPS201B	MPS201BT	1	.264 (6,7)
	MPS202B	MPS202BT	2	.461 (11,7)
	MPS203B	MPS203BT	3	.657 (16,7)
	MPS204B	MPS204BT	4	.854 (21,7)
Silver Contacts	MPS205B	MPS205BT	5	1.050 (26,7)
	MPS206B	MPS206BT	6	1.250 (31,8)

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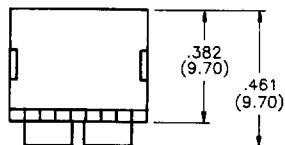
A

**MPG & MPS
Series Piano
SPDT**



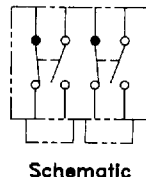
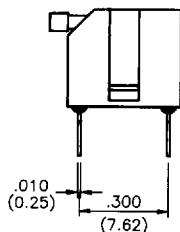
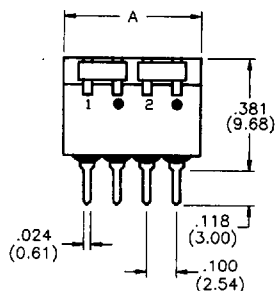
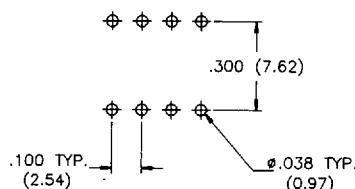
MPG302B

Mechanical Outline



Printed circuit board layout

Hole size and layout tolerance
 $\pm .002$ (0.05) non-cumulative

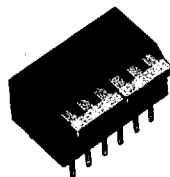


Schematic

Actuator Style & Contact Material	MODEL NO. with no tape seal	MODEL NO. with tape seal	No. of Pos.	'A' Dimension $\pm .012$ (0,30mm)
Piano	MPG301B	MPG301BT	1	.264 (6,7)
	MPG302B	MPG302BT	2	.461 (11,7)
	MPG303B	MPG303BT	3	.657 (16,7)
	MPG304B	MPG304BT	4	.854 (21,7)
Gold Contacts	MPG305B	MPG305BT	5	1.050 (26,7)
	MPG306B	MPG306BT	6	1.250 (31,8)
Piano	MPS301B	MPS301BT	1	.264 (6,7)
	MPS302B	MPS302BT	2	.461 (11,7)
	MPS303B	MPS303BT	3	.657 (16,7)
	MPS304B	MPS304BT	4	.854 (21,7)
Silver Contacts	MPS305B	MPS305BT	5	1.050 (26,7)
	MPS306B	MPS306BT	6	1.250 (31,8)

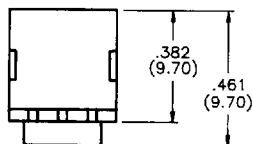
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

**MPG & MPS
Series Piano
3PST**



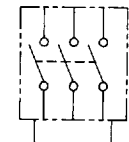
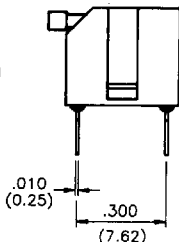
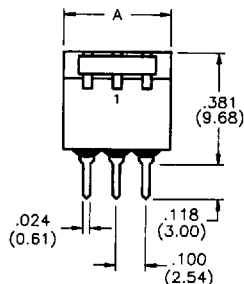
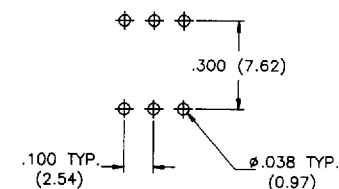
MPS402B

Mechanical Outline

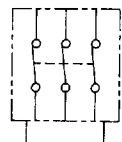


Printed circuit board layout

Hole size and layout tolerance
 $\pm .002$ (0.05) non-cumulative



Schematic 'A'
(Contacts are
open when
actuator is in
up position.)

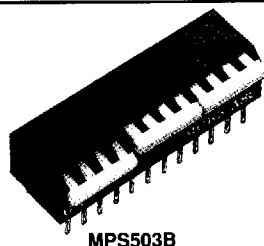


Schematic 'B'
(Contacts are
closed when
actuator is in
up position.)

Act. Style, Schematic & Contact Material	MODEL NO. with no tape seal	MODEL NO. with tape seal	No. of Pos.	'A' Dimension $\pm .012$ (0,30mm)
Piano Schem. 'A'	MPG401A	MPG401AT	1	.362 (9,2)
	MPG402A	MPG402AT	2	.657 (16,7)
	MPG403A	MPG403AT	3	.953 (24,2)
	MPG404A	MPG404AT	4	1.250 (31,8)
Gold Contacts	MPG405A	MPG405AT	5	1.050 (26,7)
	MPG406A	MPG406AT	6	1.250 (31,8)
Piano Schem. 'A'	MPS401A	MPS401AT	1	.362 (9,2)
	MPS402A	MPS402AT	2	.657 (16,7)
	MPS403A	MPS403AT	3	.953 (24,2)
	MPS404A	MPS404AT	4	1.250 (31,8)
Silver Contacts	MPS405A	MPS405AT	5	1.050 (26,7)
	MPS406A	MPS406AT	6	1.250 (31,8)
Piano Schem. 'B'	MPG401B	MPG401BT	1	.362 (9,2)
	MPG402B	MPG402BT	2	.657 (16,7)
	MPG403B	MPG403BT	3	.953 (24,2)
	MPG404B	MPG404BT	4	1.250 (31,8)
Gold Contacts	MPG405B	MPG405BT	5	1.050 (26,7)
	MPG406B	MPG406BT	6	1.250 (31,8)
Piano Schem. 'B'	MPS401B	MPS401BT	1	.362 (9,2)
	MPS402B	MPS402BT	2	.657 (16,7)
	MPS403B	MPS403BT	3	.953 (24,2)
	MPS404B	MPS404BT	4	1.250 (31,8)
Silver Contacts	MPS405B	MPS405BT	5	1.050 (26,7)
	MPS406B	MPS406BT	6	1.250 (31,8)

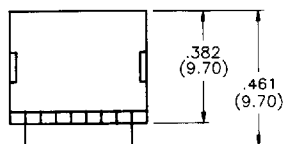
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MPG & MPS Series Piano 4PST



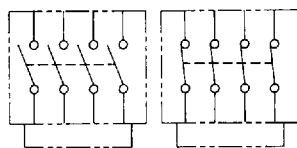
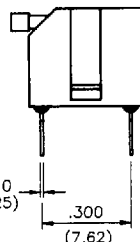
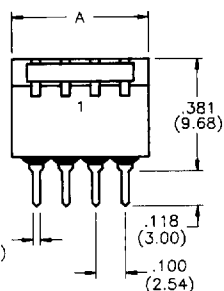
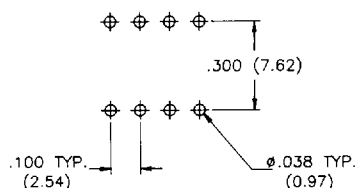
MPS503B

Mechanical Outline



Printed circuit board layout

Hole size and layout tolerance
 $\pm .002$ (0.05) non-cumulative

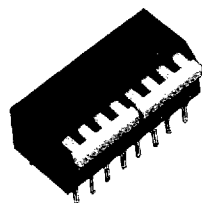


Schematic 'A' Schematic 'B'

(Contacts are open when actuator is in up position.)
(Contacts are closed when actuator is in up position.)

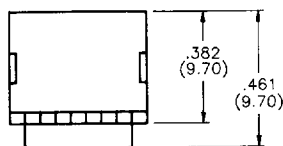
Act. Style, Schematic & Contact Material	MODEL NO. with no tape seal	MODEL NO. with tape seal	No. of Pos.	'A' Dimension $\pm .012$ (0.30mm)
Piano Schem. 'A' Gold Cont.	MPG501A MPG502A MPG503A	MPG501AT MPG502AT MPG503AT	1 2 3	.461 (11,7) .854 (21,7) 1.250 (31,8)
Piano Schem. 'A' Silver Cont.	MPS501A MPS502A MPS503A	MPS501AT MPS502AT MPS503AT	1 2 3	.461 (11,7) .854 (21,7) 1.250 (31,8)
Piano Schem. 'B' Gold Cont.	MPG501B MPG502B MPG503B	MPG501BT MPG502BT MPG503BT	1 2 3	.461 (11,7) .854 (21,7) 1.250 (31,8)
Piano Schem. 'B' Silver Cont.	MPS501B MPS502B MPS503B	MPS501BT MPS502BT MPS503BT	1 2 3	.461 (11,7) .854 (21,7) 1.250 (31,8)

MPG & MPS Series Piano DPDT



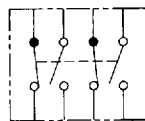
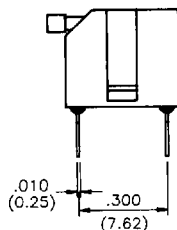
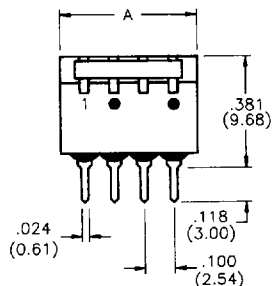
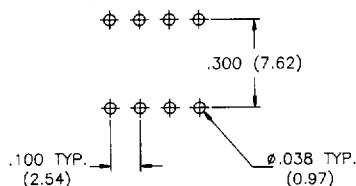
MPS602B

Mechanical Outline



Printed circuit board layout

Hole size and layout tolerance
 $\pm .002$ (0.05) non-cumulative



Schematic

Actuator Style & Contact Material	MODEL NO. with no tape seal	MODEL NO. with tape seal	No. of Pos.	'A' Dimension $\pm .012$ (0.30mm)
Piano Gold Cont.	MPG601B MPG602B MPG603B	MPG601BT MPG602BT MPG603BT	1 2 3	.461 (11,7) .854 (21,7) 1.250 (31,8)
Piano Silver Cont.	MPS601B MPS602B MPS603B	MPS601BT MPS602BT MPS603BT	1 2 3	.461 (11,7) .854 (21,7) 1.250 (31,8)

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