

# DS, DA & DP SERIES SPST STANDARD DIP SWITCHES

## FEATURES

High reliability.  
Self-cleaning contacts.  
Multi-positions.  
Process compatible with tape seal.  
Dual in-line .100" x .300" term. spacing.

## GENERAL SPECIFICATIONS

### ELECTRICALS

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

### MECHANICALS, THERMALS

Mechanical life	2000 cycles min. per switch
Operating force	800 grams max. (DP Series only - 400 grams max.)
Vibration	10-55 Hz. per MIL-STD-202F METHOD 201A
Shock	50 g (peak value) for 11 msec. per MIL-STD-202F, METHOD 213B
Operating temperature range	-20°C to 70°C

### SOLDERING & CLEANING RECOMMENDATIONS\*

Hand soldering	320°C max. for 2 seconds max. (30 watt iron max.)
Wave soldering	260°C max. for 5 seconds max.
Force rinse, high agitation or triple bath cleaning method	Freon TF or TE. When vapor methods are used, do not subject switch to solvents above 51°C.

\* Note: keep switches in "OFF" position during soldering and cleaning for best results

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## MATERIALS

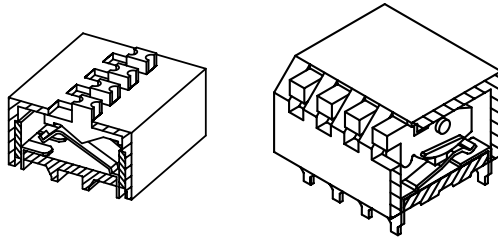
Base	UL94V-O, glass fiber filled PBT, black
Cover	UL94V-O, glass fiber filled PBT, red
Actuators	UL94V-O, glass fiber filled PBT, white
Contacts & Terms.	Gold over nickel plated phosphor bronze
Sealing	Epoxy
Tape seal	Polyester film

## PACKAGING

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

## SWITCH CROSS SECTIONS

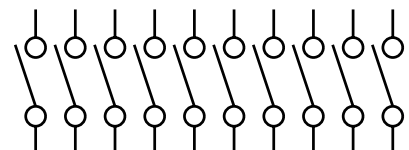
Normally open contact system



DS & DA

DP

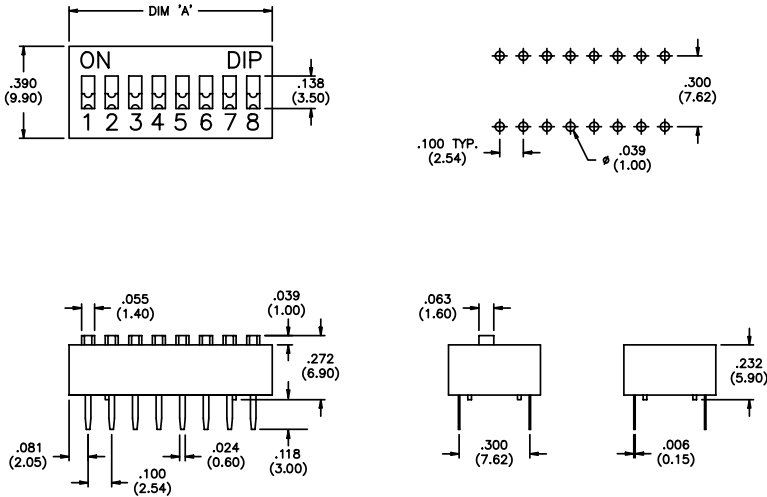
## SCHEMATIC (TYPICAL)



See tabulations on following pages for number of positions available (10 shown)

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

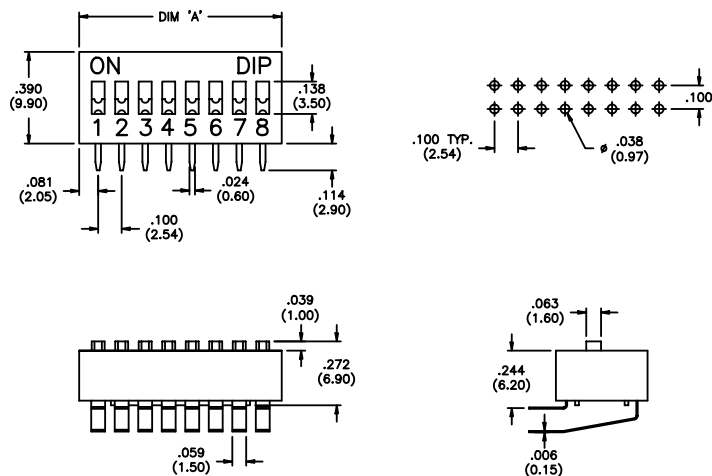
## DS Series Slides



Actuator Style & Terminal Mat'l.	MODEL NO. with no tape seal	MODEL NO. with tape seal	No. of Pos.	'A' Dimension +.008/-.000" (+0.2/-0.0mm)
Raised Actuator	DS02	DS02T	2	.254 (6,45)
	DS03	DS03T	3	.354 (8,98)
	DS04	DS04T	4	.454 (11,52)
Gold Terms.	DS05	DS05T	5	.554 (14,08)
	DS06	DS06T	6	.654 (16,60)
	DS07	DS07T	7	.754 (19,14)
	DS08	DS08T	8	.854 (21,68)
	DS09	DS09T	9	.954 (24,22)
	DS10	DS10T	10	1.054 (26,77)
Recessed Actuator	DS12	DS12T	12	1.254 (31,85)
	DSR02	DSR02T	2	.254 (6,45)
	DSR03	DSR03T	3	.354 (8,98)
Gold Terms.	DSR04	DSR04T	4	.454 (11,52)
	DSR05	DSR05T	5	.554 (14,08)
	DSR06	DSR06T	6	.654 (16,60)
	DSR07	DSR07T	7	.754 (19,14)
	DSR08	DSR08T	8	.854 (21,68)
	DSR09	DSR09T	9	.954 (24,22)
DSR10	DSR10T	10	1.054 (26,77)	
DSR12	DSR12T	12	1.254 (31,85)	

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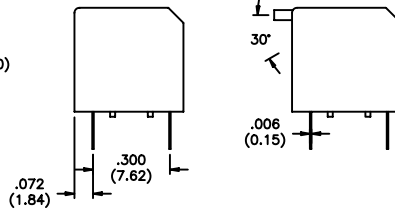
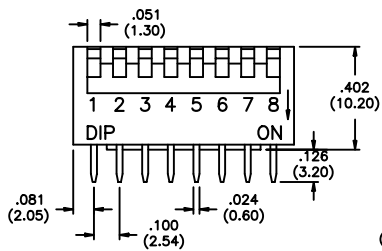
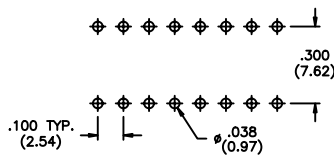
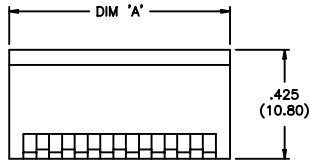
## DA Series Right angle



Actuator Style	MODEL NO. with no tape seal	MODEL NO. with tape seal	No. of Pos.	'A' Dimension +.008/-.000" (+0.2/-0.0mm)
Raised Actuator	DA04	DA04T	4	.454 (11,52)
	DA05	DA05T	5	.554 (14,08)
	DA06	DA06T	6	.654 (16,60)
	DA07	DA07T	7	.754 (19,14)
	DA08	DA08T	8	.854 (21,68)
	DA09	DA09T	9	.954 (24,22)
	DA10	DA10T	10	1.054 (26,77)
	DA12	DA12T	12	1.254 (31,85)

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**DP Series Piano**



Actuator Style	MODEL NO. with no tape seal	MODEL NO. with tape seal	No. of Pos.	'A' Dimension $\pm .008/-0.000$ " (+0.2/-0.0mm)
Recessed Actuator	<b>DP02</b>	<b>DP02T</b>	2	.261 (6,64)
	<b>DP03</b>	<b>DP03T</b>	3	.361 (9,18)
	<b>DP04</b>	<b>DP04T</b>	4	.461 (11,72)
	<b>DP05</b>	<b>DP05T</b>	5	.561 (14,25)
	<b>DP06</b>	<b>DP06T</b>	6	.661 (16,80)
	<b>DP07</b>	<b>DP07T</b>	7	.761 (19,34)
	<b>DP08</b>	<b>DP08T</b>	8	.861 (21,88)
	<b>DP09</b>	<b>DP09T</b>	9	.961 (24,42)
	<b>DP10</b>	<b>DP10T</b>	10	1.061 (26,96)
	<b>DP12</b>	<b>DP12T</b>	12	1.261 (32,04)
Extended Actuator	<b>DPL02</b>	<b>DPL02T</b>	2	.261 (6,64)
	<b>DPL03</b>	<b>DPL03T</b>	3	.361 (9,18)
	<b>DPL04</b>	<b>DPL04T</b>	4	.461 (11,72)
	<b>DPL05</b>	<b>DPL05T</b>	5	.561 (14,25)
	<b>DPL06</b>	<b>DPL06T</b>	6	.661 (16,80)
	<b>DPL07</b>	<b>DPL07T</b>	7	.761 (19,34)
	<b>DPL08</b>	<b>DPL08T</b>	8	.8601 (21,88)
	<b>DPL09</b>	<b>DPL09T</b>	9	.961 (24,42)
	<b>DPL10</b>	<b>DPL10T</b>	10	1.061 (26,96)
	<b>DPL12</b>	<b>DPL12T</b>	12	1.261 (32,04)

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Note: Push up for ON position is also available on special order - consult factory.

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