

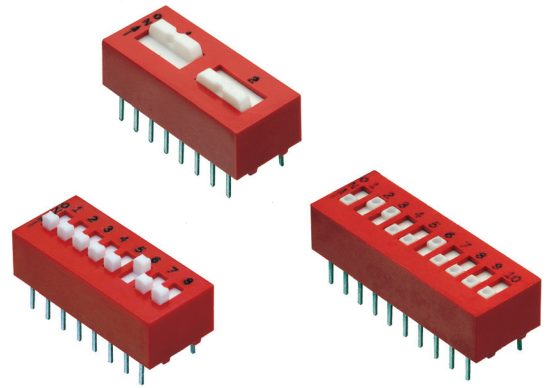
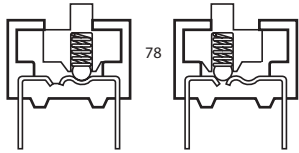


**THE DATASHEET OF**  
**78B09S**



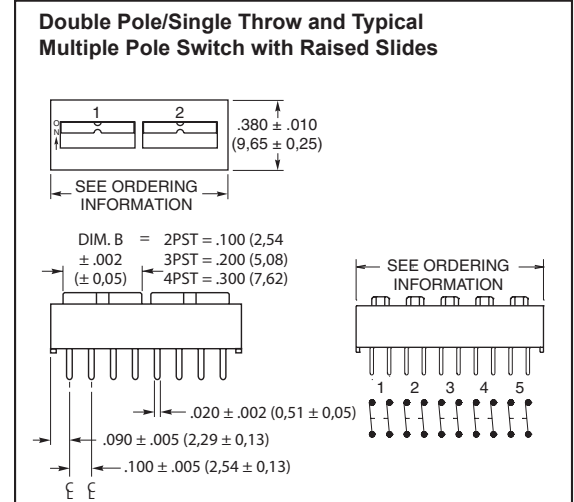
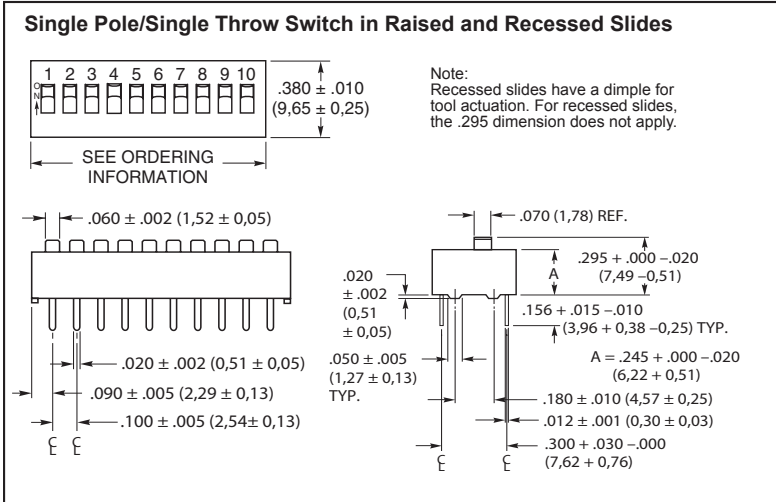
## SERIES 78 SPST To 4PST Slide

- ### FEATURES
- Raised and Recessed Slides
  - SPST, 2PST, 3PST, 4PST
  - Sealed Base Standard
  - Spring and Ball Contact
  - Top Tape Seal Option

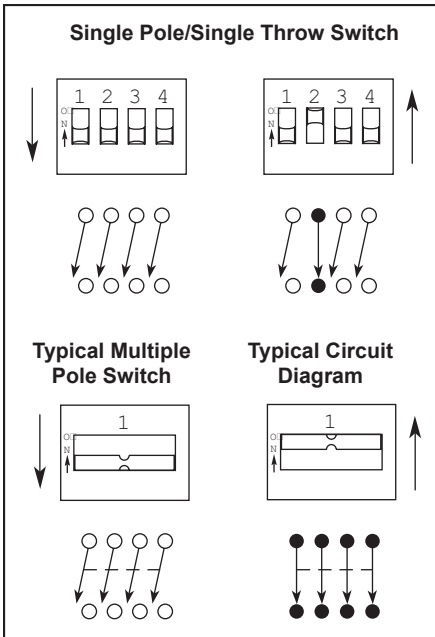


DIP Switches

### DIMENSIONS In inches (and millimeters)



### CIRCUITRY



For switches with 5, 6, 7, 8, or 10PST circuitry, contact Grayhill.

### ORDERING INFORMATION

Circuitry	No. of Positions	Length Inches	Length Metric	No./ Tube	Raised Slides*	Recessed Slides*	
SPST	2	0.280"	7,1mm	35	78B02T	78RB02T	
	3	0.380"	9,7mm	27	78B03T	78RB03T	
	4	0.480"	12,2mm	21	78B04T	78RB04T	
	5	0.580"	14,7mm	18	78B05T	78RB05T	
	6	0.680"	17,3mm	15	78B06T	78RB06T	
	7	0.780"	19,8mm	13	78B07T	78RB07T	
	8	0.880"	22,4mm	12	78B08T	78RB08T	
	9	0.980"	24,9mm	10	78B09T	78RB09T	
	10	1.080"	27,4mm	9	78B10T	78RB10T	
	12	1.280"	32,5mm	8	78B12T	78RB12T	
	2PST	1	0.280"	7,1mm	35	78F01T	Recessed Slides Not Available
		2	0.480"	12,2mm	21	78F02T	
3		0.680"	17,3mm	15	78F03T		
4		0.880"	22,4mm	12	78F04T		
5		1.080"	27,4mm	9	78F05T		
6		1.280"	32,5mm	8	78F06T		
3PST	1	0.380"	9,7mm	27	78G01T	Recessed Slides Not Available	
	2	0.680"	17,3mm	15	78G02T		
	3	0.980"	24,9mm	10	78G03T		
4PST	1	0.480"	12,2mm	21	78H01T	Recessed Slides Not Available	
	2	0.880"	22,4mm	12	78H02T		

\*A top tape seal is required for switches that are machine soldered or heavily cleaned after hand soldering. To order top seal versions, add "S" to the Grayhill part number.

**Available from your local Grayhill Distributor.**  
For prices and discounts, contact a local Sales Office, an authorized local Distributor or Grayhill.

**SPECIFICATIONS: Standard Styles**

Ratings	76	78	90B
<b>Mechanical Life:</b> Operations per switch position	2,000	2,000	2,000
<b>Make-and-break Current Rating:</b> Operations per switch position at these resistive loads 1 mA, 5 Vdc; 50 mA, 30 Vdc; or 150 mA, 30 Vdc:	2,000	2,000	—
10 mA, 30 Vdc; or 10 mA, 50 mVdc:	—	—	2,000
10 mA, 50 mVdc; or 25 mA, 24 Vdc; or 100 mA, 6 Vdc:	—	—	2,000
<b>Contact Resistance:</b> Initially:	≤ 30 mΩ	≤ 30 mΩ	≤ 20 mΩ
After life, at 10 mA, 50 mVdc, open circuit:	≤ 100 mΩ	≤ 100 mΩ	≤ 100 mΩ
<b>Insulation Resistance:</b>			
Minimum, at 100 Vdc between adjacent closed contacts and also across open switch contacts			
Initially (Mohms):	5,000	5,000	5,000
After life (Mohms):	1,000	1,000	1,000
<b>Dielectric Strength:</b> Minimum voltage (AC, RMS) measured between adjacent closed contacts and also across open switch contacts.			
Initially:	750 V	750 V	500 V
After life:	500 V	500 V	500 V
<b>Current Carry Rating:</b> Maximum rise of 20°C	5 A	4 A	3 A
<b>Switch Capacitance:</b> At 1 megahertz	2 pF	2 pF	2 pF
<b>Operating Temperature Range:</b>	-40°C to + 85°C	-40°C to + 85°C	-40°C to + 85°C
<b>Storage Temperature Range:</b>	-55°C to + 85°C	-55°C to + 85°C	-55°C to + 85°C

**Mechanical Ratings**

**Vibration Resistance:** Per Method 204, Test Condition B, 1 mS opening (10 mS allowed)  
**Mechanical Shock:** Per Method 213, Test Condition A, 1 mS opening (10 mS allowed)  
**Thermal Shock Resistance:** Per specification; no failures; passes contact resistance.  
**Terminal Strength:** Per specification  
**Thermal Aging:** 1,000 hours at 85°C; no failures.

**Environmental Ratings**

Meets all requirements of MIL-S-83504. Where Grayhill performance is superior, the MIL spec is listed in parentheses.  
**Moisture Resistance:** Per specification, Method 106.

**Soldering Information**

Series 90 MIDIP® and Series 76 recessed rocker (76RSB style) sealed switches have been tested to EIA Standard RS-448-2. Similar performance can be expected from other sealed Series 76 and 78 DIP switches.  
**Solderability:** Per MIL-STD-202, Method 208  
**Resistance to Soldering Heat:** 76RSB: Passes EIA Standard using two, four, and six second soldering time. 90: Per MIL-S-83504, six second test.  
**Fluxing:** Per EIA RS-448-2 with flux touching switch body.  
**Cleaning:** 76, 78 and 90 Series tape sealed products: Passes immersion test using water/detergent. Acceptable solutions include 1-1-1 trichlorethane, freon, (TF, TE, or TMS), isopropyl alcohol, detergent (140°F maximum). Terpene acceptable for Series 90 only. Solutions which are not recommended include acetone, methylene chloride, freon TMC.

**Materials and Finishes**

**Shorting Member (Ball):** Brass, gold-plated 10 microinches minimum over nickel barrier.  
**Base Contacts:** Copper alloy, gold-plated over nickel barrier.  
**Terminals:** Copper alloy, matte-tin plated over nickel barrier.  
**Non-Conductive Parts:** Thermoplastic (UL94V-O)  
**Potting Material:** Epoxy, 76,78 only.  
**Protective Cover:** 76,78, only-Polycarbonate.

**Tape and Reel Packaging**

**Tape Seal:**  
 76, 78: Polyester film  
 90: Polyimide film  
**Tape Seal Integrity:** Passes gross leak test using 125°C flourinert for 20 seconds minimum. Reference MIL-STD-202, Method 112.


## Looking for pricing, stock, or lifecycle information?

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