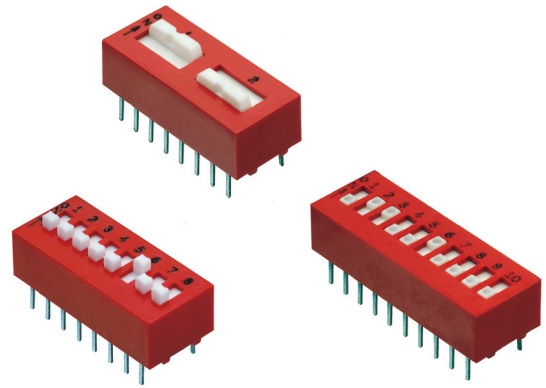
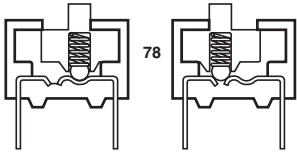


## SERIES 78 SPST To 4PST Slide

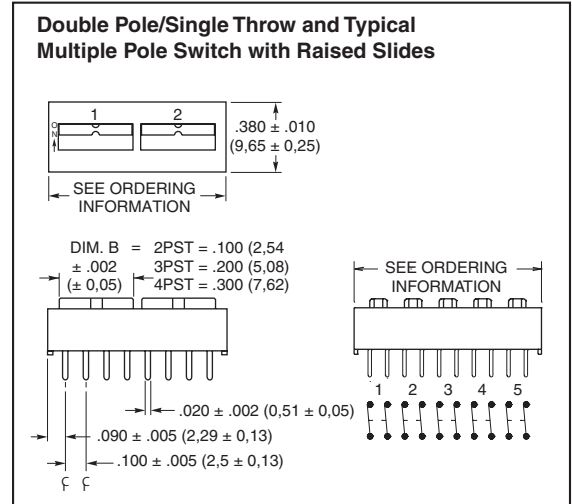
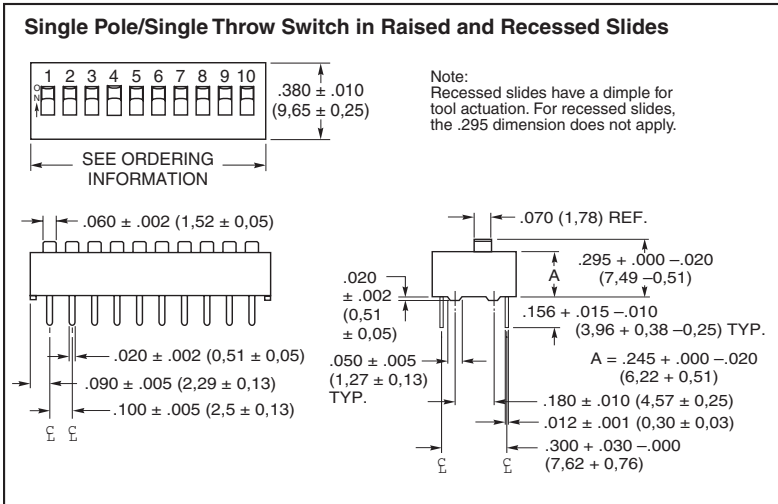
### FEATURES

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

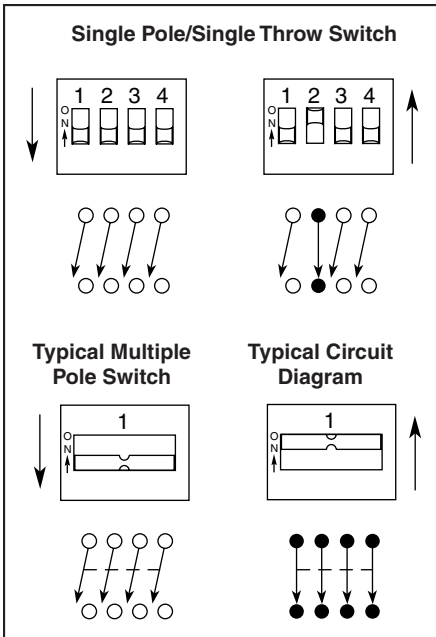


DIP Switches

### 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	78B02	78RB02	
	3	0.380"	9,7mm	27	78B03	78RB03	
	4	0.480"	12,2mm	21	78B04	78RB04	
	5	0.580"	14,7mm	18	78B05	78RB05	
	6	0.680"	17,3mm	15	78B06	78RB06	
	7	0.780"	19,8mm	13	78B07	78RB07	
	8	0.880"	22,4mm	12	78B08	78RB08	
	9	0.980"	24,9mm	10	78B09	78RB09	
	10	1.080"	27,4mm	9	78B10	78RB10	
	12	1.280"	32,5mm	8	78B12	78RB12	
	2PST	1	0.280"	7,1mm	35	78F01	Recessed Slides Not Available
		2	0.480"	12,2mm	21	78F02	
3		0.680"	17,3mm	15	78F03		
4		0.880"	22,4mm	12	78F04		
5		1.080"	27,4mm	9	78F05		
6		1.280"	32,5mm	8	78F06		
3PST	1	0.380"	9,7mm	27	78G01	Recessed Slides Not Available	
	2	0.680"	17,3mm	15	78G02		
	3	0.980"	24,9mm	10	78G03		
4PST	1	0.480"	12,2mm	21	78H01	Recessed Slides Not Available	
	2	0.880"	22,4mm	12	78H02		

\*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
Mechanical Life: Operations per switch position	2,000	2,000	2,000
Make-and-break Current Rating: 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
Contact Resistance: Initially:	≤ 30 mΩ	≤ 30 mΩ	≤ 20 mΩ
After life, at 10 mA, 50 mVdc, open circuit:	≤ 100 mΩ	≤ 100 mΩ	≤ 100 mΩ
Insulation Resistance:			
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
Dielectric Strength: 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
Current Carry Rating: Maximum rise of 20°C	5 A	4 A	3 A
Switch Capacitance: At 1 megahertz	2 pF	2 pF	2 pF
Operating Temperature Range:	-40°C to + 85°C	-40°C to + 85°C	-40°C to + 85°C
Storage Temperature Range:	-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 MIL-STD-202, 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 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 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.

### Recommended Soldering Conditions:

Reflow Soldering Profile:

(260°C Peak Temperature)



**WAVE SOLDERING:** 260°C maximum solder temperature for 5 seconds max.

\*\* Note: 100% matte tin terminal plating does not meet MIL-S-83504 for lead content.