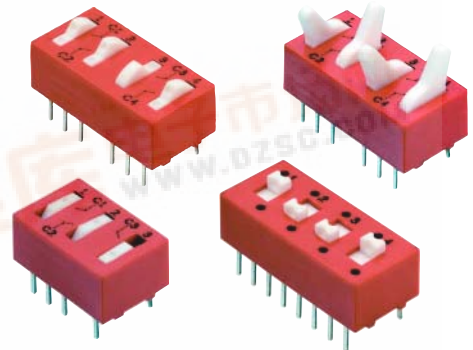


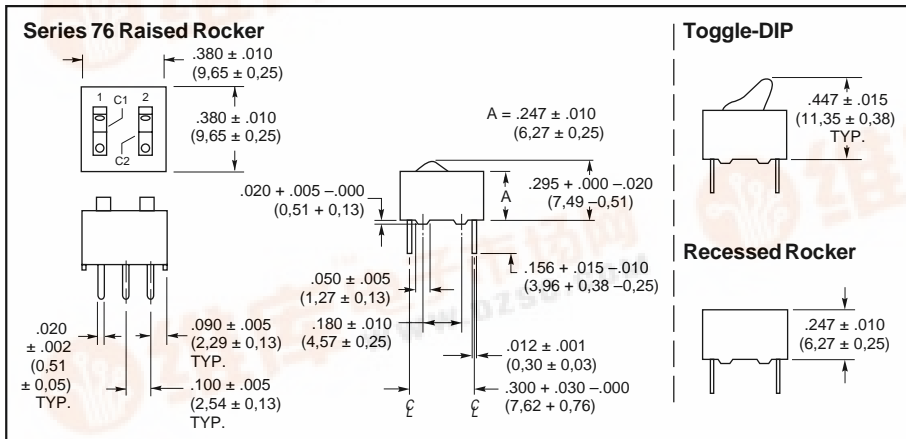
**SERIES 76 and 78**  
**SPDT**

**FEATURES**

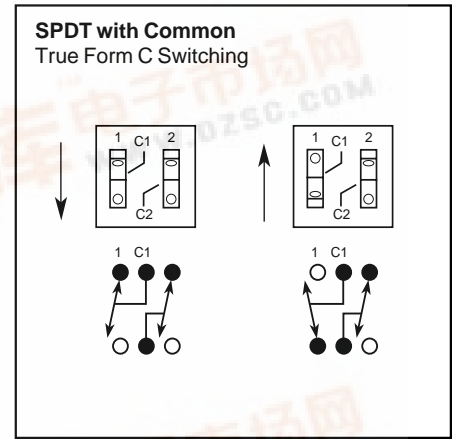
- Raised and Recessed Rocker, and Toggle Actuated Styles
- SPDT with a Common Pole, or SPDT with 2 Isolated Circuits
- Spring and Ball Contact
- Top Tape Seal Option for Most Styles



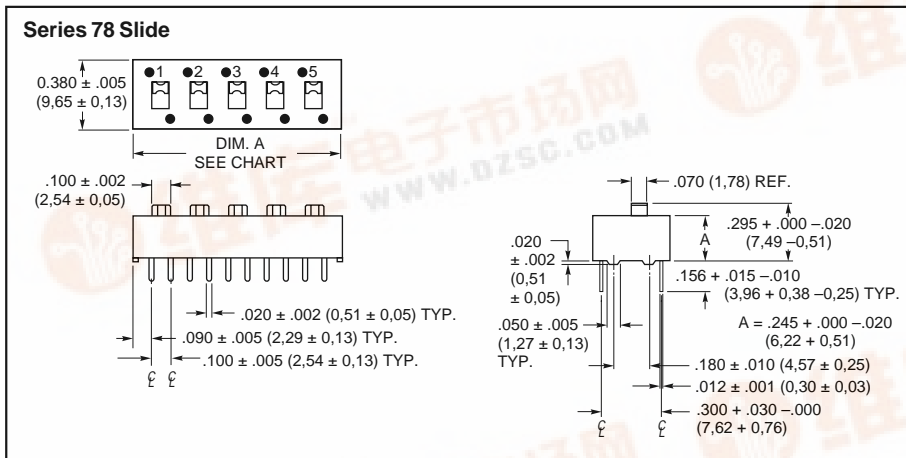
**DIMENSIONS: Series 76** In inches (and millimeters)



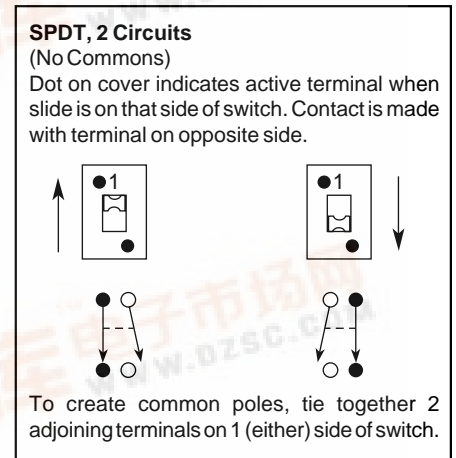
**CIRCUITRY: Series 76**



**DIMENSIONS: Series 78** In inches (and millimeters)



**CIRCUITRY: Series 78**



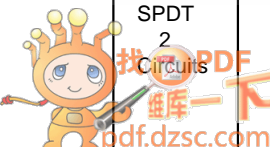
**ORDERING INFORMATION**

Circuitry	Positions	Length Inches	Length Metric	No./ Tube	Raised Type*	Recessed Rockers*	Toggle-DIP*
SPDT Form C	2	0.380"	9,7mm	27	76SC02	76RSC02	76STC02
	3	0.580"	14,7mm	18	76SC03	76RSC03	76STC03
	4	0.780"	19,8mm	13	76SC04	76RSC04	76STC04
SPDT 2 Circuits	1	0.280"	7,1mm	35	78J01	—	—
	2	0.480"	12,2mm	21	78J02	—	—
	3	0.680"	17,3mm	15	78J03	—	—
	4	0.880"	22,4mm	12	78J04	—	—
	5	1.080"	27,4mm	9	78J05	—	—
	6	1.280"	32,5mm	8	78J06	—	—

**ADDITIONAL INFORMATION**

For Specifications, see page B-16. For Options and Accessories, see pages B-20 and B-21.

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



\*To order other configurations, add "D" to the Grayhill part number. Not available on Toggle-DIP.

**SPECIFICATIONS: Standard and Military Qualified Styles**

<b>Ratings</b>	<b>76</b>	<b>78</b>	<b>90B</b>
<b>Mechanical Life:</b> Operations per switch position	20,000	20,000	5,000
<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:	10,000	10,000	—
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

DIP Switches

**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:** 76RSB, 90: 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 10 microinches minimum over nickel barrier.  
**Terminals:** Copper alloy, solder-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 or foil  
**Tape Seal Integrity:** Passes gross leak test using 125°C flourinert for 20 seconds minimum. Reference MIL-STD-202, Method 112.