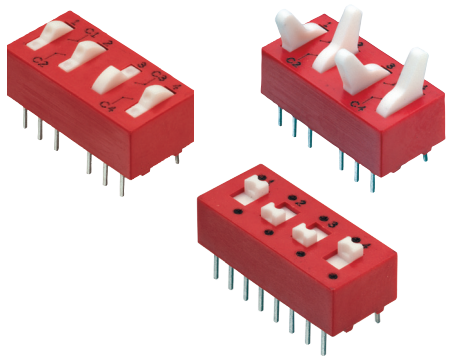
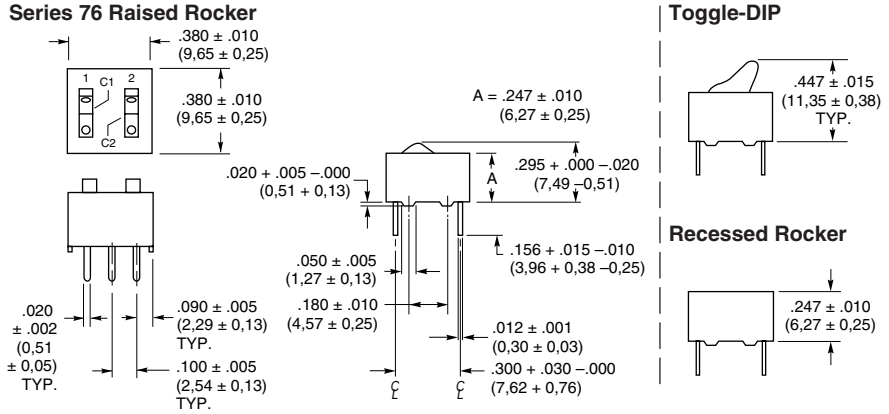
SERIES 76 and 78
SPDT

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

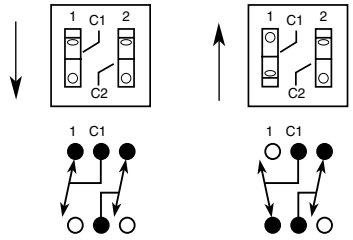


DIMENSIONS: Series 76 In inches (and millimeters)

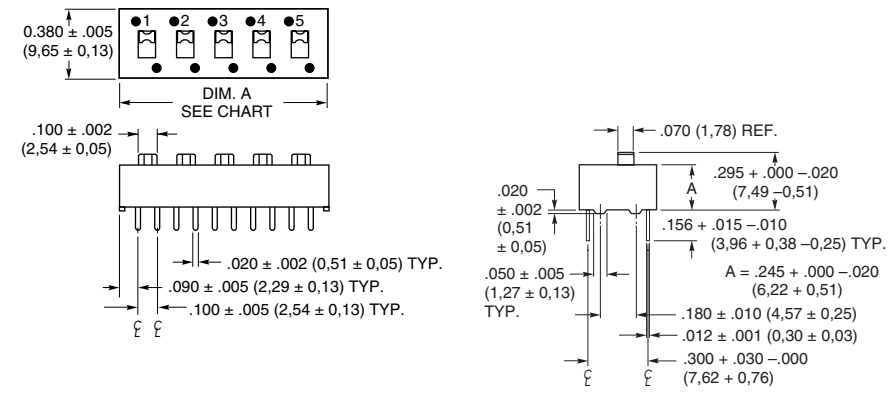


CIRCUITRY: Series 76

SPDT with Common
True Form C Switching

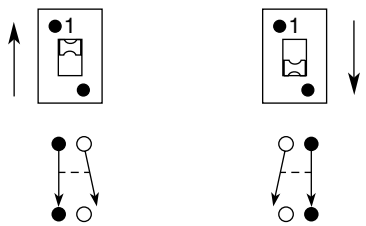


DIMENSIONS: Series 78 In inches (and millimeters)



CIRCUITRY: Series 78

SPDT, 2 Circuits
(No Commons)
Dot on cover indicates active terminal when slide is on that side of switch. Contact is made with terminal on opposite side.



To create common poles, tie together 2 adjoining terminals on 1 (either) side of switch.

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	**76SC02T**	**76RSC02T**	**76STC02T**
	3	0.580"	14,7mm	18	**76SC03T**	**76RSC03T**	**76STC03T**
	4	0.780"	19,8mm	13	**76SC04T**	**76RSC04T**	**76STC04T**
SPDT 2 Circuits	1	0.280"	7,1mm	35	**78J01T**	—	—
	2	0.480"	12,2mm	21	**78J02T**	—	—
	3	0.680"	17,3mm	15	**78J03T**	—	—
	4	0.880"	22,4mm	12	**78J04T**	—	—
	5	1.080"	27,4mm	9	**78J05T**	—	—
	6	1.280"	32.5mm	8	**78J06T**		

*To order top seal versions, add "S" before the "T" in the Grayhill part number.
Not available on Toggle-DIP.

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

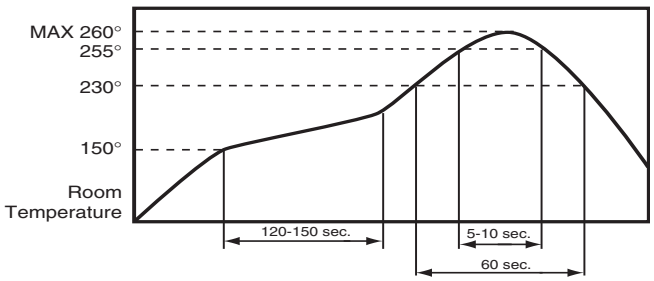
Shorting Member (Ball): Brass, gold-plated over nickel barrier.
Base Contacts: Copper alloy, gold-plated over nickel barrier.
Terminals: Copper alloy, matte tin plated over nickel barrier.
Non-Conductive Parts: Thermoplastic (UL94V-O)
Potting Material: Epoxy, 76,78 only.
Protective Cover: 76,78, only-Polycarbonate.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

REFLOW TEMPERATURE PROFILE:



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