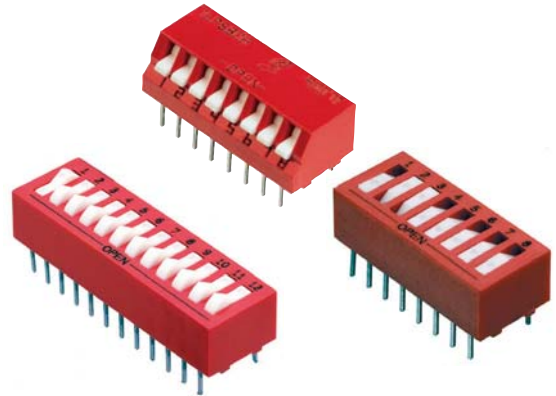


## SERIES 76

### SPST Rocker

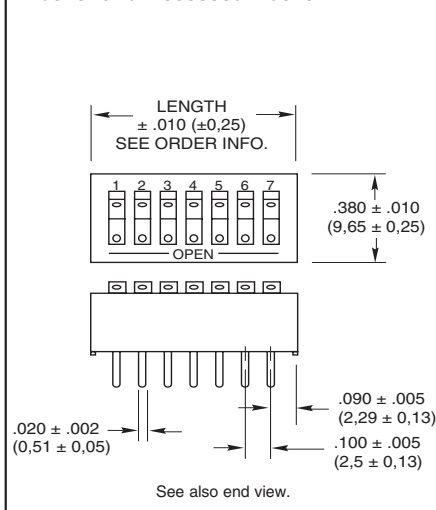
#### FEATURES

- Raised and Recessed, Rocker and PIANO-DIP® Styles
- Sealed Base Standard
- Spring and Ball Contact
- Top Tape Seal Option

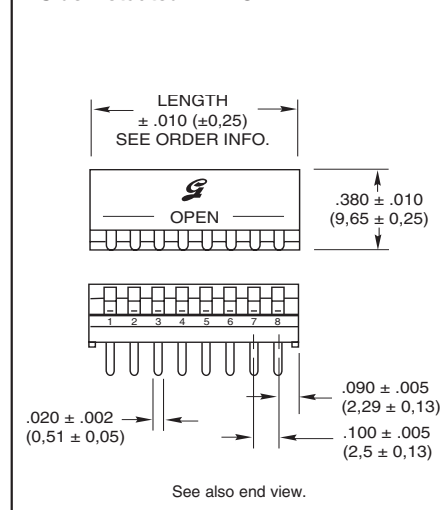


#### DIMENSIONS In inches (and millimeters)

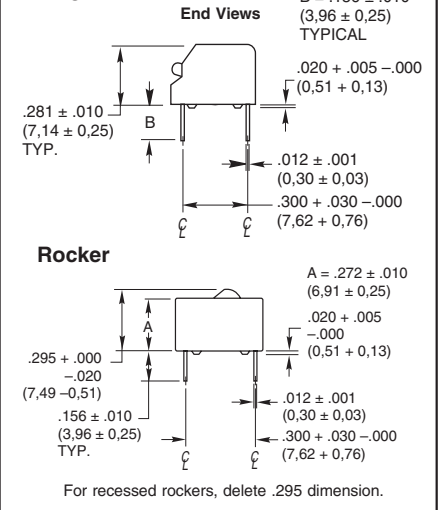
##### Rocker and Recessed Rocker



##### Side Actuated PIANO-DIP®

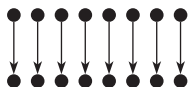


##### PIANO-DIP®



#### CIRCUITRY

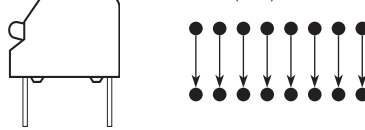
##### Styles 76SB and 76RSB



Typical circuit diagram with actuator in the closed position.

##### Style 76PSB

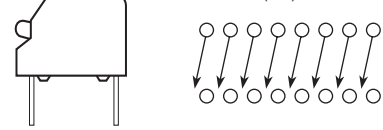
UP IS OPEN (OFF)



Actuator shown in the down position.

##### Styles 76PRB

UP IS CLOSED (ON)



Actuator shown in the down position.

#### ORDERING INFORMATION

| Series                           |  | No. of Pos. | Length (Inches) | Length (Metric) | No./Tube |
|----------------------------------|--|-------------|-----------------|-----------------|----------|
| Switch Style: SB = Raised Rocker |  | 2           | 0.280"          | 7,1 mm          | 35       |
| RSB = Recessed Rocker            |  | 3           | 0.380"          | 9,7 mm          | 27       |
| PSB = Piano-DIP (Up is Off)      |  | 4           | 0.480"          | 12,2 mm         | 21       |
| PRB = Piano-DIP (Up is On)       |  | 5           | 0.580"          | 14,7 mm         | 18       |
|                                  |  | 6           | 0.680"          | 17,3 mm         | 15       |
|                                  |  | 7           | 0.780"          | 19,8 mm         | 13       |
|                                  |  | 8           | 0.880"          | 22,4 mm         | 12       |
|                                  |  | 9           | 0.980"          | 24,9 mm         | 10       |
|                                  |  | 10          | 1.080"          | 27,4 mm         | 9        |
|                                  |  | 12          | 1.280"          | 32,5 mm         | 8        |

76RSB04ST

T = RoHS compliant  
Sealed\*: S = Tape Seal  
Number of Positions: 02 through 10, 12

\*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

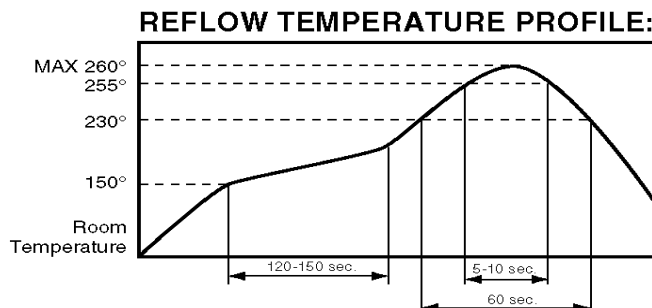
90: Polyimide film

**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.