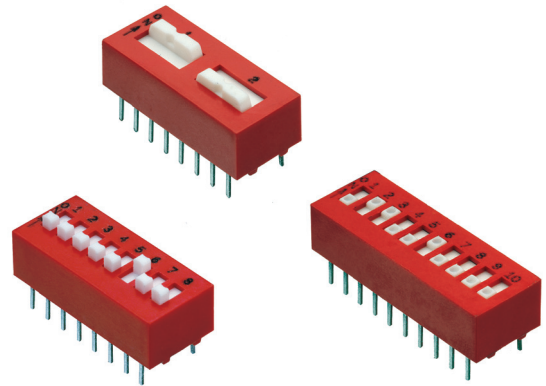
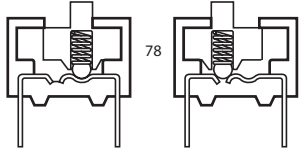


## SERIES 78 SPST To 4PST Slide

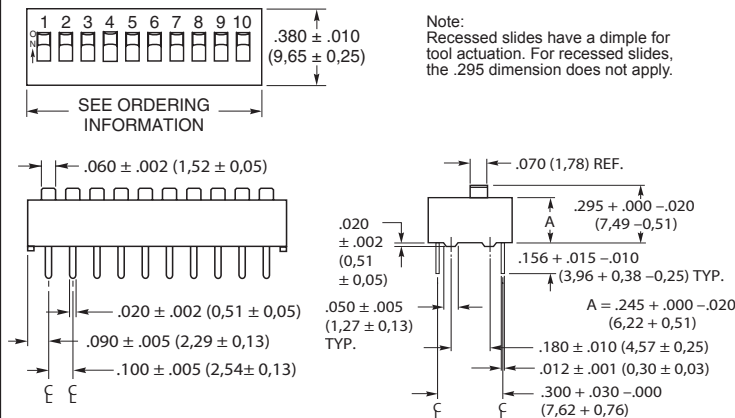
### FEATURES

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

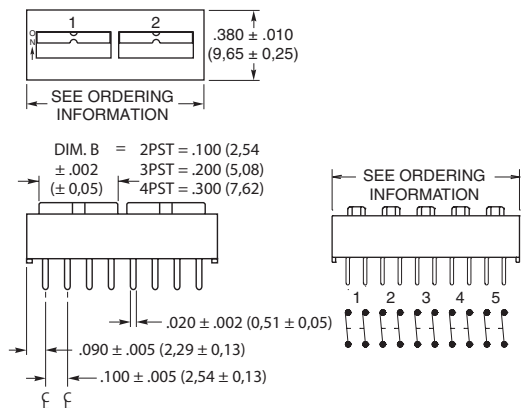


### DIMENSIONS In inches (and millimeters)

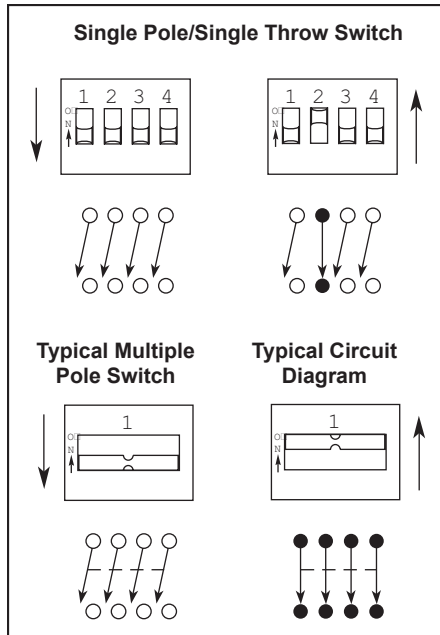
#### Single Pole/Single Throw Switch in Raised and Recessed Slides



#### Double Pole/Single Throw and Typical Multiple Pole Switch with Raised Slides



### 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 fluorinert for 20 seconds minimum. Reference MIL-STD-202, Method 112.