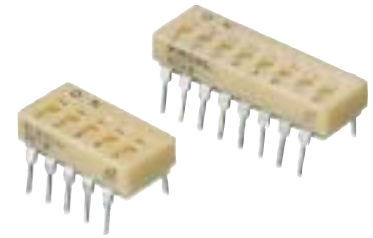
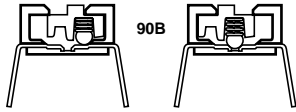


SERIES 90B Machine Insertable MIDIP

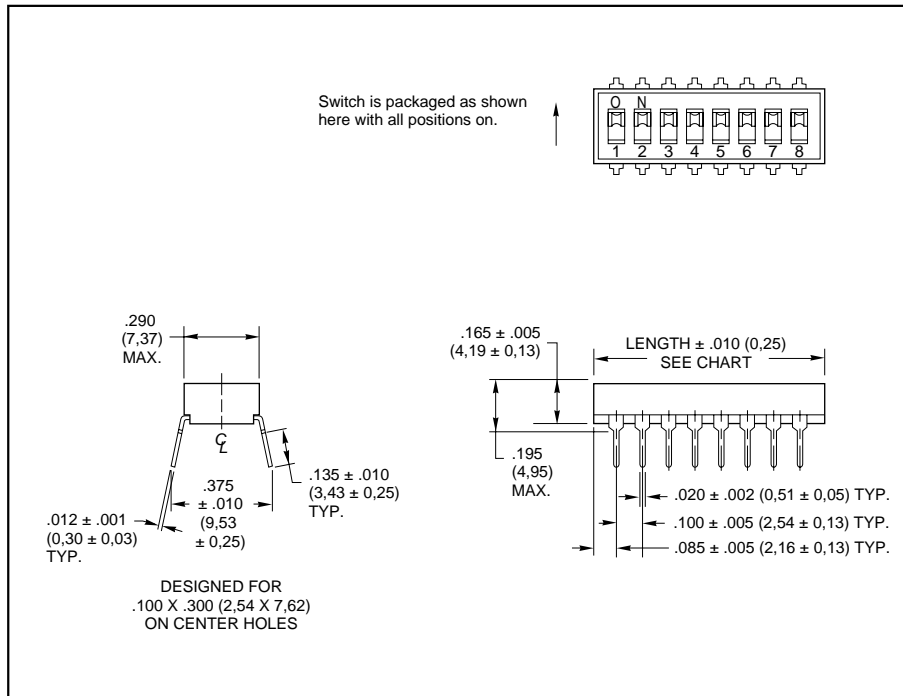
FEATURES

- Tested for TO-116 Equipment
- Up to 10 Positions
- High Pressure, Reliable Contacts
- Molded (Sealed) Base and Optional Top Seal



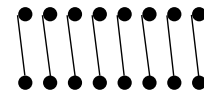
DIP Switches

DIMENSIONS In inches (and millimeters)



CIRCUITRY

As viewed from the top of the switch in the positions shown in the drawing.



ORDERING INFORMATION: Tube Packaging (Each tube is 19.5 inches long)

No. of Positions	Length Inches	Length Metric	Number Per Tube	Part Number*
2	.270"	6,9 mm	60	90B02S
3	.370"	9,4 mm	47	90B03S
4	.470"	11,9 mm	37	90B04S
5	.570"	14,5 mm	31	90B05S
6	.670"	17,0 mm	26	90B06S
7	.770"	19,6 mm	23	90B07S
8	.870"	22,1 mm	20	90B08S
9	.970"	24,6 mm	18	90B09S
10	1.070"	27,2 mm	16	90B10S

ADDITIONAL INFORMATION

For Specifications, see page B-14.
For Options and Accessories, see page B-20.

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

*The "S" at the end of the part number denotes top tape seal versions. To order without top tape seal, leave the "S" off the part number when ordering.

SPECIFICATIONS: Standard and Military Qualified Styles

Ratings	76	78	90B
Mechanical Life: Operations per switch position	20,000	20,000	5,000
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:	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
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 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 over nickel barrier.

Base Contacts: Copper alloy, gold-plated 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

Tape Seal Integrity: Passes gross leak test using 125°C flourinert for 20 seconds minimum. Reference MIL-STD-202, Method 112.