



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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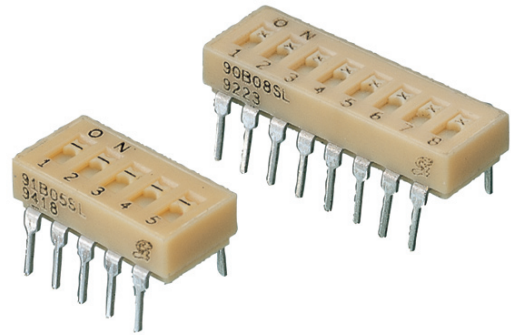
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



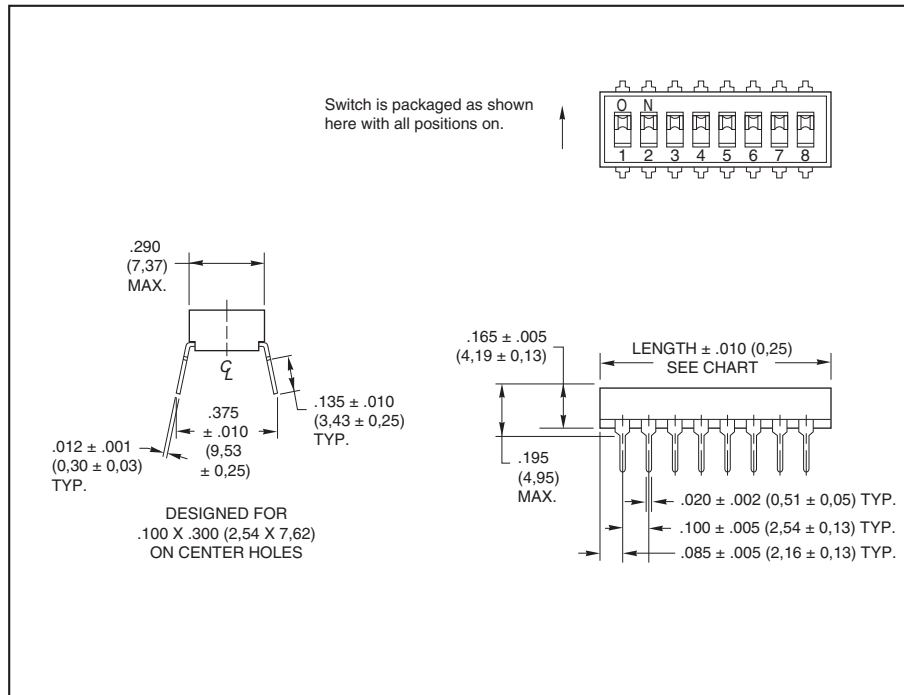
SERIES 90B AND 90GB Machine Insertable MIDIP

FEATURES

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

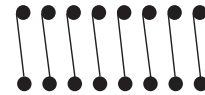


DIMENSIONS In inches (and millimeters)

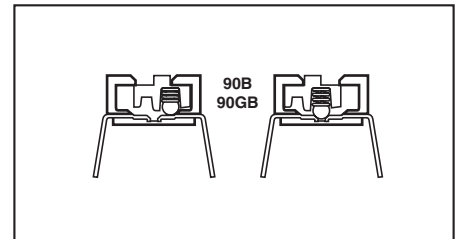


CIRCUITRY

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



CONTACT SYSTEM



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	90B02ST	90GB02ST
3	.370"	9,4 mm	47	90B03ST	90GB03ST
4	.470"	11,9 mm	37	90B04ST	90GB04ST
5	.570"	14,5 mm	31	90B05ST	90GB05ST
6	.670"	17,0 mm	26	90B06ST	90GB06ST
7	.770"	19,6 mm	23	90B07ST	90GB07ST
8	.870"	22,1 mm	20	90B08ST	90GB08ST
9	.970"	24,6 mm	18	90B09ST	90GB09ST
10	1.070"	27,2 mm	16	90B10ST	90GB10ST

ADDITIONAL INFORMATION

Please visit our website for accessories.

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

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

**Style "GB" contains 30μ gold plated terminals.

* To order, add L as a final suffix to the part number. For example, 76RSB08 becomes 76RSB08L; and 90B08S becomes 90B08SL.

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

*For the most current soldering & cleaning processing guidelines, reference Grayhill Dip Switch Processing Information, Bulletin 1234

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.

Recommended Soldering Conditions:

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:

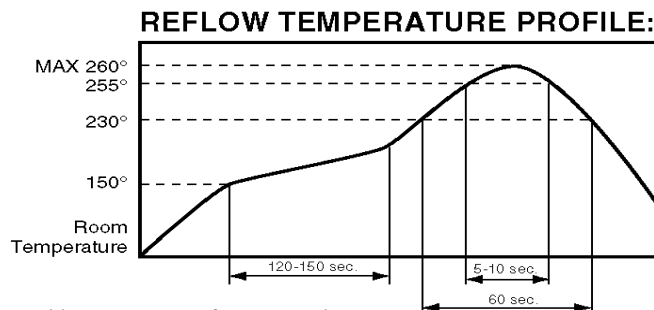
76, 78: Polyester film

90: Polyimide film

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

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.