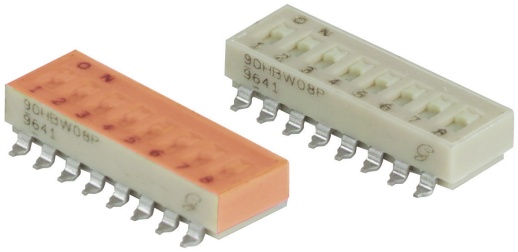
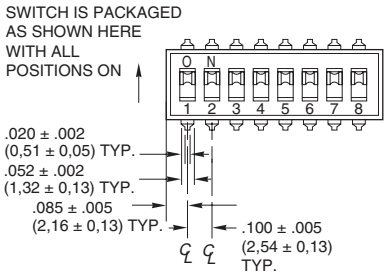
SERIES 90HB
SPST, Low Profile

FEATURES
- Compatible with SMT Assembly, Including Infrared Reflow and Vapor-Phase
- Reliable Spring and Ball Contact

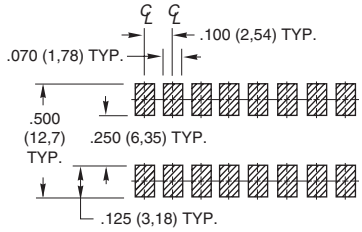


DIMENSIONS In inches (and millimeters)

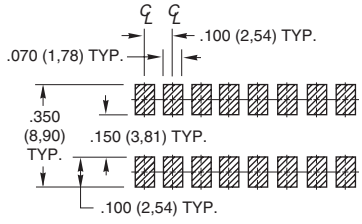
Top View–Gull Wing



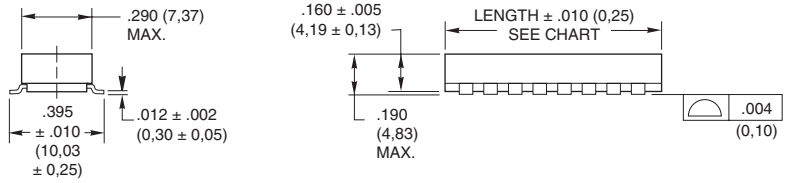
Recommended PC Pad Dimensions–Gull Wing



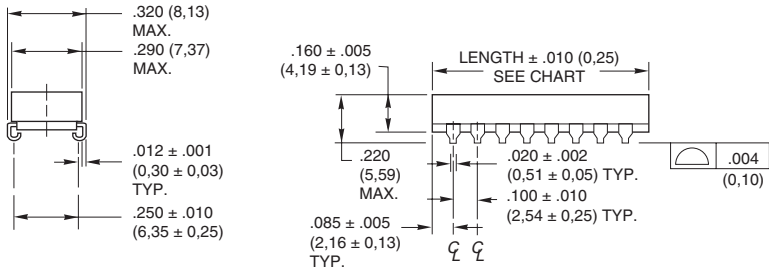
Recommended PC Pad Dimensions–J-Bend



Gull Wing



J-Bend



CIRCUITRY

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

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SPECIFICATIONS

Electrical Ratings

Make-and-break Current Rating: 2,000 operations per switch position at these resistive loads:10 mA, 30 Vdc; or 10 mA, 50 mVdc; 10 mA, 50 mVdc; or 25 mA, 24 Vdc; or 100 mA,6 Vdc.
Contact Resistance: (measured at 10 mA, 50 mVdc). Initial: 20 mohms maximum, After Life: 100 mohms maximum
Insulation Resistance: Minimum, at 100 Vdc between adjacent closed contacts and also across open switch contacts.
Initial (Mohms): 5,000, After Life (Mohms): 1,000
Dielectric Strength: Minimum voltage (AC RMS) measured between adjacent closed contacts and also across open switch contacts.
Initial: 500 volts, After Life: 500 volts
Current Carry Rating: 3A maximum rise of 20°C
Switch Capacitance: 2 pF at 1 megahertz

Mechanical Ratings

Where Grayhill performance is superior, the MIL spec is listed in parentheses.
Mechanical Life: 2,000 operations per switch position
Vibration Resistance: Per Method 204, Test Condition B , 1mS opening (10 mS allowed)
Mechanical Shock: Per Method 213, Test Condition A. 1mS 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**.
Operating Temperature Range: -40°C to + 85°C
Storage Temperature Range: -40°C to + 85°C
Moisture Resistance: Per MIL-STD-202, Method 106.

Soldering Information

Solderability: Per MIL-STD-202, Method 208
Soldering Heat Resistance: Per MIL-S-83504, six second test.
Recommended Processing Temperature: 220°C–230°C (1 pass—260°C maximum)
Processing Position: Switch is to be processed with all actuators in the closed (on) position as shipped.
Fluxing: Per EIA RS-448-2 with flux touching switch body.
Cleaning: 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. High pressure aqueous cleaning is not recommended.

Materials and Finishes

Shorting Member (Ball): Brass, gold-plate over nickel barrier.
Base Contacts: Copper alloy, gold-plate over nickel barrier.
Terminals: Copper alloy, matte tin plated over nickel barrier.
Non-Conductive Parts: Thermoplastic (UL94V-O)

Tape and Reel Packaging

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

ORDERING INFORMATION

90HBW02PRT

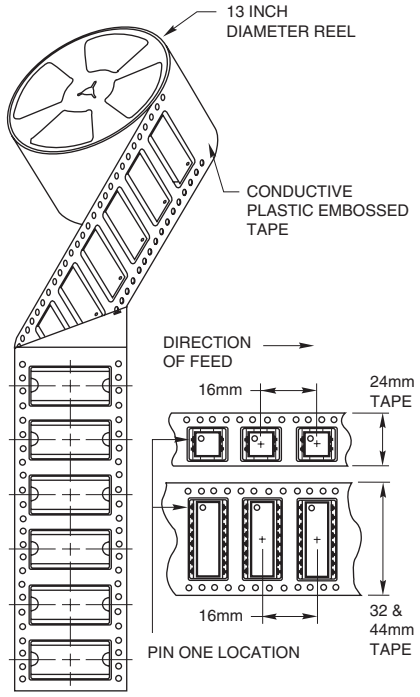
- Series
- Terminal Style: W = Gull Wing, J = J-Bend
- RoHS compliant
- Packaging: R = Tape and reel packaging (750 switches/reel)
  Blank = Tube packaging (each tube is 19.5" long)
- Seal: P = Polyimide Seal
  Blank = No Seal
- Number of Positions: 02 through 10

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

Available from your local Grayhill Distributor. For prices and discounts, contact a local Sales Office, an authorized local Distributor or Grayhill.
** Note: 100% matte tin terminal plating does not meet MIL-S-83504 for lead content.

TAPE AND REEL PACKAGING

Meets requirements of
EIA 481-2 or EIA 481-3



Each reel has a 15.750 inch (390 mm) minimum leader and a 6.30 inch (160 mm) minimum trailer.

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