

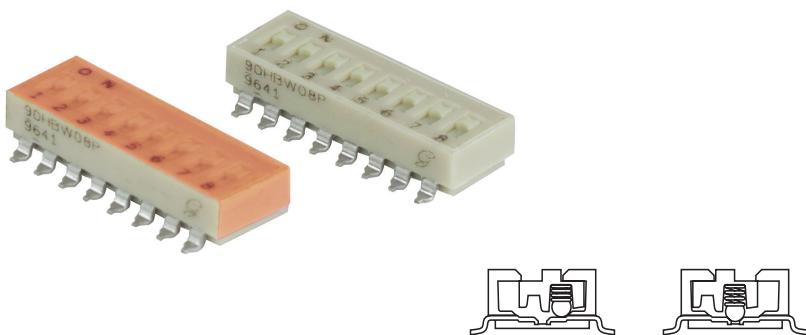
## SERIES 90HB

### SPST, Low Profile



#### FEATURES

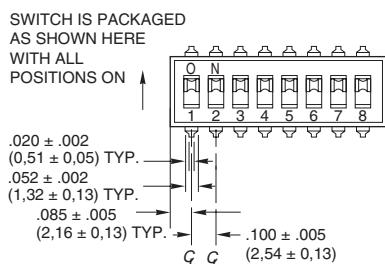
- Compatible with SMT Assembly, Including Infrared Reflow and Vapor-Phase
- Reliable Spring and Ball Contact



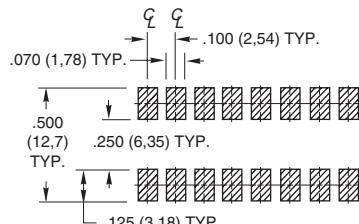
#### DIMENSIONS In inches (and millimeters)

DIP Switches

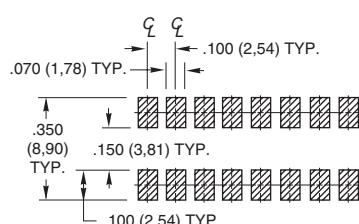
##### Top View—Gull Wing



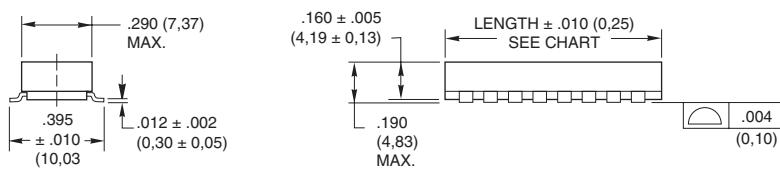
##### Recommended PC Pad Dimensions—Gull Wing



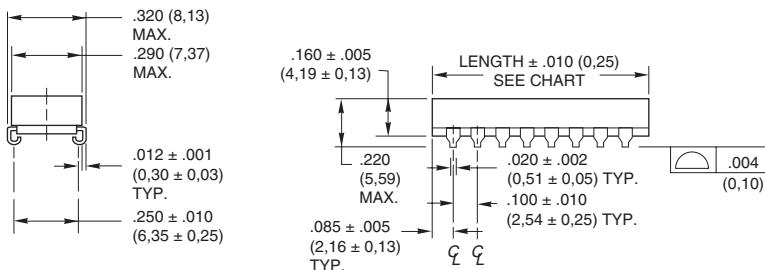
##### Recommended PC Pad Dimensions—J-Bend



##### Gull Wing

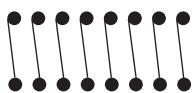


##### J-Bend



#### CIRCUITRY

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



## 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

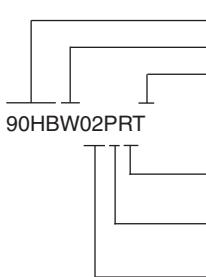
**Vibration Resistance:** Per Method 204, Test Condition B, 1mS opening (10 mS allowed)

**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

## ORDERING INFORMATION



Series  
Terminal Style: W = Gull Wing, J = J-Bend  
RoHS compliant

90HBW02PRT

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.

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

## TAPE AND REEL PACKAGING

