



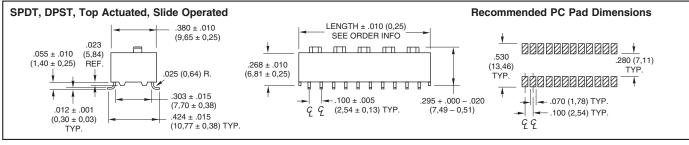
## SERIES 78H SPDT and DPST



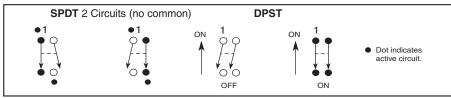
- Compatible with SMT Assembly Including Infrared Reflow and Vapor-Phase
- Reliable Spring and Ball Contact



**DIMENSIONS** In inches (and millimeters)



### **CIRCUITRY**



## **SPECIFICATIONS**

### **Electrical Ratings**

**Make-and-break Current Rating:** 2,000 operations per switch position at 1 mA, 5 Vdc; 50 mA, 30 Vdc; or 150 mA, 30 Vdc

Contact Resistance: Initial: 30 mohms max. After Life: 100 mohms max. (10 mA at 50 Vdc, open circuit)

**Insulation Resistance:** Minimum, at 100 Vdc between adjacent closed contacts and also across open switch contacts. Initial: 2,000 Mohms; After Life: 1,000 Mohms

**Dielectric Strength:** Minimum voltage (AC, RMS) measured between adjacent closed contacts and also across open switch contacts. Initial: 750 volts; After Life: 500 volts

**Current Carry Rating:** 4 amps, maximum rise of 20°C

Switch Capacitance: 2 pF at 1megahertz

# **Mechanical Ratings**

**Mechanical Life:** 2,000 operations per switch position

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) **Terminal Strength:** Per specification

**Thermal Aging:** 1,000 hours at 85°C; no failures **Thermal Shock:** Per specification; no failures; passes contact resistance

## **Environmental Ratings**

Meets all requirements of MIL- S-83504. Where Grayhill performance is superior, the MIL spec is listed in parentheses.

Operating Temperature Range: -40°C to +  $85^{\circ}\text{C}$ 

Storage Temperature Range: -55°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.

### **ORDERING INFORMATION: Tube Packaging**

| _ |                       |  |  |   |   |   |  |
|---|-----------------------|--|--|---|---|---|--|
|   | No. of<br>Positions   | Length (inches)                                | Length<br>(metric)                                 | Carrier Width Dim. A                      | Part N<br>SPDT  | umber*<br>DPST  |  |
|   | 1<br>2<br>3<br>4<br>5 | 0.280"<br>0.480"<br>0.680"<br>0.880"<br>1.080" | 7,1 mm<br>12,2 mm<br>17,3 mm<br>22,4 mm<br>27,4 mm | 24 mm<br>24 mm<br>32 mm<br>44 mm<br>44 mm | 78HJ01GWT<br>78HJ02GWT<br>78HJ03GWT<br>78HJ04GWT<br>78HJ05GWT | 78HF01GWT<br>78HF02GWT<br>78HF03GWT<br>78HF04GWT<br>78HF05GWT |  |

<sup>\*</sup>Insert "R" before the "T" in the Grayhill part number for tape and reel packaging (500 switches/reel). **Available from your local Grayhill Distributor.** For prices and discounts, contact a local Sales Office, an authorized local Distributor or Grayhill.

#### **Materials and Finishes**

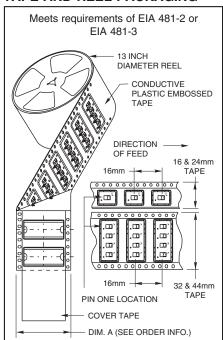
**Shorting Member:** Brass, gold-plated over nickel barrier.

Base Contacts: Copper alloy, gold-plated over nickel barrier.

**Terminals:** Copper alloy, matte tin-plated over nickel barrier.

**Non-Conductive Parts:** Cover is natural color thermoplastic, actuators are white thermoplastic (UL94V-O)

#### TAPE AND REEL PACKAGING



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