

#### Description:

Amplical's SW3R003 SP3T broadband coaxial reflective PIN diode switch features low insertion loss, low vswr, high isolation and fast switching speed. RF ports incorporate DC blocks. An on-board TTL-compatible driver provides convenient logic control. The switch operates from +5V DC and a negative DC supply ranging from -12V to -20V. The compact design incorporates SMA female connectors. Two ø0.096 through holes are provided for convenient chassis mounting.

#### Specifications:

| Parameter   | Specification   |
|---|---|
| Frequency Range                                     | 2 GHz to 18 GHz minimum                                       |
| Insertion Loss                                      | 2.7 dB maximum  |
| VSWR  | 1.9:1 maximum (50Ω)   |
| Isolation (port-to-port and input-to-output)        | 65 dB minimum (above insertion loss)                          |
| Switching Speed: T <sub>ON</sub> (50%TTL to 90%RF)  | 75 nsec maximum   |
| Switching Speed: T <sub>OFF</sub> (50%TTL to 10%RF) | 45 nsec maximum   |
| Switching Speed: T <sub>RISE</sub> (10%RF to 90%RF) | 25 nsec maximum   |
| Switching Speed: T <sub>FALL</sub> (90%RF to 10%RF) | 15 nsec maximum   |
| RF Power, Operating                                 | +27 dBm maximum   |
| OIP3  | +45 dBm minimum   |
| OIP2  | +75 dBm minimum   |
| Control Logic                                       | TTL 0: Insertion Loss; TTL 1: Isolation                       |
| DC Supplies   | +5.0 ± 0.3V @ 110mA maximum<br>-12.0 to -20.0V @ 40mA maximum |
| RF Connectors                                       | SMA Female per MIL-PRF-39012                                  |
| DC and Logic Control Ports                          | ø0.030" x 0.20" long solder pin                               |
| Operating Temperature                               | -55°C to +85°C  |
| Storage Temperature                                 | -65°C to +125°C   |
| Enclosure Finish                                    | Albaloy   |
| Lead Finish   | Gold Plate per MIL-G-45204                                    |
| Weight  | 37 grams maximum  |
| Mechanical  | See Figure 1  |

#### Logic control pin function:

- E1 controls J1 to J0 path
- E2 controls J2 to J0 path
- E3 controls J3 to J0 path

#### Customization:

Amplical offers complete customization of any electrical or mechanical parameter for any product. All models are available with hermetic seal and complete MIL screening. Contact the factory to discuss your specific requirements

#### About Amplical Corporation:

Amplical is a leading supplier of high quality RF and Microwave components. Utilizing state of the art design and manufacturing techniques, Amplical focuses on producing high performance amplifiers, switches, modulators, attenuators, phase shifters and limiters at affordable prices. Amplical serves the defense, aerospace, communications, test and instrumentation markets.

#### Disclaimer:

Specifications subject to change without notice. Contact the factory prior to placing an order to assure you have the most up to date product specification.

#### Applications:

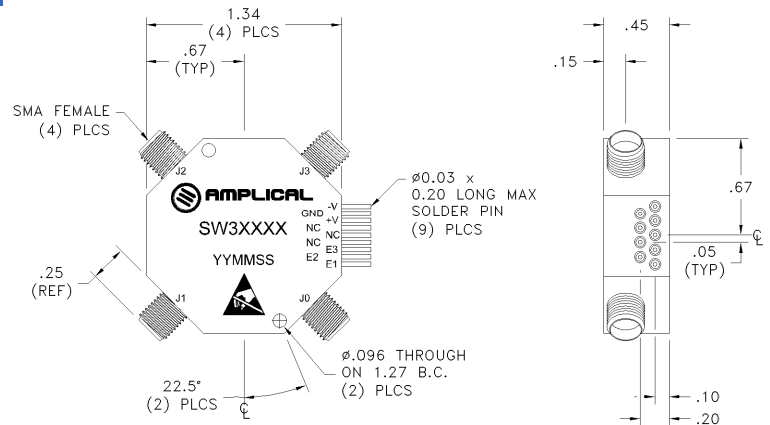
- Communications Systems
- Electronic Simulators
- Bypass/Selector Switch
- Test Equipment
- Radar Systems
- EW Systems



#### Custom Options:

- Hermetic Seal
- Alternate DC operating voltage supplies
- MIL / Hi-Rel Screening
- Band-specific performance optimization
- Port-to-port phase and amplitude matching
- Unit-to-unit phase and amplitude matching
- Alternate input port locations
- Reverse control logic
- BCD control logic

**Figure 1 Mechanical Outline:**



#### Outline drawing notes:

1. Drawing not to scale
2. Dimensions in inches
3. Tolerance: x.xx = ±0.020, x.xxx = ±0.010
4. J0: RF common