SW8R004

SP8T Reflective Switch
100MHz to 20GHz

RF for RF Engineers

PRODUCT INFO

Description:

Amplical's SW8R004 SP8T ultra-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 is incorporated for convenient logic control. The switch operates from +5V DC and a negative DC supply ranging from –12V to –20V. The compact in-line port design incorporates field-replaceable SMA female connectors which can be removed for drop-in microstrip or stripline applications. Two ø0.096 through holes are provided for convenient chassis mounting.

Specifications:

Parameter	Specification
Frequency Range	100 MHz to 20 GHz minimum
Insertion Loss	2.3 dB @ 100MHz linearly increasing to 5.4 dB @ 20GHz maximum
VSWR	2.0:1 maximum (50Ω)
Isolation (port-to-port and input-to-output)	60 dB minimum (above insertion loss)
Switching Speed: T_{ON} (50%TTL to 90%RF)	100 nsec maximum
Switching Speed: T_{OFF} (50%TTL to 10%RF)	75 nsec maximum
Switching Speed: T_{RISE} (10%RF to 90%RF)	30 nsec maximum
Switching Speed: T_{FALL} (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 @ 230mA maximum
	-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	65 grams maximum
Mechanical	See Figure 1

Logic control pin function:

E1 controls J1 to J0 path	E5 controls J5 to J0 path
E2 controls J2 to J0 path	E6 controls J6 to J0 path
E3 controls J3 to J0 path	E7 controls J7 to J0 path
E4 controls J4 to J0 path	E8 controls J8 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:

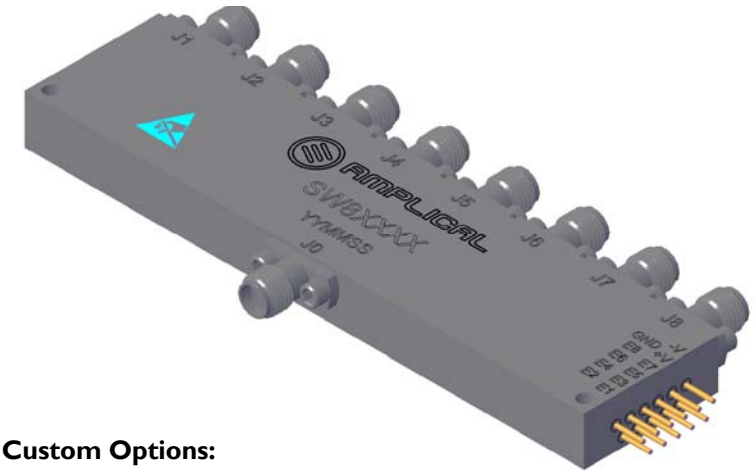
Amplical is a leading supplier of high quality RF and Microwave components. Utilizing state of the art design and manufacturing techniques, Amplical focuses on producing high performance amplifiers, switches, modulators, attenuators, phase shifters and limiters at affordable prices. Amplical serves the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

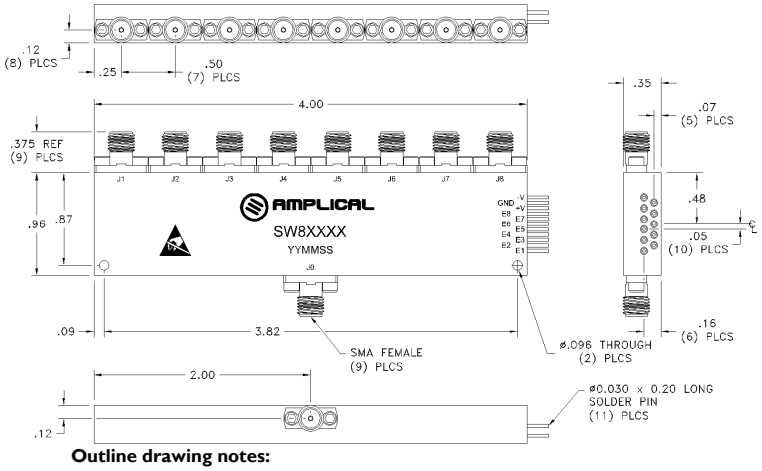
- Communications Systems
- Electronic Simulators
- Bypass/Selector Switch
- Test Equipment
- Radar Systems
- EW Systems



Custom Options:

- Hermetic Seal
- Alternate DC operating voltage supplies
- MIL / Hi-Rel Screening
- Band-specific performance optimization
- Unit-to-unit phase and amplitude matching
- 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

AMPLICAL
20 Troy Road
Whippany, NJ 07981

© 2018 Amplical Corporation

Phone: 973-386-1119
Fax: 973-386-1131
E-mail: info@amplical.com
web: www.amplical.com