

Description:

Amplical's SW16R001 SP16T 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 4-bit BCD 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 design incorporates field-replaceable SMA female connectors which can be removed for drop-in microstrip or stripline applications. Three ø0.096 through holes are provided for convenient chassis mounting.

Specifications:

Parameter	Specification
Frequency Range	100 MHz to 20 GHz minimum
Insertion Loss	2.5 dB @ 100MHz linearly increasing to 6.2 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	4-bit BCD TTL (See Table 1)
DC Supplies	+5.0 ± 0.3V @ 600mA maximum -12.0 to -20.0V @ 50mA 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	60 grams maximum
Mechanical	OL-SW16-1

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

Table 1 Control Logic:

E1	E2	E3	E4	Function	E1	E2	E3	E4	Function	E1	E2	E3	E4	Function
0	0	0	0	J1 to J0 ON	1	0	1	0	J6 to J0 ON	0	1	0	1	J11 to J0 ON
1	0	0	0	J2 to J0 ON	0	1	1	0	J7 to J0 ON	1	1	0	1	J12 to J0 ON
0	1	0	0	J3 to J0 ON	1	1	1	0	J8 to J0 ON	0	0	1	1	J13 to J0 ON
1	1	0	0	J4 to J0 ON	0	0	0	1	J9 to J0 ON	1	0	1	1	J14 to J0 ON
0	0	1	0	J5 to J0 ON	1	0	0	1	J10 to J0 ON	0	1	1	1	J15 to J0 ON
										1	1	1	1	J16 to J0 ON

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.

