



Model 2578 Low Cost SP4T Switch

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Application Notes for [RF Switches](#)

The Model 2578 is a low cost high-performance terminated SP4T switch that operates over the full instantaneous bandwidth of 6 to 18 GHz with ON and OFF times of 250 nsec. Design features include an integrated circuit assembly of PIN diodes mounted in a microstrip transmission line.

The Model 2578 is equipped with an integrated driver that is powered by +5 and -12 volt supplies. The proper currents required to switch the ports ON or OFF are provided by the driver, which is controlled by external logic signals.

- **Frequency range: 6 to 18 GHz**
- **Isolation: up to 55 dB**
- **Phase and amplitude Matched**
- **Non-reflective**



PERFORMANCE CHARACTERISTICS

CHARACTERISTIC	
Frequency Range (GHz)	6-18
Min. Isolation (dB)	55
Max. Insertion Loss (dB)	3.5
Max. VSWR (ON/OFF)	2.0

Switching Time

ON time	250 nsec max.
OFF time	250 nsec max.

Power Handling Capability

Without Performance	
Degradation	500 mW cw or peak
Survival Power	1W average, 75W peak (1 µsec max. pulse width)

Power Supply Requirements

+5V ±5%, 135 mA
-12V ±5%, 60 mA

Control Characteristics

Control Input Impedance. Schottky TTL, two unit loads. (A unit load is 2 mA sink current and 50 µA source current.)

Control Logic Logic "0" (-0.3 to +0.8V) for port ON.

ENVIRONMENTAL RATINGS

Operating Temperature

Range -65°C to +110°C

Non-Operating

Temperature Range -65°C to +125°C

Humidity MIL-STD-202F, Method 103B, Cond. B (96 hrs. at 95%)

Shock MIL-STD-202F, Method 213B, Cond. B (75G, 6 msec)

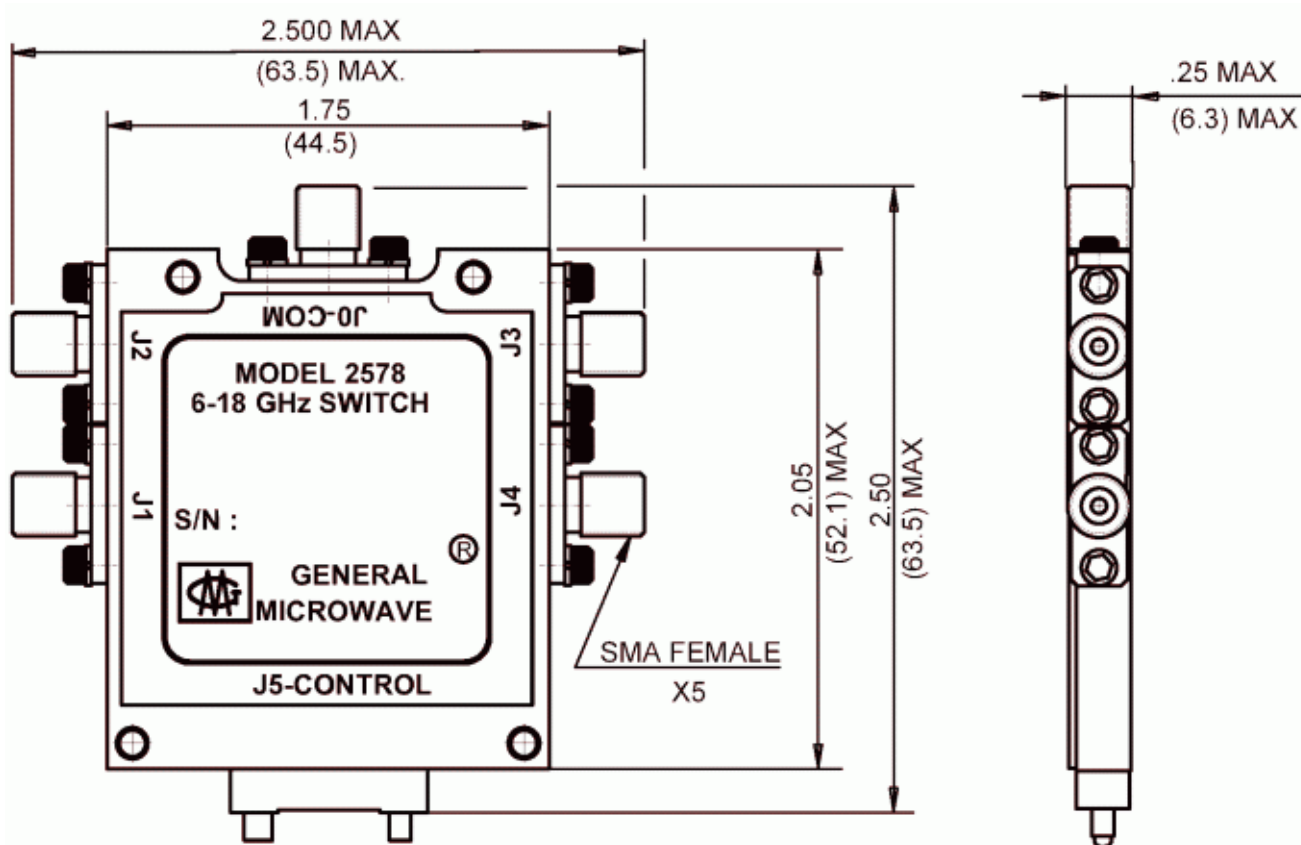
Vibration MIL-STD-202F, Method 204D, Cond. B (.06" double amplitude or 15G, whichever is less)

Altitude MIL-STD-202F, Method 105C, Cond. B (50,000 ft)

Temp. Cycling MIL-STD-202F, Method 107D, Cond. A, 5 cycles

Logic "1" (+2.0 to +5.0V) for port OFF.

DIMENSIONS AND WEIGHTS



LOGIC INPUT			PORT STATUS				PIN DESIGNATION	
D	F	H	J1	J2	J3	J4		
0	0	1	X	-	-	-	A	-12V DC
1	0	1	-	X	-	-	C	GROUND
0	1	1	-	-	X	-	B	+5V DC
1	1	1	-	-	-	X	E	N/C
							D	LSB
							F	MSB
							H	ENABLE

Dimensional Tolerances, unless otherwise indicated: .XX ±.02; .XXX ±.005



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