Model 2553 SP8T, SP9T, SP10T, SP11T AND SP12T

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Application Notes for RF Switches

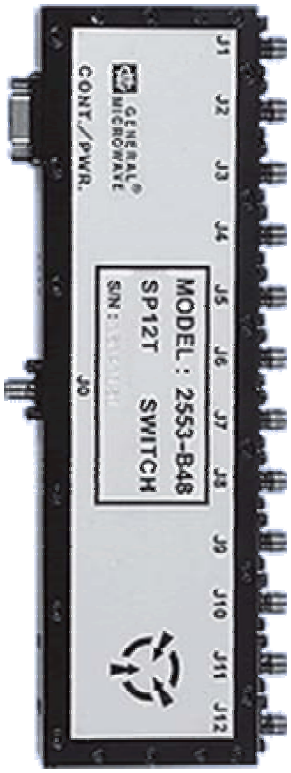
Model 2553 series consists of SP8T-SP12T multi through switches. In this series, all output ports are in-line and the ports are phase and amplitude matched. They operate over the full instantaneous bandwidth of 6 to 18 GHz with ON and OFF times of 700 nsec.

The 2553 series consists of the following multi throw switches:

- **Wide Frequency range**
- **Phase matched**
- **Amplitude matched**
- **All in-line output ports**
- **Non-reflective**

TYPE	MODEL NO.
SP8T	2553-B90
SP9T	2553-C29
SP10T	2553-B39
SP11T	2553-C30
SP12T	2553-B48

The Model 2553 series 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 the external logic signals.



PERFORMANCE SPECIFICATIONS

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MODEL	2553-C29,B39,C30,B48		2553-B90
	FREQUENCY RANGE (GHz)		FREQUENCY RANGE
	6.0 to 12.0	**12.0 to 18.0**	**1 - 18 GHz**
Min. Isolation (dB)	70	70	55
Max. Insertion Loss (dB)	4.3	5.6	5.2
Max. VSWR one port ON	2.0:1	2.0:1	2.1:1
Max. VSWR OFF	2.2:1	2.2:1	2.2:1

Amplitude Matching (between ports)..... 1.2 dB, max.

ENVIRONMENTAL RATINGS

Phase Matching (between ports)..... 30°, max.

Switching Time

ON time ..... 700 nsec max.

OFF time ..... 700 nsec max.

Power Handling Capability

Without Performance Degradation..... 600 mW cw or peak

Survival Power..... 1.5W cw

Power Supply Requirements

+5V ±5%, 350 mA max
-12V ±5%, 100 mA max

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

Operating Temperature Range ..... 0°C to +70°C

Non-Operating Temperature Range ..... 0°C to +70°C

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

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

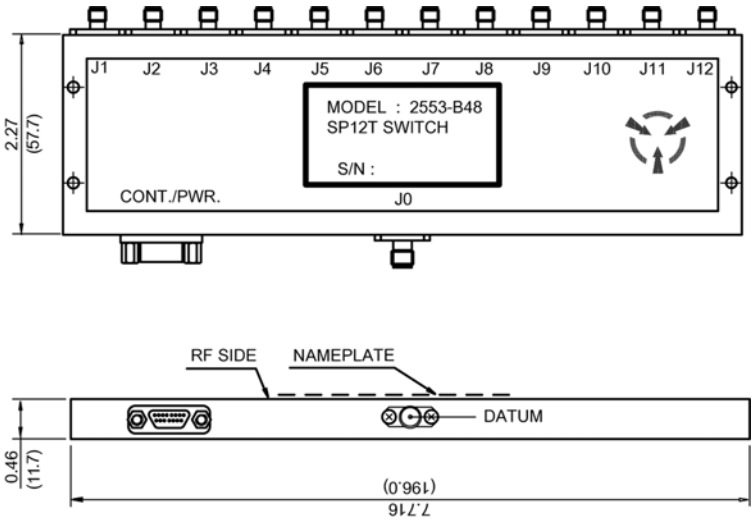
Vibration..... MIL-STD-202F, Method 204D, Cond. B (.06" double amplitude or 15G, whichever is less)

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

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

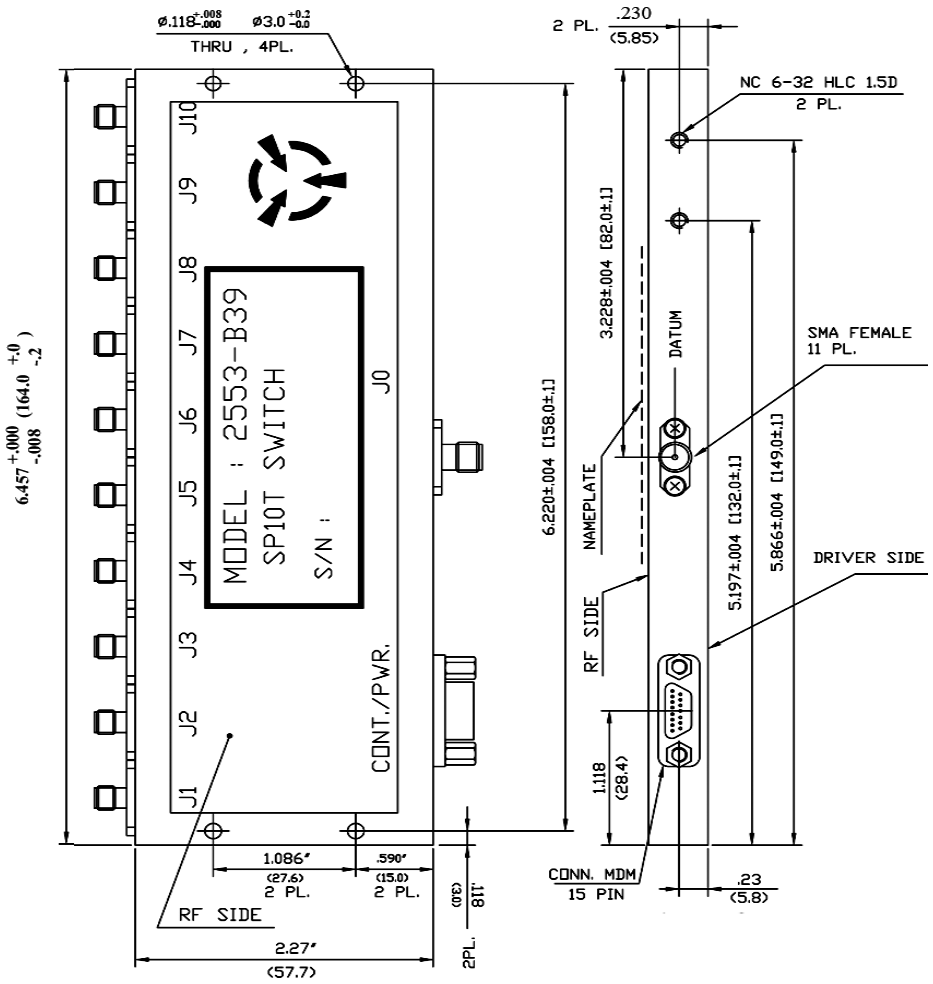
DIMENSIONS AND WEIGHTS

MODEL 2553-B48 SP12T SWITCH



PIN OUT	
PIN	**FUNCTION**
1	+5V
2	J2 CONTROL
3	J4 CONTROL
4	J6 CONTROL
5	J8 CONTROL
6	J10 CONTROL
7	J12 CONTROL
8	-12V
9	J1 CONTROL
10	J3 CONTROL
11	J5 CONTROL
12	J7 CONTROL
13	J9 CONTROL
14	J11 CONTROL
15	GND

MODEL 2553-B39 SP10T SWITCH



PIN OUT	
PIN	**FUNCTION**
1	+5V
2	J2 CONTROL
3	J4 CONTROL
4	J6 CONTROL
5	J8 CONTROL
6	J10 CONTROL
7	N.U.
8	-12V
9	J1 CONTROL
10	J3 CONTROL
11	J5 CONTROL
12	J7 CONTROL
13	J9 CONTROL
14	N.U.
15	GND

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

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