

Matched SP3T RF Switch, 20 - 1500 MHz

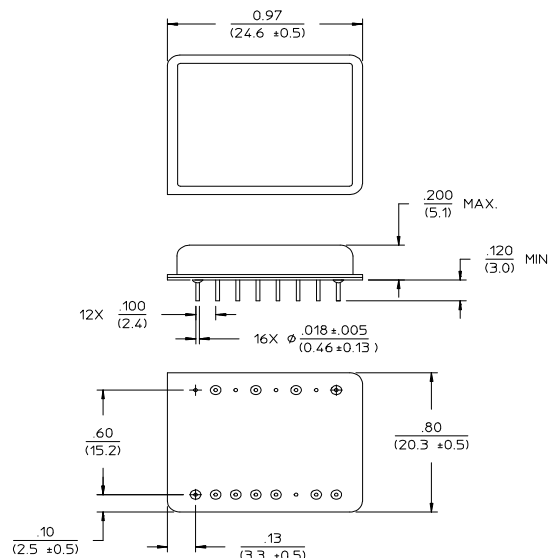
**SW-163-PIN
V3**

Features

- Internally Terminated
- Integral TTL Driver
- Low Loss: 0.9 dB Typical
- 50 Ohm Nominal Impedance
- MIL-STD-883 Screening Available

Description

Functional Block Diagram



Dimensions in () are in mm
 Unless Otherwise Noted: .XXX = ± 0.010 (XX = ± 0.25)
 .XX = ± 0.02 (.X = ± 0.5)
 WEIGHT (APPROX): 0.28 OUNCES 8 GRAMS

Ordering Information

Part Number	Package
SW-163-PIN	DI-1

Note: Reference Application Note M513 for reel size information.

Note: Die quantity varies.

Truth Table

TTL Control Inputs "1" = TTL Logic High			Condition of Switch RF Common to each RF Port		
1	2	3	RF1	RF2	RF3
1	0	0	On	Off	Off
0	1	0	Off	On	Off
0	0	1	Off	Off	On

* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

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Electrical Specifications: $T_A = -55^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ ¹

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Insertion Loss	—	20 - 1500 MHz	dB	—	—	2.0
		20 - 1000 MHz	dB	—	—	1.5
		30 - 500 MHz	dB	—	—	1.2
VSWR	All States	20 - 1500 MHz	Ratio	—	—	1.80:1
		20 - 1000 MHz	Ratio	—	—	1.50:1
		30 - 500 MHz	Ratio	—	—	1.25:1
Isolation	—	20 - 1500 MHz	dB	35	—	—
		20 - 1000 MHz	dB	40	—	—
		30 - 500 MHz	dB	50	—	—
Ton Toff Transients	In-band	—	μS	—	3.0	—
		—	μS	—	1.5	—
		—	mV	—	40	—
1 dB Compression	Input Power	20 - 1500 MHz	dBm	—	+5	—
		50 - 1500 MHz	dBm	—	+15	—
IP ₂	For two tone input power up to +5 dBm	20 - 1500 MHz	dBm	—	+55	—
		50 - 1500 MHz	dBm	—	+70	—
IP ₃	For two tone input power up to +5 dBm	20 - 1500 MHz	dBm	—	+25	—
		50 - 1500 MHz	dBm	—	+40	—
Bias Power	+9 to +15 VDC @ 45 mA Max -5 VDC $\pm$ 5% @ 25 mA Max	—	mW	—	540	—

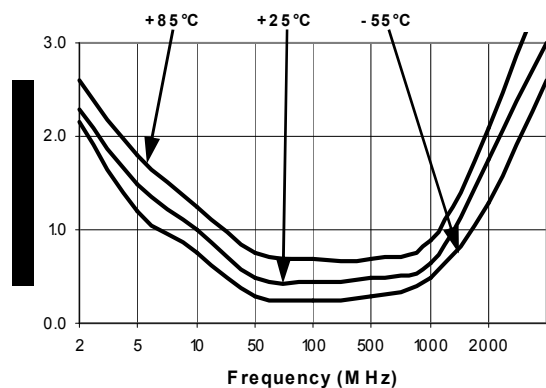
1. All specifications apply when operated with bias voltages of +12 VDC and -5 VDC ($\pm$ 5%) and 50 ohm impedance at all RF ports.

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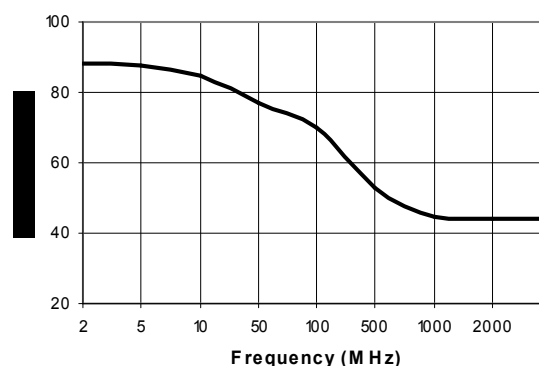
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Typical Performance Curves

Insertion Loss



Isolation



VSWR

