

Matched GaAs SP3T Switch, 5 - 2000 MHz

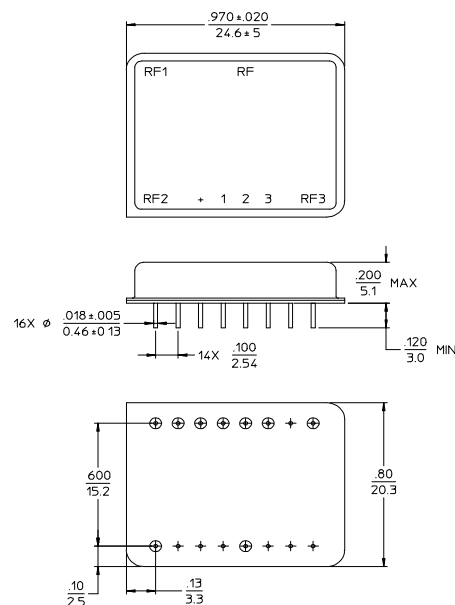
**SW-241-PIN
V3**

Features

- Low Insertion Loss, 1.0 dB Typical
- Fast Switching Speed, 20 nS Typical
- Ultra Low DC Power Consumption, 0.22 mA Typical
- Integral TTL Driver
- 50 Ohm Nominal Impedance
- MIL-STD-883 screening available

Description

Functional Block Diagram



Dimensions in () or on bottom are in mm.
Unless Otherwise Noted: .xxx = ±0.010 (.xx = ±0.25)
.xx = ±0.02 (x = ±0.5)
WEIGHT (APPROX): 0.26 OUNCES 73 GRAMS

Ordering Information

Part Number	Package
SW-241-PIN	DI-5

Note: Reference Application Note M513 for reel size information.

Note: Die quantity varies.

Truth Table

Control Input			Condition of Switch		
"1" = Logic High (TTL)			RF Common to Each RF Port		
CTL1	CTL2	CTL3	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	—	5 - 2000 MHz 5 - 1000 MHz 5 - 500 MHz	dB dB dB	2.5 1.7 1.4	— — —	— — —
VSWR	—	5 - 2000 MHz 5 - 1000 MHz 5 - 500 MHz	Ratio Ratio Ratio	— — —	— — —	2.0:1 1.6:1 1.4:1
Isolation	—	5 - 2000 MHz 5 - 1000 MHz 5 - 500 MHz	dB dB dB	35 45 55	— — —	— — —
Trise, Tfall Ton, Toff Transients	50% CTL to 90/10% RF In-band	— — —	nS nS mV	— — —	7 20 80	— — —
1 dB Compression	Input Power	500 - 2000 MHz 50 MHz	dBm dBm	— —	+27 +21	— —
IP ₂	For two tone input power up to +13 dBm	500 - 2000 MHz 50 MHz	dBm dBm	— —	+68 +60	— —
IP ₃	For two tone input power up to +13 dBm	500 - 2000 MHz 50 MHz	dBm dBm	— —	+46 +40	— —
Bias Power	+5 VDC @ 0.22 mA Typ	—	mA	—	—	1

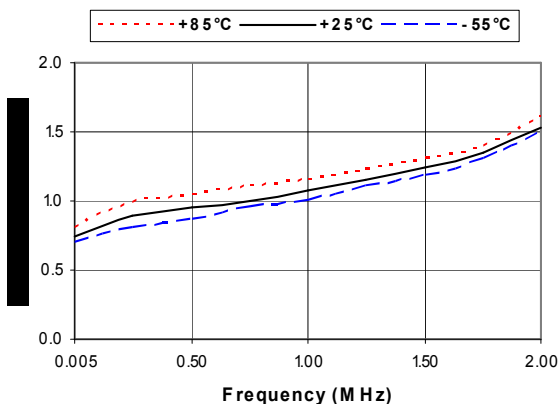
1. All specifications apply when operated with bias voltages of +5 VDC and 50 ohm impedance at all RF Ports.

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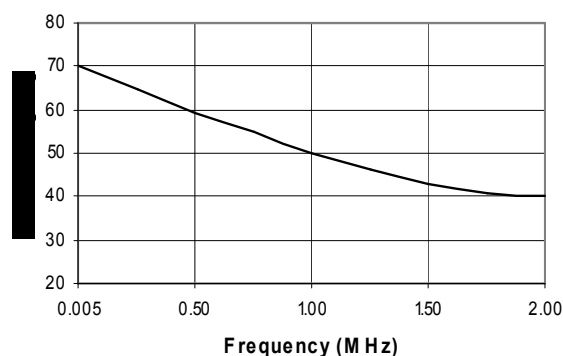
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Typical Performance Curves

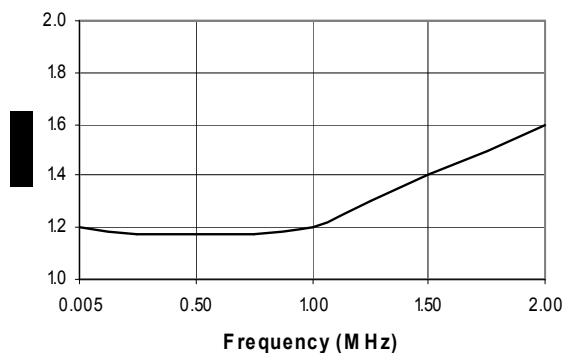
Insertion Loss



Isolation



VSWR



Schematic

