# **SW-241-PIN**

### Matched GaAs SP3T Switch, 5 - 1500 MHz

#### **Features**

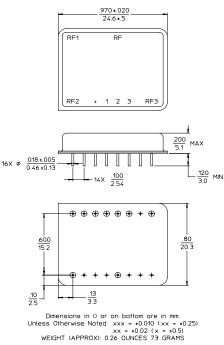
- Low Insertion Loss, 1.0 dB Typical •
- Fast Switching Speed, 20 nS Typical
- Ultra Low DC Power Consumption, 0.22 mA Typical
- Integral TTL Driver
- 50 Ohm Nominal Impedance
- MIL-STD-883 screening available

### Description



Rev. V4

#### **Functional Block Diagram**



### **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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Rev. V4

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

Parameter	Test Conditions	Frequency	Units	Min	Тур	Max
Insertion Loss	_	5 - 1500 MHz 5 - 1000 MHz 5 - 500 MHz	dB dB dB	2.5 1.7 1.4		
VSWR	_	5 - 1500 MHz 5 - 1000 MHz 5 - 500 MHz	Ratio Ratio Ratio			2.0:1 1.6:1 1.4:1
Isolation	_	5 - 1500 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 - 1500 MHz 50 MHz	dBm dBm		+27 +21	_
IP <sub>2</sub>	For two tone input power up to +13 dBm	500 - 1500 MHz 50 MHz	dBm dBm		+68 +60	_
IP <sub>3</sub>	For two tone input power up to +13 dBm	500 - 1500 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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<sup>2</sup> 

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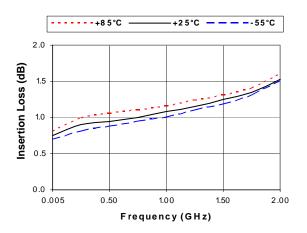
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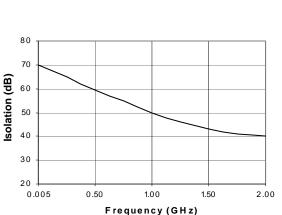


Rev. V4

#### **Typical Performance Curves**

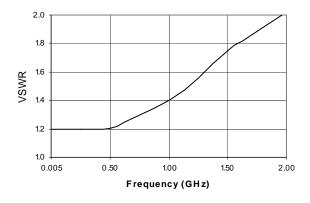
#### Insertion Loss



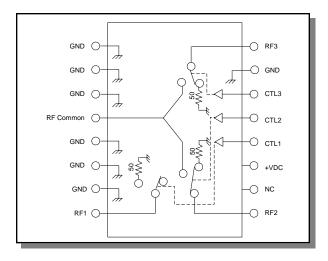


Isolation

#### VSWR



#### **Schematic**



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