

**Matched GaAs SPDT Switch,  
5 - 3000 MHz**

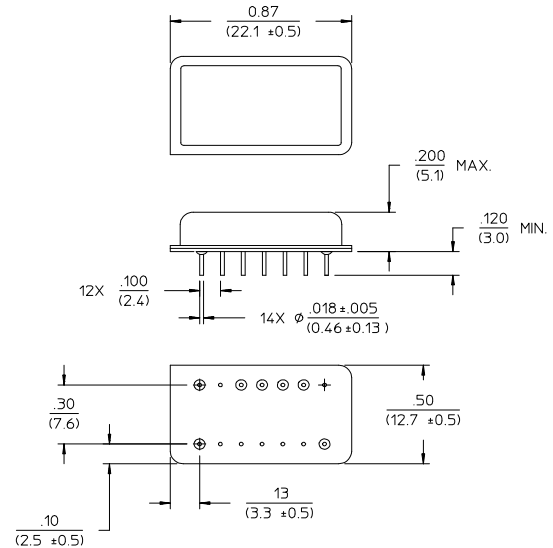
**SW-205-PIN/SW-206-PIN  
V3**

**Features**

- High Isolation: 50 dB Typical
- Fast Switching Speed
- Low DC Power Consumption
- Integral TTL (SW-205) or CMOS (SW-206) Driver
- 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): 0.14 OUNCES 4 GRAMS

**Ordering Information**

Part Number	Package
SW-205-PIN	DI-1
SW-206-PIN	DI-1

Note: Reference Application Note M513 for reel size information.  
Note: Die quantity varies.

**Truth Table**

TTL Control Input "1" = Logic High TTL (SW-205)/ CMOS (SW-206)	Condition of Switch RF Common to Each RF Port	
	RF1	RF2
0	On	Off
1	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  $+85^{\circ}\text{C}$  <sup>1</sup>**

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Insertion Loss	—	5 - 3000 MHz	dB	—	—	2.6
		5 - 2000 MHz	dB	—	—	2.1
		5 - 1000 MHz	dB	—	—	1.6
VSWR	—	5 - 3000 MHz	Ratio	—	—	2.5:1
		5 - 2000 MHz	Ratio	—	—	2.0:1
		5 - 1000 MHz	Ratio	—	—	1.5:1
Isolation	—	5 - 3000 MHz	dB	35	—	—
		5 - 2000 MHz	dB	40	—	—
		5 - 1000 MHz	dB	45	—	—
IP <sub>2</sub>	For two tone input power up to +13 dBm	0.5 - 4 GHz	dBm	—	+68	—
		0.05 GHz	dBm	—	+62	—
IP <sub>3</sub>	For two tone input power up to +13 dBm	0.5 - 4 GHz	dBm	—	+46	—
		0.05 GHz	dBm	—	+40	—

1. All specifications apply when operated with bias voltages of +5 VDC (SW-205) or +8 VDC (SW-206) and 50 ohm impedance at all RF ports.

**SW-205**

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Trise, Tfall Ton, Toff Transients	50% CTL to 90/10% RF In-band	—	nS	—	7	—
		—	nS	—	20	—
		—	mV	—	70	—
1 dB Compression	Input Power	0.5 - 4 GHz 0.05 GHz	dBm dBm	— —	+27 +21	— —
Bias Power	+5 VDC	—	mA	—	—	1

**SW-206**

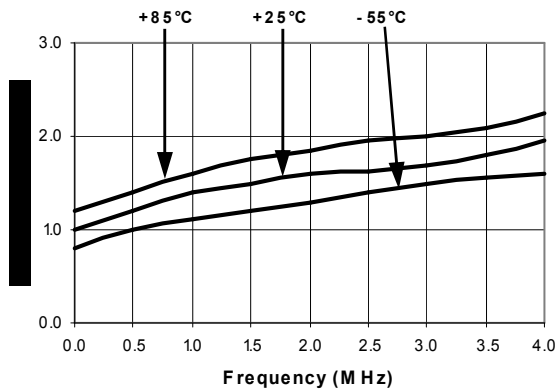
Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Trise, Tfall Ton, Toff Transients	50% CTL to 90/10% RF In-band	—	nS	—	20	—
		—	nS	—	40	—
		—	mV	—	35	—
1 dB Compression	Input Power	0.5 - 4 GHz 0.05 GHz	dBm dBm	— —	+33 +26	— —
Bias Power	+5 to +8 VDC @ 0.150 to 0.400 mA Typi- cal	—	mA	—	—	1

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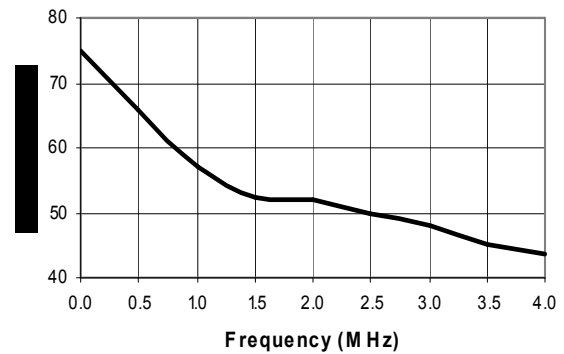
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**Typical Performance Curves**

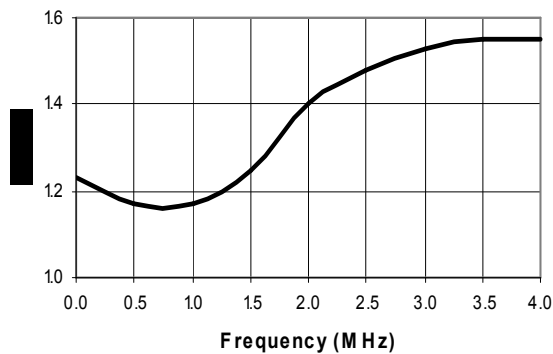
**Insertion Loss**



**Isolation**



**VSWR**



**Schematic**

