

Matched GaAs SPDT Switch, 5 - 3000 MHz

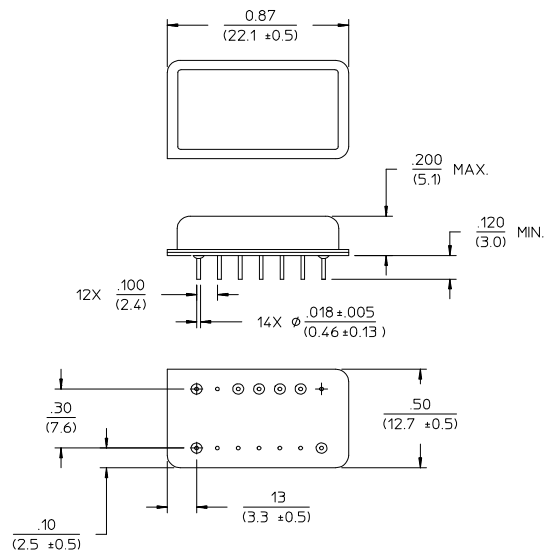
SW-205-PIN/SW-206-PIN
V3

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.

**Matched GaAs SPDT Switch,
5 - 3000 MHz**
**SW-205-PIN/SW-206-PIN
V3**
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 - 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 ₂	For two tone input power up to +13 dBm	0.5 - 4 GHz	dBm	—	+68	—
		0.05 GHz	dBm	—	+62	—
IP ₃	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

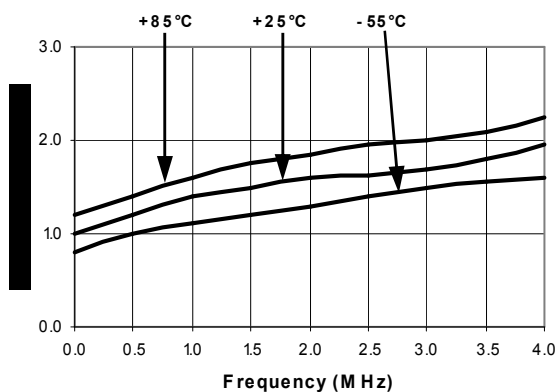
Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Trise, Tfall Ton, Toff Transients	50% CTL to 90/10% RF In-band	—	nS	—	20	—
		—	nS	—	40	—
		—	mV	—	35	—
1 dB Compression	Input Power	0.5 - 4 GHz 0.05 GHz	dBm dBm	— —	+33 +26	— —
Bias Power	+5 to +8 VDC @ 0.150 to 0.400 mA Typical	—	mA	—	—	1

Matched GaAs SPDT Switch, 5 - 3000 MHz

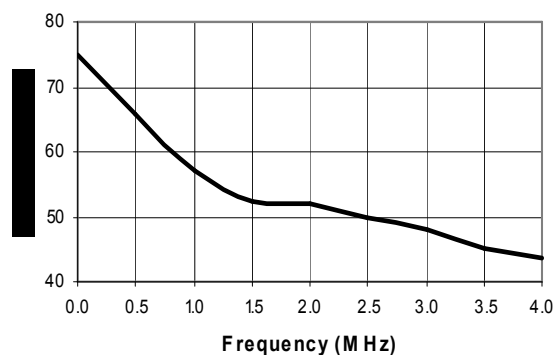
SW-205-PIN/SW-206-PIN
V3

Typical Performance Curves

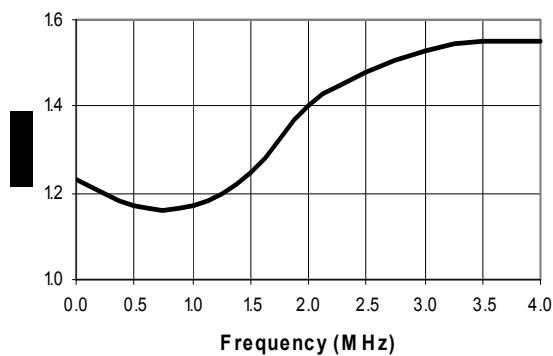
Insertion Loss



Isolation



VSWR



Schematic

