

GaAs SPST Switch DC-3 GHz

SW-212/214

Features

- Fast Switching Speed, 6 ns Typical
- Ultra Low DC Power Consumption
- Low Loss (SW-212), Terminated (SW-214)

Guaranteed Specifications *

(From -55°C to +85°C)

Frequency Range		DC-3 GHz		
Model Number		SW-212	SW-214	
Insertion Loss	DC-3 GHz	1.0	1.3	dB Max
	DC-2 GHz	0.9	1.2	dB Max
	DC-1 GHz	0.7	0.9	dB Max
	DC-0.5 GHz	0.7	0.9	dB Max
VSWR	DC-3 GHz	1.8:1	2.0:1	Max
	DC-2 GHz	1.5:1	1.7:1	Max
	DC-1 GHz	1.3:1	1.3:1	Max
	DC-0.5 GHz	1.2:1	1.3:1	Max
Isolation	DC-3 GHz	20	25	dB Min
	DC-2 GHz	22	38	dB Min
	DC-1 GHz	32	45	dB Min
	DC-0.5 GHz	40	50	dB Min

Operating Characteristics

Impedance 50 Ohms Nominal

Switching Characteristics†

Trise, Tfall	3 ns Typ
Ton, Toff (50% CTL to 90/10%RF)	6 ns Typ
Transients (In-Band) SW-214	30 mV Typ
Transients (In-Band) SW-212	10 mV Typ

Input Power for 1 dB Compression

Control Voltages (Vdc)	0/-5	0/-8	
0.5-3 GHz	+27	+33	dBm Typ
0.05 GHz	+21	+26	dBm Typ

Intermodulation Intercept Point

(for two-tone input power up to +13 dBm)

Intercept Points	IP ₂	IP ₃	
0.5-3 GHz	+68	+46	dBm Typ
0.05 GHz	+62	+40	dBm Typ

Control Voltages (Complementary Logic)

V _{IN} Low	0 to @ -0.2V @ 20 µA Max
V _{IN} Hi	-5V @ 50 µA Typ to -8V @ 300 µA Max

Environmental

See Appendix for MIL-STD-883 screening option.

* All specifications apply with 50 ohm impedance connected to all RF ports with 0 and -5 VDC control voltages.

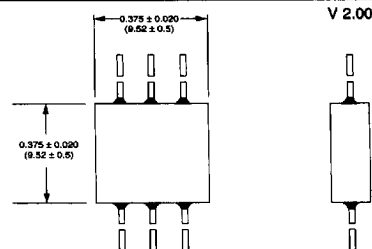
† Faster switching speed can be achieved with enhanced driver waveform.

** For the 'off' switch condition of the SW-212 only, RF1 is an open circuit and RF2 is shorted to case ground.

Truth Table**

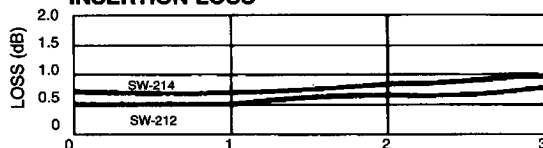
Control Input		Condition of Switch
A	B	RF1 to RF2
Hi	Low	ON
Low	Hi	OFF

FP-13

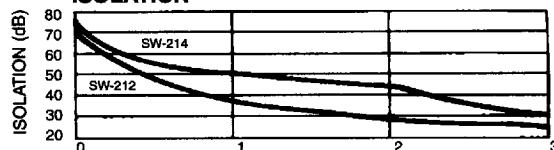


Dimensions in () are in mm.
See Appendix for complete physical dimensions.

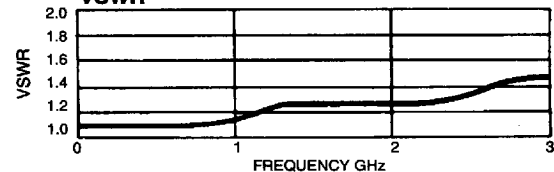
Typical Performance INSERTION LOSS



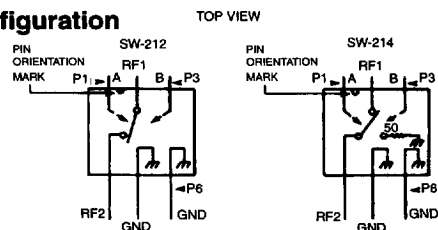
ISOLATION



VSWR



Pin Configuration



Ordering Information

Model No.	Package
SW-212 PIN	Flatpack
SW-214 PIN	Flatpack

M/A-COM, Inc.

Specifications Subject to Change Without Notice.

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