

GaAs SPDT Switch DC - 3 GHz

SW-202/204

V3.00

Features

- Fast Switching Speed, 6 ns Typical
- Ultra Low DC Power Consumption
- Low Loss (SW-202), Terminated (SW-204)

Guaranteed Specifications* (From -55°C to +85°C)

Frequency Range		DC - 3 GHz		
Model Number		SW-202	SW-204	
Insertion Loss	DC-3 GHz	1.0	1.5	dB Max
	DC-2 GHz	0.9	1.2	dB Max
	DC-1 GHz	0.7	1.0	dB Max
	DC-0.5 GHz	0.7	0.9	dB Max
VSWR	DC-3 GHz	2.0:1	2.0:1	Max
	DC-2 GHz	1.5:1	1.5:1	Max
	DC-1 GHz	1.3:1	1.4:1	Max
	DC-0.5 GHz	1.2:1	1.2:1	Max
Isolation	DC-3 GHz	22	28	dB Min
	DC-2 GHz	28	35	dB Min
	DC-1 GHz	38	45	dB Min
	DC-0.5 GHz	45	45	dB Min

Operating Characteristics

Impedance 50 Ohms Nominal

Switching Characteristics†

rise, fall	3 ns Typ
on, off (50% CTL to 90/10% RF)	6 ns Typ
Transients (In-Band) SW-204	30 mV Typ
Transients (In-Band) SW-202	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 (SW-202/204)	0 to -0.2V @ 20 µA Max
V _{IN} Hi (SW-202)	-5V @ 50 µA Typ to -8V @ 300 µA Max
V _{IN} Hi (SW-204)	-5V @ 110 µA Typ to -8V @ 600 µA Max

Environmental

MIL-STD-883 screening available.

* 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 SW-202 only, when an RF output is "OFF" it is shorted to case ground.

Specifications Subject to Change Without Notice.

16-80

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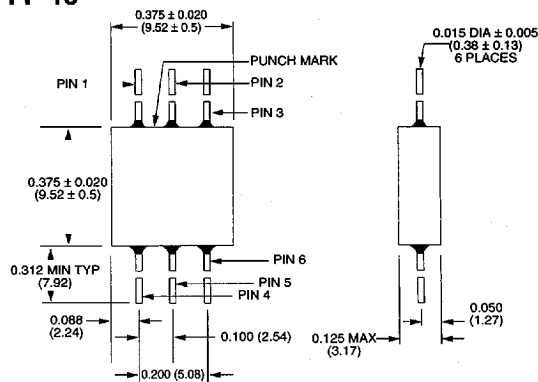
North America: Tel. (800) 366-2266
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■ 5642205 0003604 73T ■

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Dimensions in () are in mm.
Unless Otherwise Noted: .xxx = ± 0.010 (.xx = ± 0.25)
.xx = ± 0.02 (.x = ± 0.5)

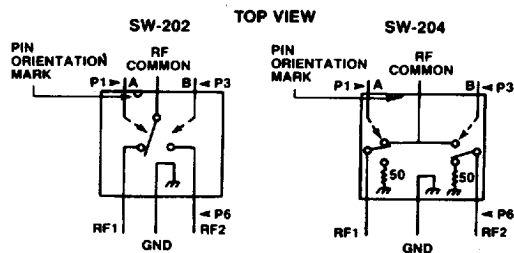
Ordering Information

Model No.	Package
SW-202 PIN	Flatpack
SW-204 PIN	Flatpack

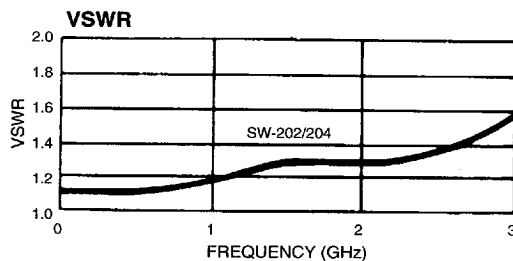
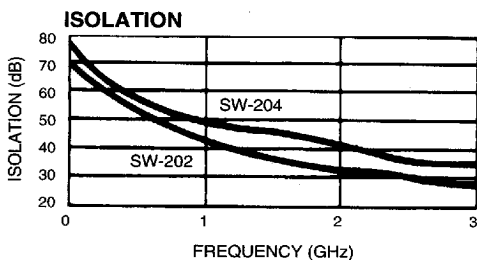
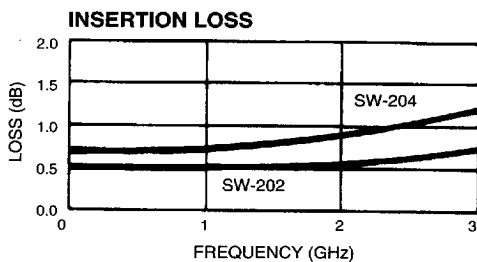
Truth Table**

Control Input		Condition of Switch	
		RF Common To Each RF PORT	
A	B	RF1	RF2
Hi	Low	ON	OFF
Low	Hi	OFF	ON

Pin Configuration



Typical Performance @ 25° C



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