



GaAs SPDT Switch DC-4 GHz

SW-226/227/228

- Miniature Ceramic Package
 - Terminated (SW-226), High Isolation (SW-227), Low Loss (SW-228)
 - Fast Switching Speed, 6ns Typical
 - Ultra Low DC Power Consumption
- Guaranteed Specifications***
(From -55°C to +85°C)

Frequency Range		DC-4 GHz		
Model Number	SW-226	SW-227	SW-228	
Insertion Loss	DC-4 GHz	1.5	1.4	1.0 dB Max
	DC-2 GHz	1.2	1.1	0.8 dB Max
	DC-1 GHz	1.0	1.0	0.7 dB Max
	DC-0.5 GHz	0.9	0.9	0.7 dB Max
VSWR	DC-4 GHz	2.3:1	2.0:1	1.9:1 Max
	DC-2 GHz	1.6:1	1.6:1	1.3:1 Max
	DC-1 GHz	1.4:1	1.4:1	1.2:1 Max
	DC-0.5 GHz	1.2:1	1.2:1	1.2:1 Max
Isolation	DC-4 GHz	25	35	22 dB Min
	DC-2 GHz	40	40	32 dB Min
	DC-1 GHz	48	50	42 dB Min
	DC-0.5 GHz	53	55	50 dB Min

Operating Characteristics

Impedance 50 Ohms Nominal

Switching Characteristics†

t _{RISE} , t _{FALL}	3 ns Typ
t _{ON} , t _{OFF} (50% CTL to 90/10% RF)	6 ns Typ
Transients (In-Band) SW-226/227	30 mV Typ
Transients (In-Band) SW-228	10 mV Typ

Input Power for 1 dB Compression

Control Voltages (V _{dc})	0/-5	0/-8	
0.5-4 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	
0.5-4 GHz	+68	+46	dBm Typ
0.05 GHz	+62	+40	dBm Typ

Control Voltages (Complementary Logic)

V _{IN} Low (SW-226/227/228)	0 to -0.2V @ 20 μA Max
V _{IN} HI (SW-226-227)	-5V @ 110 μA Typ to -8V @ 600 μA Max
V _{IN} HI (SW-228)	-5V @ 50 μA Typ to -8V @ 300 μA Max

Environmental

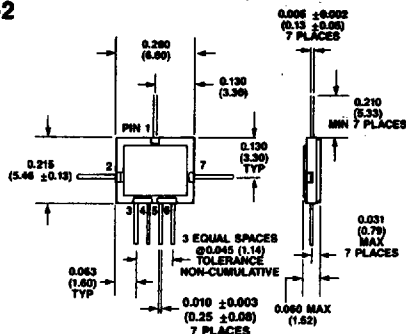
See Appendix for MIL-STD-883 screening option.

*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 SW-227 and SW-228 only, when an RF output is "OFF" it is shorted to case ground.

Ordering Information

Model No.	Package
SW-226 PIN	Ceramic
SW-227 PIN	Ceramic
SW-228 PIN	Ceramic

CR-2



PIN CONFIGURATION

	RF	COM	RF1	RF2	A1	B1	A2	B2
SPDT	N/A	2	7	5	4	N/A	N/A	
SW-226/227	1	2	7	3	4	6	5	
SW-228	1	2	7	3	6	OC	OC	

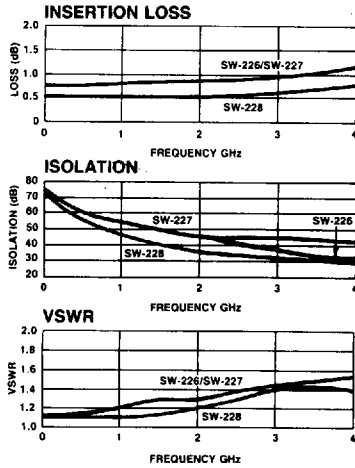
ALL OTHER PINS ARE GROUND.

Dimensions in () are in mm.

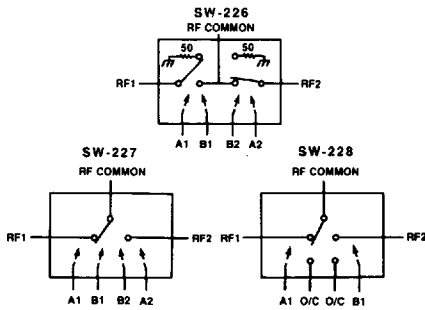
See Appendix for complete physical dimensions.

Specifications Subject to Change Without Notice.

Typical Performance



Pin Configuration



Truth Table**

	Control Input				Condition Of Switch RF Common To Each RF Port	
	A1	B1	A2	B2	RF1	RF2
SW-226/227	HI	LO	LO	HI	ON	OFF
	LO	HI	HI	LO	OFF	ON
SW-228	HI	LO	NC	NC	ON	OFF
	LO	HI	NC	NC	OFF	ON

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