

# GaAs SPDT Switch

## DC-4 GHz

# SW-226/227/228

V 2.01

### Features

- Miniature Ceramic Package
- Terminated (SE-226), High Isolation (SW-227), Low Loss (SW-228)
- Fast Switching Speed, 6 ns 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	
<b>Insertion Loss</b>	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
<b>VSWR</b>	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
<b>Isolation</b>	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

<b>Impedance</b>	50 Ohms Nominal		
<b>Switching Characteristics†</b>			
Trise, Tfall	3 ns Typ		
Ton, Toff (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		
<b>Input Power for 1 dB Compression</b>			
Control Voltages (Vdc)	0/-5	0/-8	
0.5-4 GHz	+27	+33	dBm Typ
0.05 GHz	+21	+26	dBm Typ
<b>Intermodulation Intercept Point</b>			
<b>(for two-tone input power up to + 13 dBm)</b>			
Intercept Points	IP <sub>2</sub>	IP <sub>3</sub>	
0.5 - 4 GHz	+68	+46	dBm Typ
0.05 GHz	+62	+40	dBm Typ
<b>Control Voltages (Complementary Logic)</b>			
V <sub>IN</sub> Low (SW-226/227/228)	0 to -0.2V @ 20 µA Max		
V <sub>IN</sub> Hi (SW-226/227)	-5V @ 110 µA Typ to -8V @ 600 µA Max		
V <sub>IN</sub> Hi (228)	-5V @ 50 µA Typ to -8V @ 300 µA Max		

### Environmental

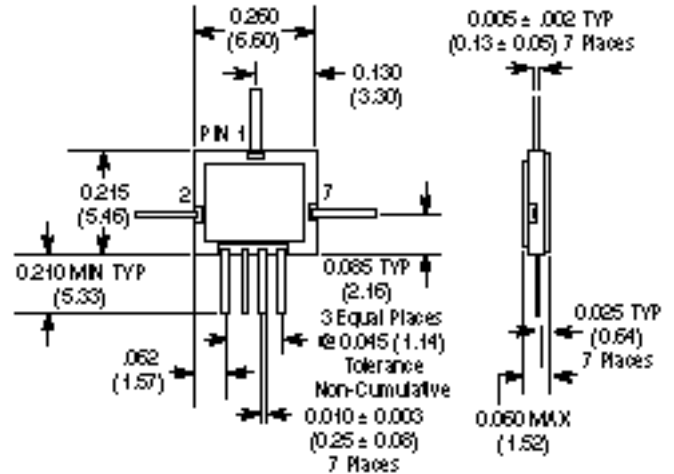
See Appendix for MIL-STD-883 screening option.

\* 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.

### CR-2



Bottom of Case is AC Ground.

Dimensions in ( ) are in mm.

Unless Otherwise Noted: .xxx = ±0.010 (.xx = ±0.25)

.xx = ±0.02 (.x = ±0.5)

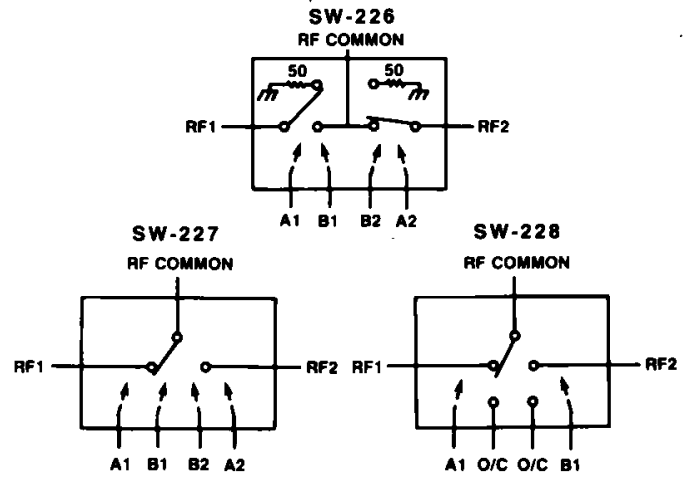
### Ordering Information

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

### Truth Table\*\*

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

### Pin Configuration



### Typical Performance

