



Matched GaAs SPST Switch DC-3 GHz

SWS-278

- Fast Switching Speed, 6ns Typical
- Ultra Low DC Power Consumption
- Surface Mount Package

Guaranteed Specifications*

(From -55°C to +85°C)

Frequency Range		DC - 3 GHz
Insertion Loss	DC - 3 GHz	1.4dB Max
	DC - 2 GHz	1.1dB Max
	DC - 1 GHz	1.0dB Max
	DC - 0.5 GHz	1.0dB Max
VSWR	DC - 3 GHz	1.5:1 Max
	DC - 2 GHz	1.3:1 Max
	DC - 1 GHz	1.2:1 Max
	DC - 0.5 GHz	1.2:1 Max
Isolation	DC - 3 GHz	23dB Min
	DC - 2 GHz	30dB Min
	DC - 1 GHz	40dB Min
	DC - 0.5 GHz	50dB Min

Operating Characteristics

Impedance 50 Ohms Nominal

Switching Characteristics†

^t RISE, ^t FALL	3ns Typ
^t ON, ^t OFF (50% CTL to 90%/10% RF)	6ns Typ
Transients (In-Band)	30mv Typ

Input Power for 1dB Compression

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

Intermodulation Intercept Point

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

Intercept Points	IP ₂	IP ₃	
0.5 to 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 connected to all RF ports.

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

Ordering Information

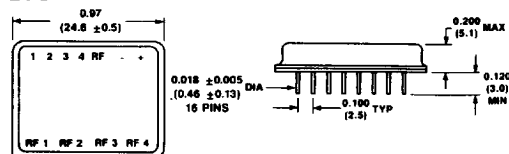
Model No.	Package
SWS278 PIN	Surface Mount

Specifications Subject to Change Without Notice.

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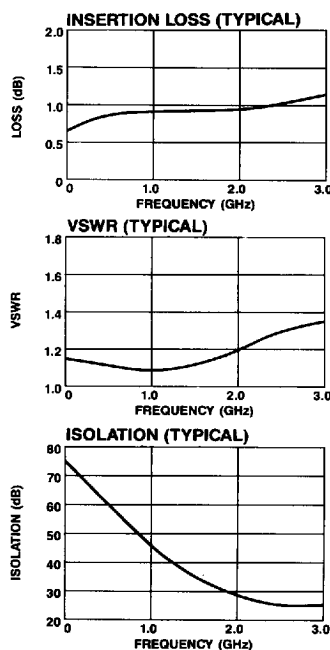
DI-2



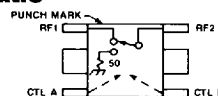
Dimensions in () are in mm.

See Appendix for complete physical dimensions.

Typical Performance



Schematic



Truth Table

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