

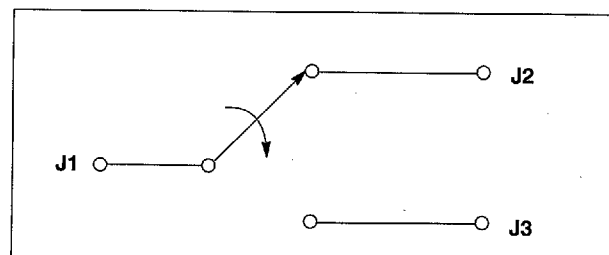
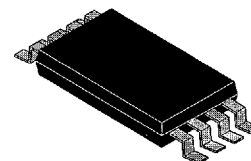
GaAs MMIC Two Watt High Linearity SPDT Switch in SSOP8 Package DC–2.0 GHz



AS359–62

Features

- High Linearity (55 dBm IP3 @ 900 MHz)
- Low Loss (0.35 dB @ 900 MHz)
- Low DC Power Consumption
- Both Positive and/or Negative 3 to 10V Control Voltages
- Extremely Low Cost
- Small SSOP8 Package



Description

The AS359–62 has been designed for use where extremely high linearity and low insertion loss are required. It can be controlled with positive, negative or a combination of both voltages. Some standard implementations include antenna changeover, T/R

and diversity switching over 2 watts. The AS359–62 switch can be used in many analog and digital wireless communication systems including cellular, GSM and DECT applications,

Electrical Specifications at 25°C

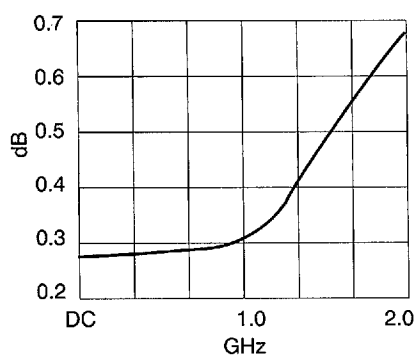
Insertion Loss	DC – 500 MHz	0.3 Typ, 0.4 Max	dB
	500 – 1000 MHz	0.4 Typ, 0.6 Max	dB
	1000 – 2000 MHz	1.0 Typ, 1.2 Max	dB
Isolation	DC – 500 MHz	23 Typ, 20 Min	dB
	500 – 1000 MHz	17 Typ, 15 Min	dB
	1000 – 2000 MHz	10 Typ, 8 Min	dB
VSWR ¹	DC – 1000 MHz	1.4:1 Max	dB
	1000 – 2000 MHz	1.8:1 Max	dB

1. Insertion Loss State.

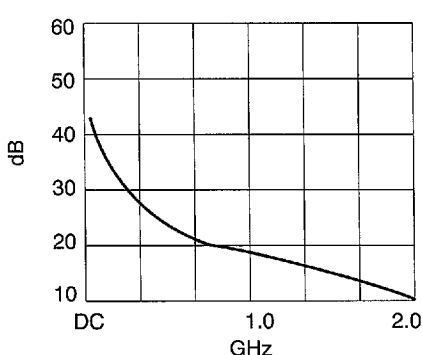
Operating Characteristics at 25°C

Impedance	50 Ohms Nominal			
Switching Characteristics				
RISE, FALL (10/90% or 90/10% RF)	60	ns	Typ	
ON, OFF (50% CTL to 90/10% RF)	100	ns	Typ	
Video Feedthru	50	mV	Typ	
Intermodulation Intercept Point for two-tone input power +10 dBm @ Vlow = 0V, Vhigh = +8V				
Intercept Points	IP3			
900 MHz	55	dBm	Typ	
Input Power for 1 dB Compression				
Control Voltages (Vdc)	0/-5	0/-8V		
900 MHz	35	37	dBm	Typ
Control Voltages	Min	Max		
Low (0)	-0.2	0.2	Volts	
High (1)	VC-0.2	VC+0.2	Volts	
Reverse Intermodulation Products (RIM)				
Tx Tone @ +30 dBm, 830 MHz				
Interference Tone @ +10 dBm, 785 MHz				
VDD	0/-5	0/-8.5		
RIM (typ)	-55	-80	dBm	Typ

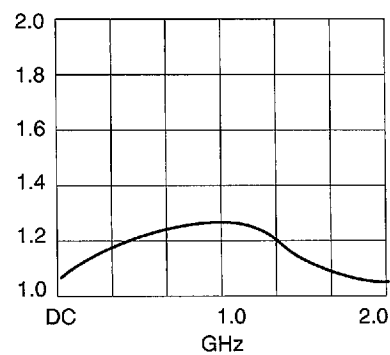
Performance Data



Insertion Loss vs. Frequency

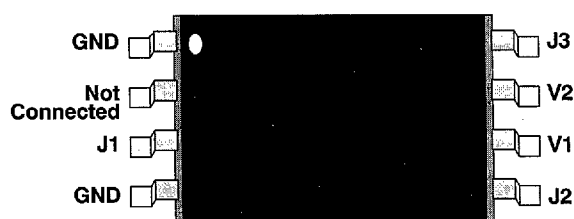


Isolation vs. Frequency



VSWR vs. Frequency

Pin Out



Absolute Maximum Ratings

RF Input Power: 6W Max > 900 MHz,
0/–5 Control

Control Voltage (V_C): +0.2, –10

Operating Temperature: –40°C to +85 °C

Storage Temperature: –65°C to +150 °C

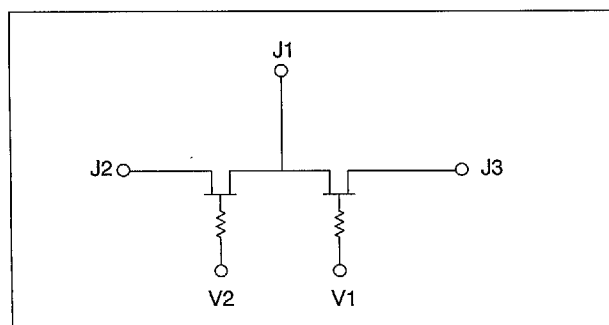
Θ_{JC} : 25 °C/W

Truth Table

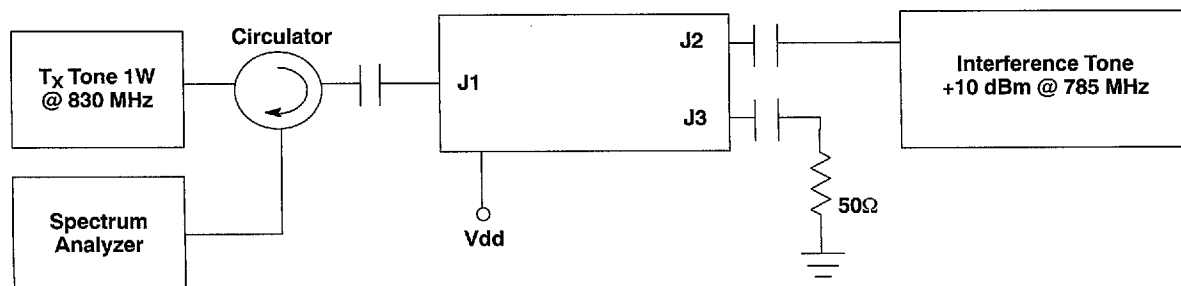
V1	V2	J1–J2	J1–J3
V_C	0	Isolation	Insertion Loss
0	V_C	Insertion Loss	Isolation

$V_C = -3$ to -9

Switch Schematic



Reverse Intermodulation Products (RIM) Setup



RF GaAs MMIC Products in Metal Packages

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