

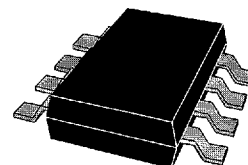
GaAs MMIC Diversity Switch in SOIC 8 Plastic Package



AS102-12

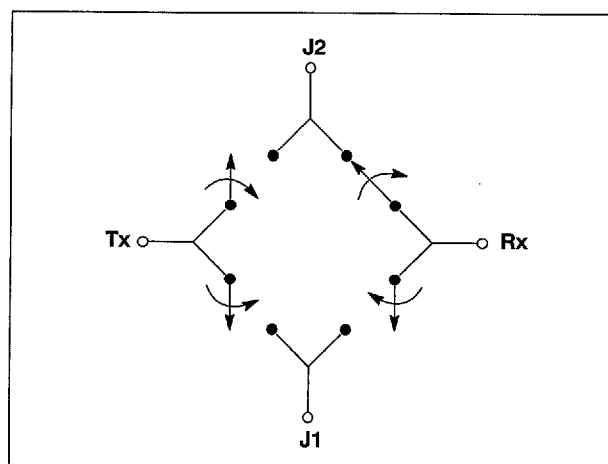
Features

- Extremely Low Cost
- Small Package
- 3 Volt Operation



Description

The AS102-12 is a 4 port switch with independent DC voltage control on each port. Its low voltage control function is ideal for 3 volt applications which have low power consumption requirements.



Electrical Specifications at 25°C

Insertion Loss ¹	DC – 500 MHz	1.9	dB	Max
	DC – 1000 MHz	2.4	dB	Max
	DC – 2000 MHz	3.5	dB	Max
Isolation ¹	DC – 500 MHz	33	dB	Min
	DC – 1000 MHz	27	dB	Min
	DC – 2000 MHz	20	dB	Min
VSWR ²	DC – 1000 MHz	1.5:1	dB	Max
	DC – 2000 MHz	1.8:1	dB	Max

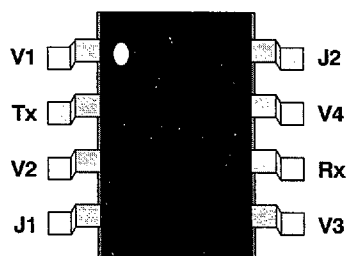
1. Any state.

2. Insertion loss state.

Operating Characteristics at 25°C

Impedance	50 Ohms Nominal		
Switching Characteristics			
RISE, FALL (10/90% or 90/10% RF)	10	ns	Typ
ON, OFF (50% CTL to 90/10% RF)	20	ns	Typ
Video Feedthru	50	mV	Typ
Intermodulation Intercept Point for two-tone input power up to +0 dBm @ Vlow = 0V, Vhigh = -5V			
Intercept Points		IP3	
0.5-2 GHz	30	dBm	Typ
0.001 GHz	20	dBm	Typ
Input Power for 1 dB Compression (Tx)			
Control Voltages (Vdc)	0/-3	0/-5	
0.5-2 GHz	15	18	dBm Typ
0.001 GHz	5	8	dBm Typ
Control Voltages			
V ₀ (Low)	0 to -0.2V @ 10 μA Max		
V ₀ (High)	-3V @ 25 μA to -5.0V @ 100 μA Max		

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Pin Out**Absolute Maximum Ratings**

RF Input Power: 250 mW > 500 MHz,
0/-5V Control

Control Voltage: +0.2, -7.0V

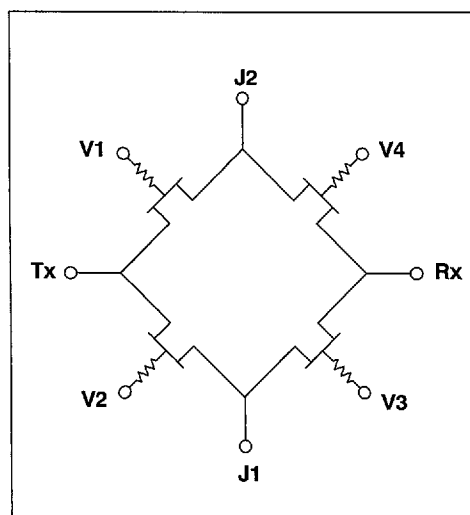
Operating Temperature: -40°C to +85 °C

Storage Temperature: -65 °C to 150 °C

Θ_{JC} : 25 °C/W

Truth Table

State	V1	V2	V3	V4
Tx-J2	0	-3	-3	-3
Tx-J1	-3	0	-3	-3
Rx-J1	-3	-3	0	-3
Rx-J2	-3	-3	-3	0

Switch Schematic

RF GaAs MMIC Products in Metal Packages

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