

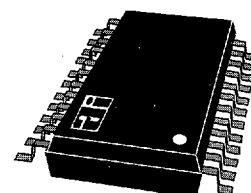
GaAs MMIC FET SP4T Non-Reflective Switch In 24 Lead SOIC Package DC-3 GHz



AS419M4-49

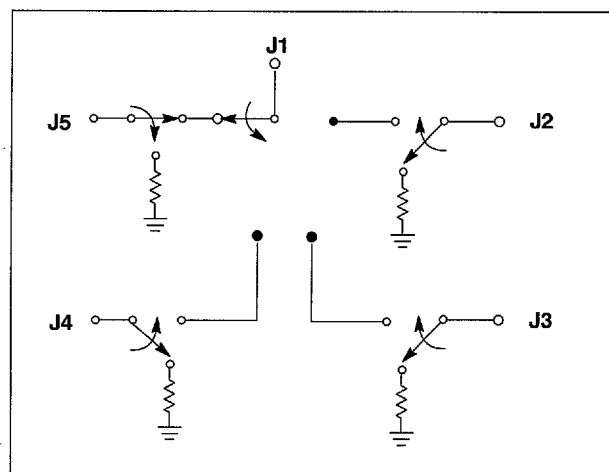
Features

- Surface Mount 24 Lead SOIC Package
- Designed for Commercial Applications



Description

The AS419M4-49 is a non-reflective SP4T FET MMIC Switch. The chip is packaged in the 24 lead SOIC package.



Electrical Specifications at 25°C

Insertion Loss ¹	DC - 0.5 GHz	1.3	dB	Max
	DC - 1 GHz	1.4	dB	Max
	DC - 2 GHz	1.9	dB	Max
	DC - 3 GHz	3.2	dB	Max
Isolation	DC - 0.5 GHz	40	dB	Min
	DC - 1 GHz	34	dB	Min
	DC - 2 GHz	28	dB	Min
	DC - 3 GHz	25	dB	Min
VSWR (I/O)	DC - 0.5 GHz	1.3:1	dB	Max
	DC - 1.0 GHz	1.5:1	dB	Max
	DC - 2 GHz	1.9:1	dB	Max
	DC - 3 GHz	1.9:1	dB	Max

1. Insertion loss changes by 0.003 dB/°C.

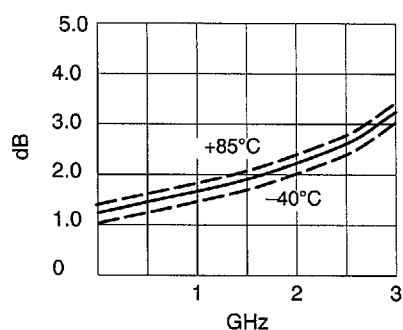
2. Measured with 1 ns risetime pulse and 500 MHz bandwidth.

Operating Characteristics at 25°C

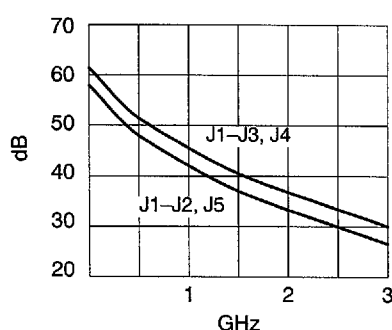
Impedance	50 Ohms Nominal		
Switching Characteristics			
RISE, FALL (10/90% or 90/10% RF)	4	ns	Typ
ON, OFF (50% CTL to 90/10% RF)	8	ns	Typ
Video Feedthru ²	15	mV	Typ
Input Power for 1 dB			
Compression	0/-5	0/-10	
0.5-3 GHz	27	33	dBm Typ
0.001 GHz	21	26	dBm Typ
Intercept Points			
	IP2	IP3	
0.5-3 GHz	65	46	dBm Typ
0.001 GHz	55	40	dBm Typ
Control Voltage			
V ₀ (Low)	0 to -0.2V @ 20 μA Max		
V ₀ (High)	-5V @ 50 μA to -10V @ 200 μA		

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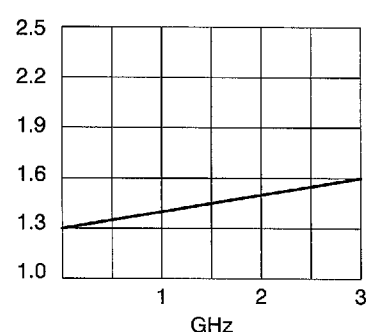
Typical Performance Data



Insertion Loss vs. Frequency



Isolation vs. Frequency



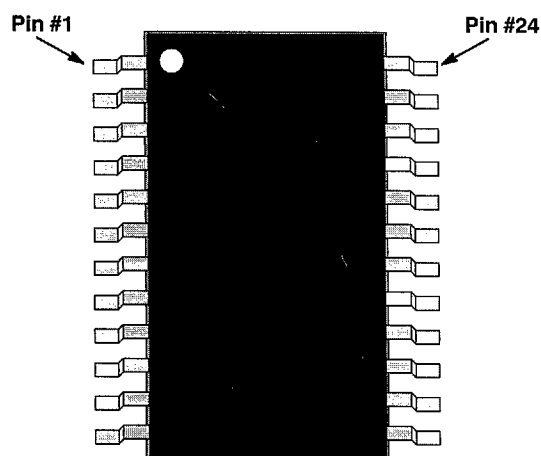
VSWR vs. Frequency

Truth Table

V1	V2	V3	V4	V5	V6	V7	V8	Insertion Loss from J1 To:
0	-5	-5	0	-5	0	-5	0	J2
-5	0	0	-5	-5	0	-5	0	J3
0	-5	0	-5	-5	0	0	-5	J4
0	-5	0	-5	0	-5	-5	0	J5

Pin Out¹

Pin #	Description	Pin #	Description
1	J1	24	GND
2	GND	23	GND
3	GND	22	GND
4	J5	21	J2
5	GND	20	GND
6	GND	19	GND
7	J4	18	J3
8	GND	17	GND
9	V8	16	V1
10	V6	15	V3
11	V5	14	V4
12	V7	13	V2



Absolute Maximum Ratings

RF Input Power: 2W > 500 MHz 0/-8V
0.5W @ 50 MHz 0/-8V

Control Voltage: +0.2V, -10V

Operating Temperature: -40°C to 85°C

Storage Temperature: -65°C to 150°C

Θ_{JC}: 25°C/W

Note: Exceeding these parameters may cause irreversible damage.

1. For schematic diagram refer to AS002M4-00.

RF GaAs MMIC Products in Metal Packages

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