

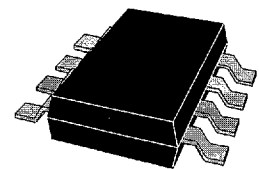
GaAs MMIC SPDT Switch in SOIC 8 Plastic Package



AS101-12

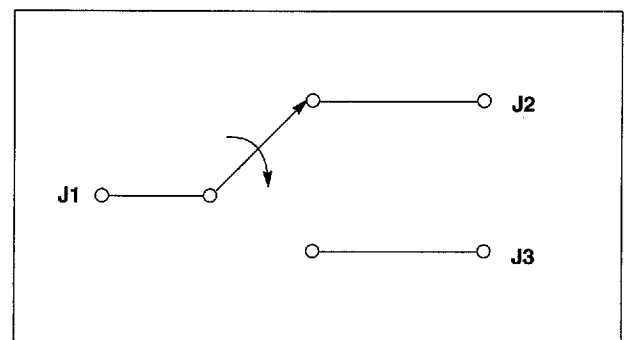
Features

- Extremely Low Cost
- 3 Volt Operation
- Low Power Consumption



Description

The AS101-12 is an SPDT switch with complementary voltage control. Its low voltage control function is ideal for 3 Volt applications which have low power consumption requirements.



Electrical Specifications at 25°C

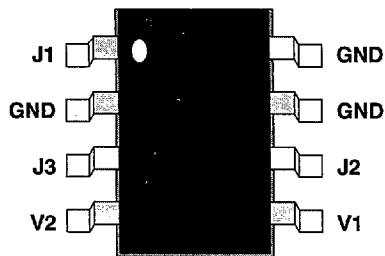
Insertion Loss	DC – 500 MHz	2.0	dB	Max
	DC – 1000 MHz	2.3	dB	Max
	DC – 2000 MHz	3.2	dB	Max
Isolation	DC – 500 MHz	40	dB	Min
	DC – 1000 MHz	35	dB	Min
	DC – 2000 MHz	25	dB	Min
VSWR ¹	DC – 1000 MHz	1.5:1	dB	Max
	DC – 2000 MHz	1.8:1	dB	Max

1. 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			

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

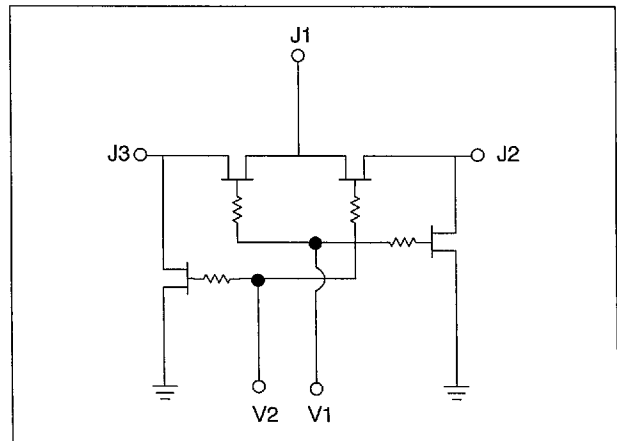
Storage Temperature: -65 °C to 150 °C

Θ_{JC} : 25 °C/W

Truth Table

V1	V2	J1-J2	J1-J3
0	-3	Isolation	Low Loss
-3	0	Low Loss	Isolation

Switch Schematic



RF GaAs MMIC Products in Metal Packages

2

Numerical Index

Part Number	Page	Part Number	Page	Part Number	Page
AD004T2-00	2-44	AK006R2-01	2-30	AS006M1-01	2-8
AD004T2-11	2-44	AK006R2-10	2-30	AS006M1-10	2-8
AE002M2-29	2-74	AK006R2-00	2-28	AS006M2-00	2-16
AE002M4-05	2-42	AK402D4-11	2-64	AS006M2-01	2-22
AH002R2-11	2-26	AK402D4-31	2-68	AS006M2-10	2-22
AK002D2-11	2-70	AN002M2-29	2-72	AS006R1-00	2-4
AK002D4-11	2-62	AN002M4-31	2-38	AS006R2-00	2-16
AK002D4-31	2-66	AN002M4-05	2-40	AS006R2-01	2-20
AK002M4-00	2-36	AS002M4-00	2-34	AS006R2-10	2-20
AK002M4-31	2-38	AS004L1-08	2-6	AS406M2-01	2-24
AK004L1-11	2-12	AS004L1-11	2-6	AS406R2-01	2-24
AK004M1-11	2-14	AS004L2-11	2-18	AT001D3-11	2-60
AK004M2-11	2-32	AS004M1-08	2-8	AT001D4-31	2-56
AK004R2-11	2-30	AS004M1-11	2-8	AT001D6-31	2-58
AK006L1-00	2-10	AS004M2-08	2-22	AT002D8-31	2-54
AK006L1-01	2-12	AS004M2-11	2-22	AT002N5-00	2-49
AK006L1-10	2-12	AS004R2-08	2-20	AT002N5-01	2-49
AK006M1-00	2-10	AS004R2-11	2-20	AT002N5-10	2-49
AK006M1-01	2-14	AS006L1-00	2-4	AT002N5-11	2-49
AK006M1-10	2-14	AS006L1-01	2-6	AT002S3-11	2-52
AK006M2-01	2-32	AS006L1-10	2-6	AT004N3-11	2-46
AK006M2-10	2-32	AS006L2-00	2-18	AT006N3-00	2-46
AK006M2-00	2-28	AS006L2-01	2-18	AT006N3-10	2-46
AK006R1-00	2-10	AS006M1-00	2-4	AT006N3-01	2-46

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