

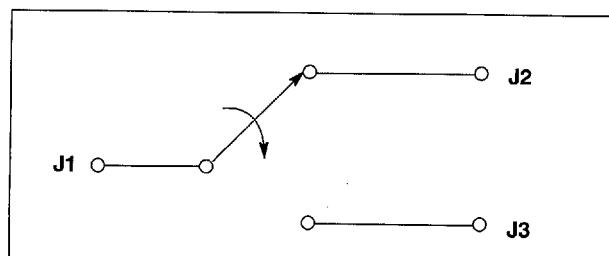
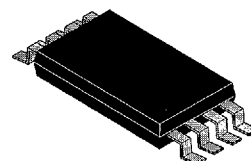
GaAs MMIC Two Watt High Linearity Cellular SPDT Switch in SSOP8 Package



AS358-62

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 AS358-62 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 AS358 switch can be used in many analog and digital wireless communication systems including cellular, GSM and DECT applications.

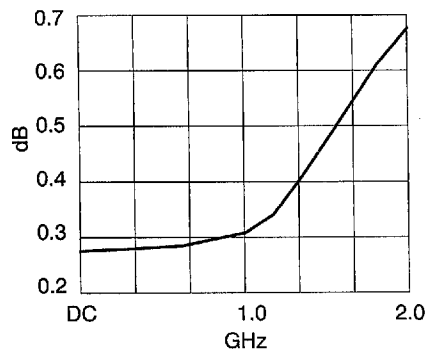
Electrical Specifications at 25°C

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
	2000 – 2000 MHz	1.6:1 Max	dB

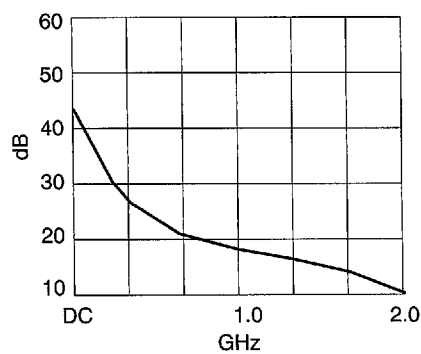
Operating Characteristics at 25°C

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			
900 MHz	35	dBm	Typ	
Control Voltages	Min	Max		
Low (0)	-0.2	0.2	Volts	
High (1)	V _{dd} -0.2	V _{dd} +0.2	Volts	
Reverse Intermodulation Products (RIM)				
Tx Tone @ +30 dBm, 830 MHz				
Interference Tone @ +10 dBm, 785 MHz				
V _{DD}	0/-5	0/-8.5		
RIM (typ)	-55	-80	dBm	Typ

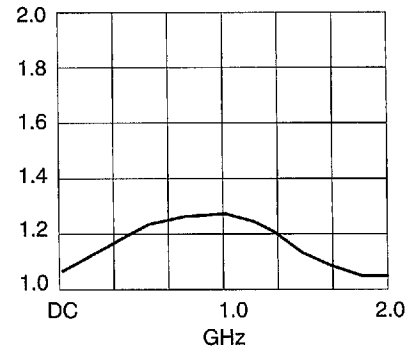
Performance Data



Insertion Loss vs. Frequency



Isolation vs. Frequency



VSWR vs. Frequency

Pin Out



Absolute Maximum Ratings

RF Input Power: 6W Max > 900 MHz,
0/+7 Control

Bias Voltages (V_{DD}): +10

Control Voltage: VDD

Operating Temperature: -40°C to $+85^{\circ}\text{C}$

Storage Temperature: -65°C to $+150^{\circ}\text{C}$

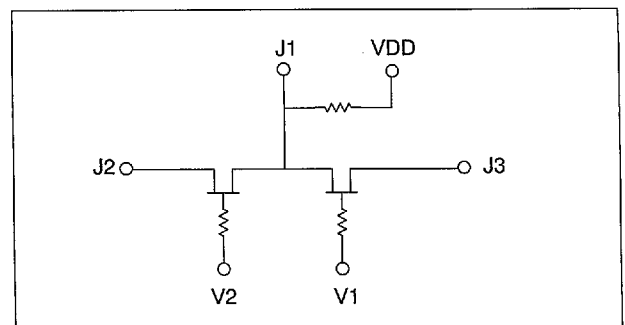
Θ_{JC} : 25°C/W

Truth Table

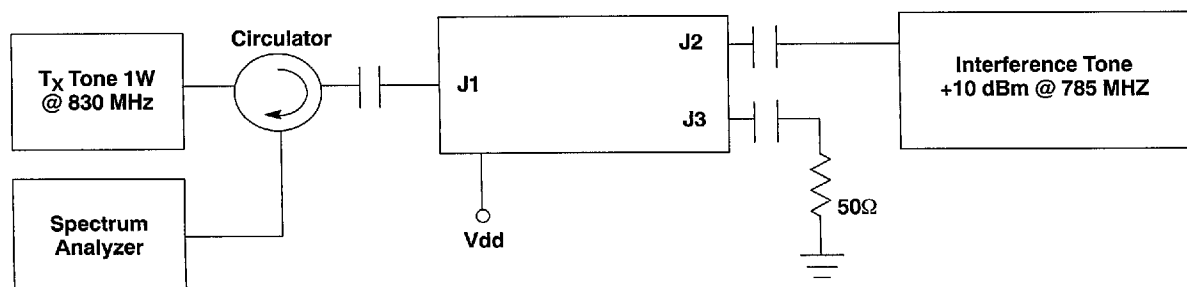
V1	V2	J1-J2	J1-J3
VDD	0	Isolation	Insertion Loss
0	VDD	Insertion Loss	Isolation

VDD = +3 to +9 Volts

Switch Schematic



Reverse Intermodulation Products (RIM) Setup



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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