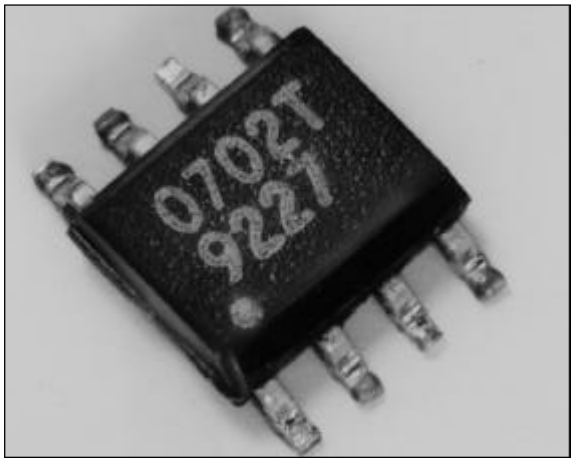
GaAs MMIC SPDT Terminated Switch, DC - 2GHz



Features

· Broadband performance
· Low insertion loss; 0.6dB typ at 1GHz
· Ultra low DC power consumption
· Fast switching speed; 3ns typical
· SO8 surface mount package
· 50Ω output terminations

Description

The P35-0702T is a high performance Gallium Arsenide monolithic single pole double throw RF switch suitable for use in broadband communications and instrumentation applications. The isolated port of the switch is terminated with a 50Ω load. Control is effected by the application of complimentary 0V and -5V levels to the control lines in accordance with the truth table below.

The die is fabricated using MOC's 0.5µm gate length MESFET process (S20) and is fully protected using Silicon Nitride passivation for excellent performance and reliability.

Electrical Performance

Ambient temperature = 22±3°C , Z_O = 50Ω, Control voltages = 0V/-5V unless otherwise stated

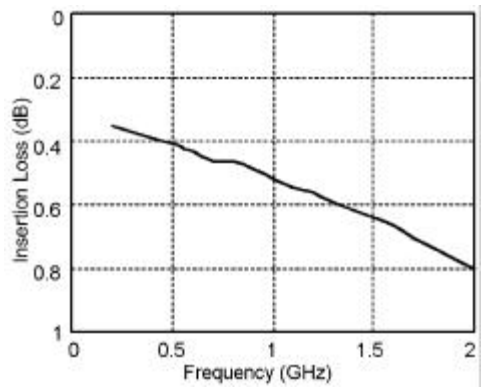
Parameter	Conditions	Min	Typ	Max	Units
Insertion Loss	DC - 0.5GHz	-	0.4	0.6	dB
	0.5GHz - 2GHz	-	0.9	1.0	dB
Isolation	DC - 0.5GHz	30	33	-	dB
	0.5GHz - 2GHz	20	22	-	dB
Input Return Loss[1]	DC - 0.5GHz	25	30	-	dB
	0.5GHz - 2GHz	20	25	-	dB
Output Return Loss1	DC - 0.5GHz	25	30	-	dB
	0.5GHz - 2GHz	20	25	-	dB
1dB power compression point[2]	0/-5V Control; 50MHz	20	21.5	-	dBm
	0/-5V Control; 2GHz	22	24	-	dBm
	0/-8V Control; 50MHz	23	25	-	dBm
	0/-8V Control; 2GHz	30	32	-	dBm
Switching Speed	50% Control to 10%90%RF	-	3	-	ns
Third Order Intercept[3]	500MHz	-	46	-	dBm

Notes

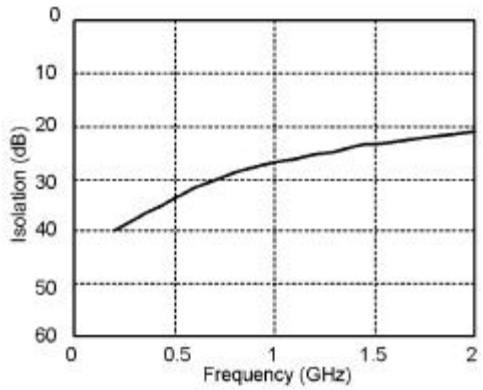
1. Return Loss measured in low loss switch state
2. Input power at which insertion loss compresses by 1dB
3. Input power 10dBm/tone

Typical Performance at 22°C

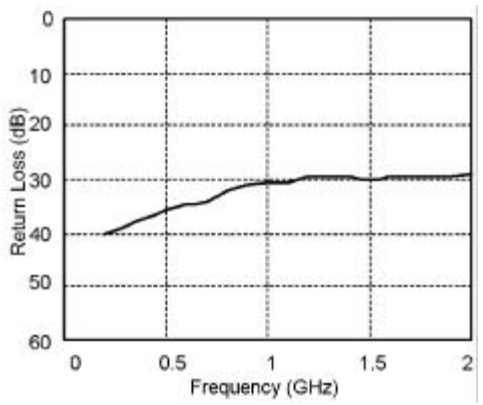
Insertion Loss



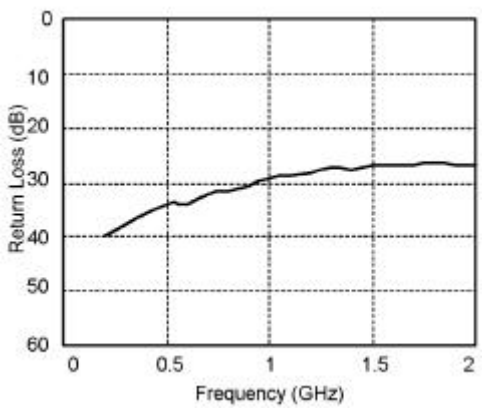
Isolation



Input Return Loss



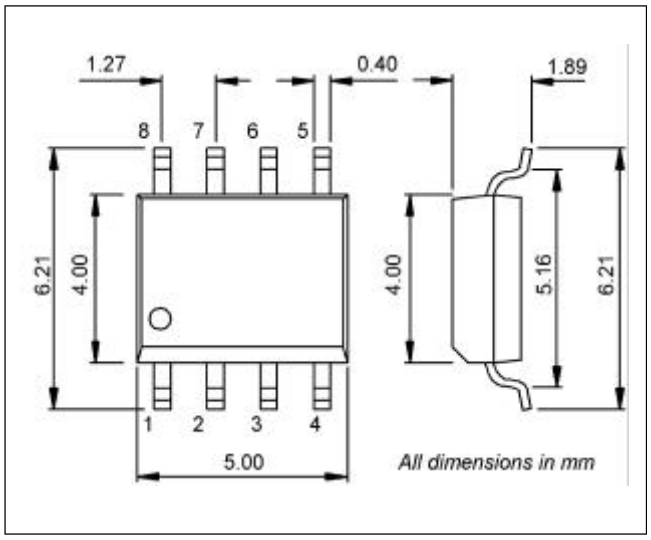
Output Return Loss



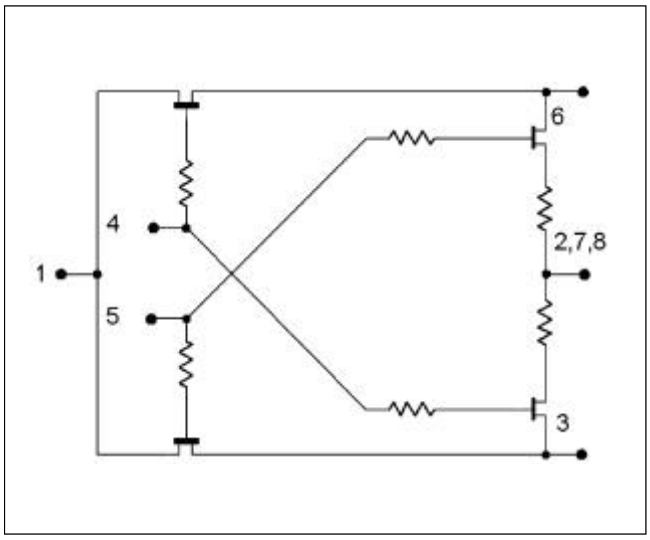
Absolute Maximum Ratings

Max control voltage	-8V
Max I/P power	+33 dBm
Operating temperature	-40°C to +85°C
Storage temperature	-65°C to +150°C

Package Outline



Electrical Schematic



Pin Details

Pin	Function
1	RF INPUT
2	Ground
3	RF1
4	Control B
5	Control A
6	RF2
7	Ground
8	Ground

Switching Truth Table

A	B	RF IN-RF1	RF IN-RF 2
0V	-5V	Low Loss	Isolated
-5V	0V	Isolated	Low Loss

Ordering Information: P35-0702T

463/SM/00019/200 Iss 1/2

The data and product specifications are subject to change without notice. These devices should not be used for device qualification and production without prior notice.

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