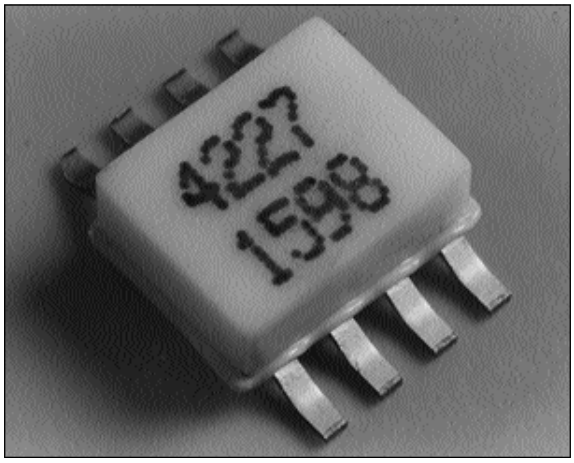
GaAs MMIC SPDT Terminated Switch, DC - 6GHz



Features

· Broadband performance
· High isolation; 32dB typ at 3GHz
· Low insertion loss; 1.0dB typ at 3GHz
· Ultra low DC power consumption
· Fast switching speed; 3ns typical
· SO8 surface mount ceramic package

Description

The P35-4227-C06-200 is a high performance Gallium Arsenide single pole double throw broadband RF switch. It is suitable for use in broadband communications and instrumentation applications. A 50Ω termination is presented at the isolated output of the switch. The switch is controlled by the application of complimentary 0V/-5V or 0/-8V signals to the control lines in accordance with the truth table below.

This die is fabricated using MOCs 0.5µm gate length MESFET process (S20) and is fully protected using Silicon Nitride passivation for excellent performance and reliability. This device is packaged in a SO8 sized surface mount ceramic package.

Electrical Performance

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

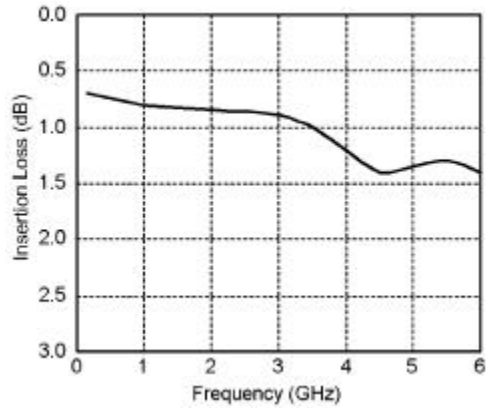
Parameter	Conditions	Min	Typ	Max	Units
Insertion Loss	DC - 3GHz	-	1.0	1.5	dB
	3 - 6GHz	-	1.5	2.0	dB
Isolation	DC - 3GHz	30	33	-	dB
	3 - 6GHz	25	28	-	dB
Input Return Loss[1]	DC - 6GHz	10	12	-	dB
Output Return Loss[1]	DC - 6GHz	10	12	-	dB
1dB power compression point[2]	0/-5V Control; 50MHz	-	20	-	dBm
	0/-5V Control; 2GHz	-	26	-	dBm
Switching Speed	50% Control to 10%90%RF	-	3	8	ns

Notes

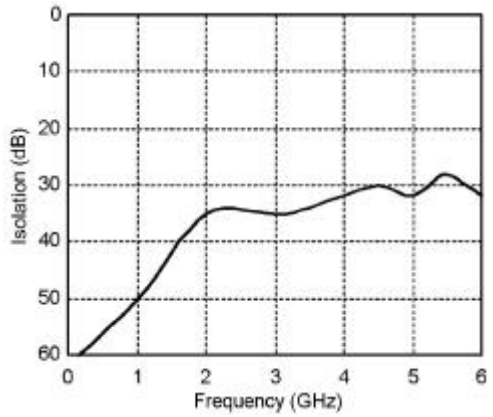
1. Return Loss measured in low loss switch state.
2. Input power at which insertion loss compresses by 1dB.

Typical Performance at 22°C

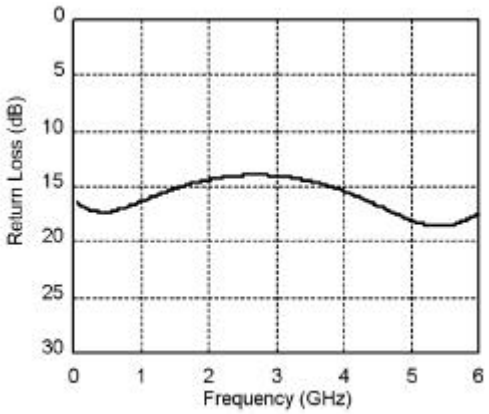
Insertion Loss



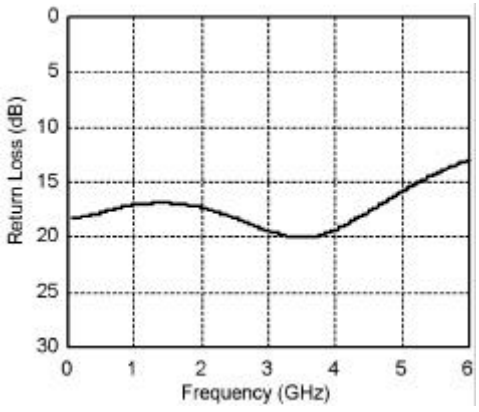
Isolation



Input Return Loss



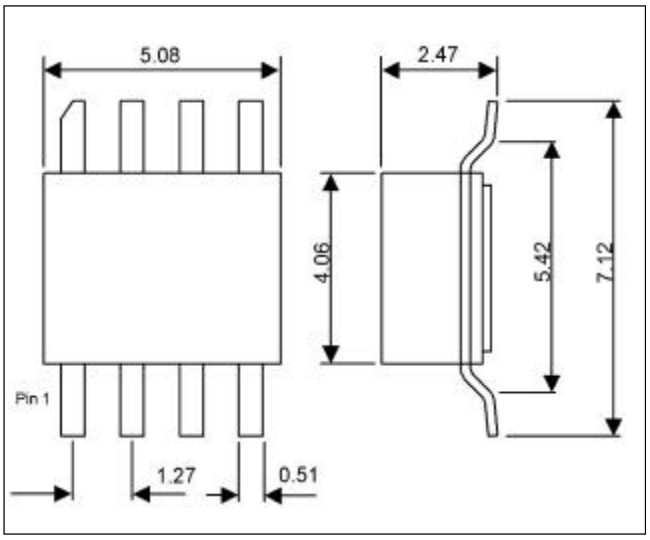
Output Return Loss



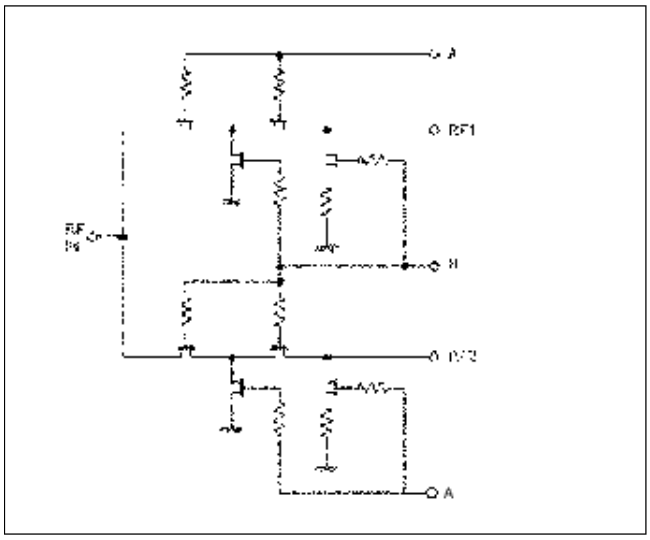
Absolute Maximum Ratings

Max control voltage	-8V
Max I/P power	+30 dBm
Operating temperature	-40°C to +85°C
Storage temperature	-65°C to +150°C

Package Outline



Electrical Schematic



Pin Details

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

Switching Truth Table

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

Ordering Information: P35-4227-C06-200

463/SM/00128/200 Iss 2/2

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