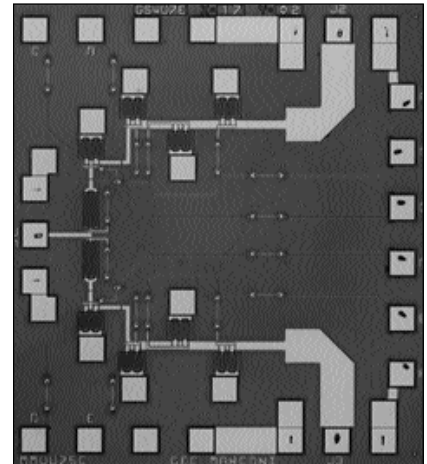


GaAs MMIC SPDT Reflective Switch, DC - 20GHz

Features

- Ultra Broadband
- Low insertion loss 2.0dB typ at 18GHz
- Fast switching speed
- High isolation 45dB at 10GHz
- Through GaAs Vias for improved performance



Description

The P35-4229-000-200 is a high performance Gallium Arsenide monolithic single pole double throw broadband RF switch. It is suitable for use in broadband communications, instrumentation and electronic warfare applications. 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.

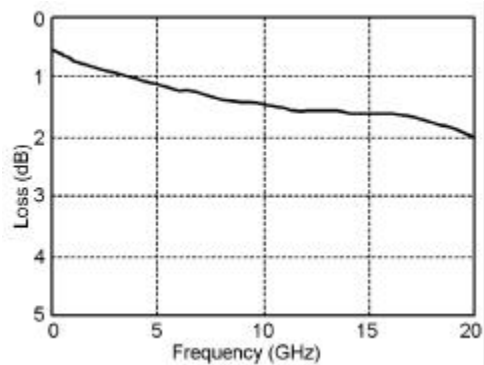
Electrical Performance

Ambient temperature = 22+/- 3°C , $Z_O = 50\Omega$, Gate control voltage = 0V/-5V

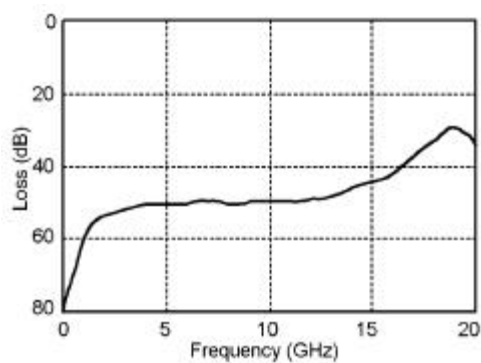
Parameter	Conditions	Min	Typ	Max	Units
Insertion Loss	DC - 10GHz	-	1.5	1.8	dB
	10GHz - 18GHz	-	1.8	2.0	dB
	18GHz - 20GHz	-	1.9	2.3	dB
Isolation	DC - 10GHz	40	45	-	dB
	10GHz - 18GHz	30	40	-	dB
	18GHz - 20GHz	27	35	-	dB
Input Return Loss	DC - 20GHz	13	15	-	dB
Output Return Loss	DC - 20GHz	11	15	-	dB
Input Power at 1dB compression		18	22	-	dBm
Control Voltage		-	0V/-5V	0V/-8V	Volts
Switching speed	50% control to 10/90% RF	-	5	10	ns

Typical Performance at 22°C

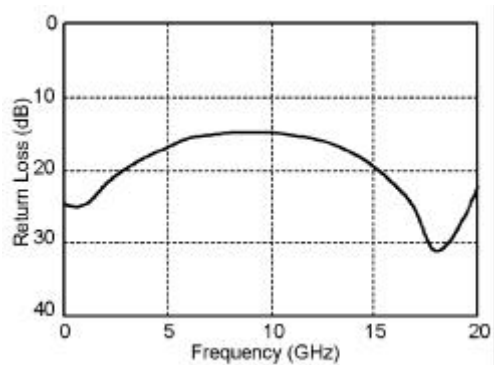
Insertion Loss (dB)



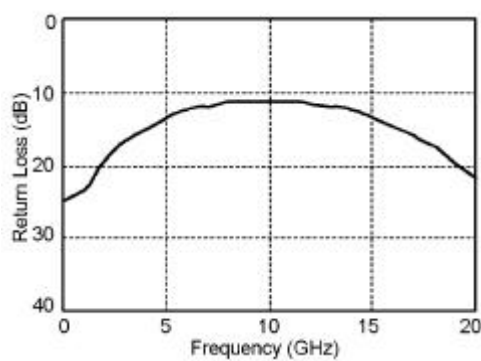
Isolation (dB)



Input Return Loss (dB)



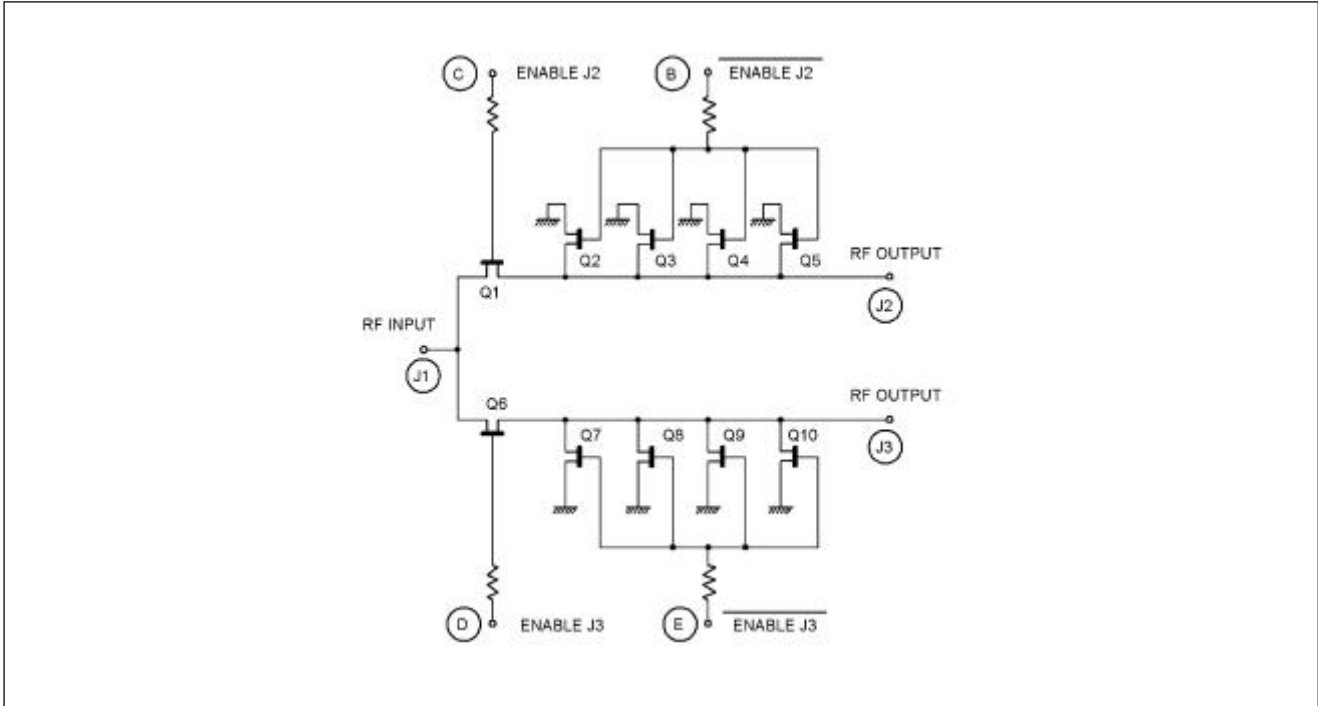
Output Return Loss (dB)



Absolute Maximum Ratings

Max control voltage	-8V
Max I/P power	+25 dBm
Operating temperature	-55°C to +125°C
Storage temperature	-55°C to +150°C

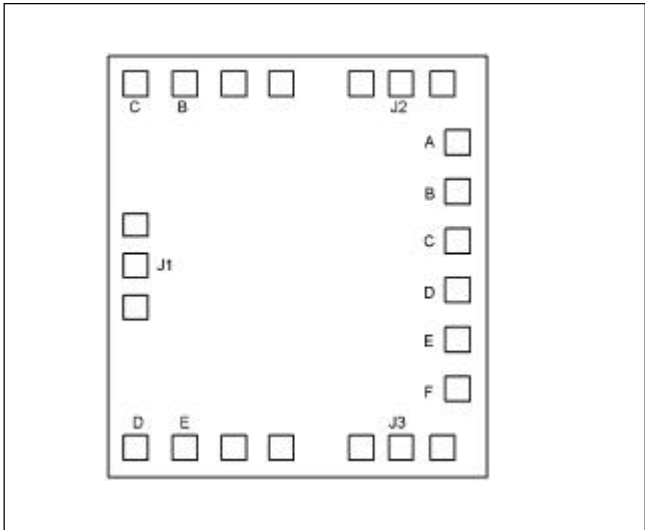
Electrical Schematic



Switching Truth Table

Control Line				State	State
1	2	3	4	J1/J2	J1/J3
-5V	0V	-5V	0V	Low Loss	Isolation
0V	-5V	0V	-5V	Isolation	Low loss
0V	-5V	-5V	0V	Isolation	Isolation

Package Outline



Pin Details

Pin	Function
J1	RF Input
J2	RF Output
J3	RF Output
A	GND
B	Isolate J1-J2
C	Enable J1-J2
D	Enable J1-J3
E	Isolate J1-J3
F	GND

Die size:	1.91 x 2.11mm
Bond pad size:	120µm square
Die thickness:	210µm

Ordering Information: P35-4229-000-200

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.

462/SM/01574/200 Iss 1/2 Issue



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