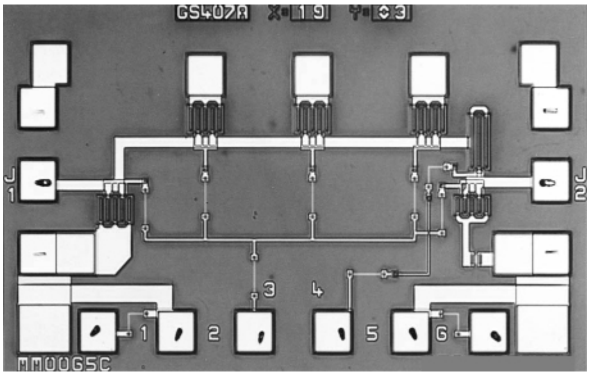
Data
sheet

MMIC SPST Absorptive Switch DC - 20GHz

The **P35-4235-000-200** is a high performance Gallium Arsenide monolithic single pole single 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 Bookham Technology's 0.5 µm gate length MESFET process (S20) and is fully protected using Silicon Nitride passivation for excellent performance and reliability.



Features

- Broadband
- Low insertion loss 1.8dB typ at 18GHz
- Fast switching speed
- High isolation 50dB at 18GHz
- Through GaAs Vias for improved performance

Electrical Performance

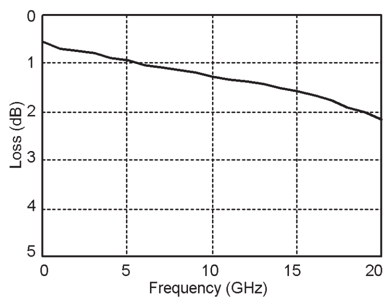
Ambient temperature = 22+/- 3 deg C , Zo = 50 Ω, Gate control voltage = 0V/-5V

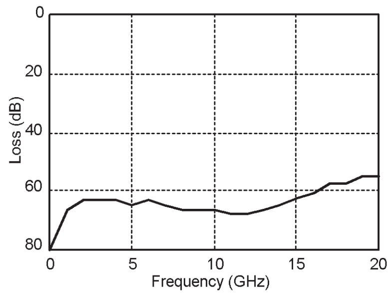
Parameter	Conditions	Min	Typ	Max	Units
Insertion Loss	DC -10 GHz	-	1.4	1.6	dB
	10 - 18 GHz	-	1.8	2.0	dB
	18 - 20 GHz	-	1.9	2.5	dB
Isolation	DC -10 GHz	57	62	-	dB
	10 - 18 GHz	50	52	-	dB
	18 - 20GHz	45	50	-	dB
Input Return Loss[1]	DC - 20GHz 13 17 - dB	13	17	-	dB
Output Return Loss[1]	DC - 20GHz 13 17 - dB	13	17	-	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

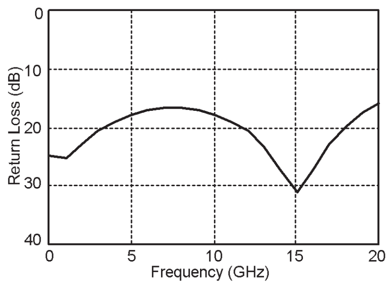
Notes

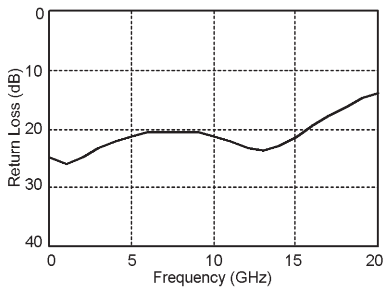
1. Return loss measured in low loss state.

Typical Performance at 22° C


Insertion Loss (dB)


Isolation (dB)

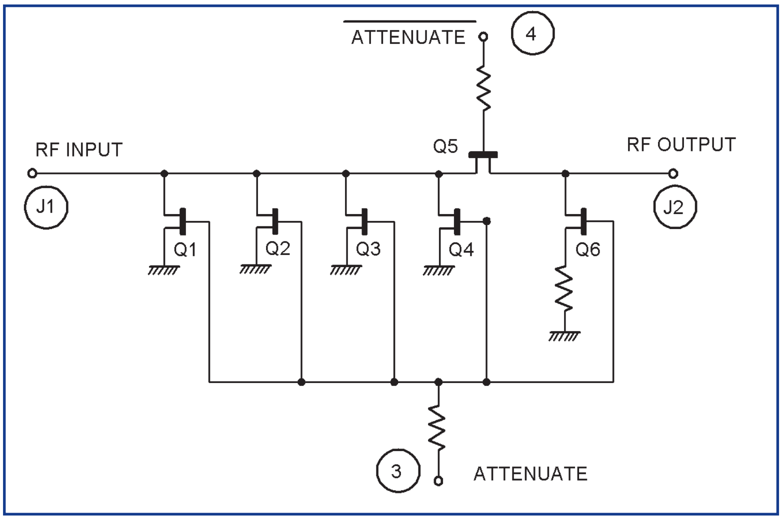

Input Return Loss (dB)


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



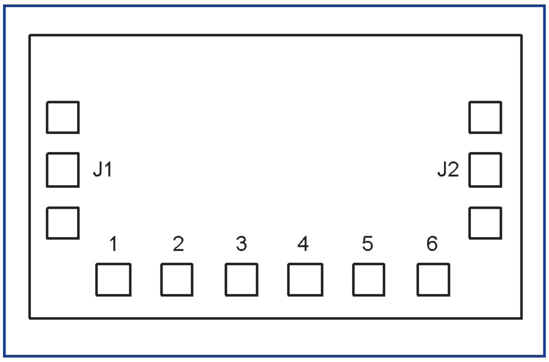
Truth Table

Control Line		State
3	4	J1/J2
-5V	0V	Low Loss
0V	-5V	Isolation

Pad Details

Pad	Function
J1	RF INPUT
J2	RF OUTPUT
1	N/C
2	N/C
3	Isolate J1-J2
4	Enable J1-J2
5	N/C
6	N/C

Chip Outline



Chip size:	1.91 x 1.11mm
Bond pad size:	120 µm square
Chip thickness:	200 µm

Ordering Information

P35-4235-000-200

Thinking RF solutions

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Important Notice

Bookham Technology has a policy of continuous improvement. As a result certain parameters detailed on this flyer may be subject to change without notice. If you are interested in a particular product please request the product specification sheet, available from any RF sales representative.

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