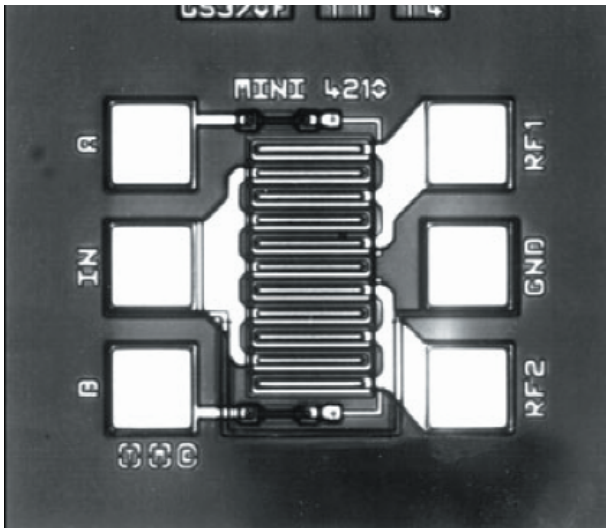
Data sheet

Bookham TECHNOLOGY

MMIC SPDT Reflective Switch, DC - 3GHz

The **P35-4211-000-200** is a high performance Gallium Arsenide monolithic single pole double throw RF switch, suitable for use in broadband communications and instrumentation applications. An open circuit reflective termination is presented at the isolated output of the switch. Control is effected by the application of complimentary 0V and -5V levels to the control lines in accordance with the truth table below.

This 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. This device is also available in a plastic surface mount package (see P35-4211-1).



Features

- Broadband performance
- Low insertion loss; 0.5dB typ at 1GHz
- Ultra low DC power consumption
- Fast switching speed; 3ns typical
- Chip form

Electrical Performance

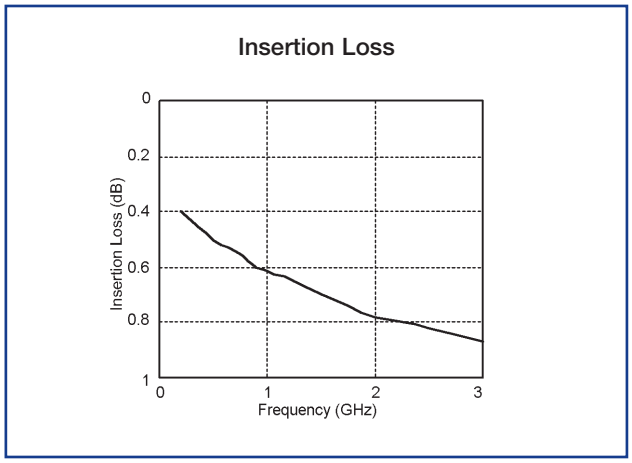
Ambient temperature = 22 ± 3 deg C , Zo = 50 ohms, Control voltages = 0V/-5V unless otherwise stated.

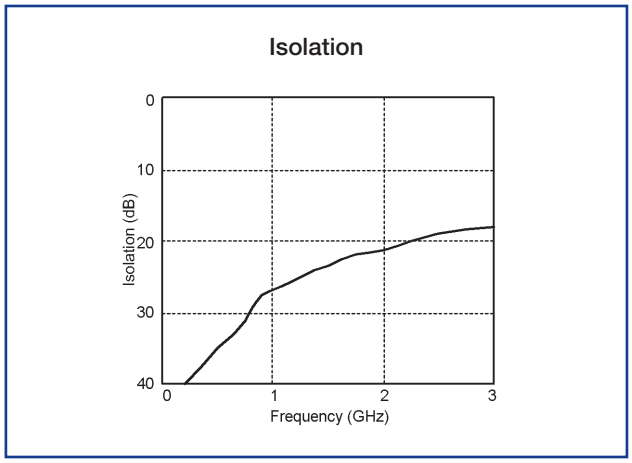
Parameter	Conditions	Min	Typ	Max	Units
Insertion Loss	DC - 1GHz	-	0.5	0.6	dB
	1 - 3GHz	-	0.9	1.0	dB
Isolation	DC - 1GHz	25	26	-	dB
	1 - 3GHz	15	18	-	dB
Input Return Loss [1]	DC - 1GHz	18	20	-	dB
	1 - 3GHz	15	19	-	dB
Output Return Loss [1]	DC - 1GHz	18	20	-	dB
	1 - 3GHz	15	19	-	dB
1dB power compression point [2]	0/-5V Control; 50MHz	19	20	-	dBm
	0/-5V Control; 1GHz	28	29	-	dBm
	0/-8V Control; 50MHz	21	22	-	dBm
	0/-8V Control; 1GHz	30	31	-	dBm
Switching Speed	50% Control to 10%90%RF	-	3	8	ns
Third Order Intercept [3]	500MHz - 47 - dBm	-	47	-	dBm

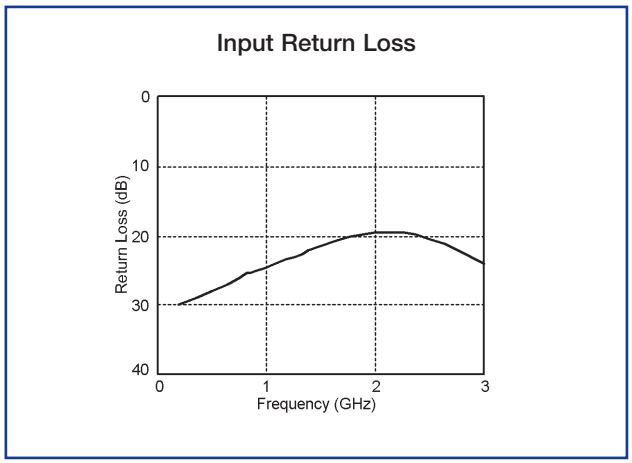
Notes

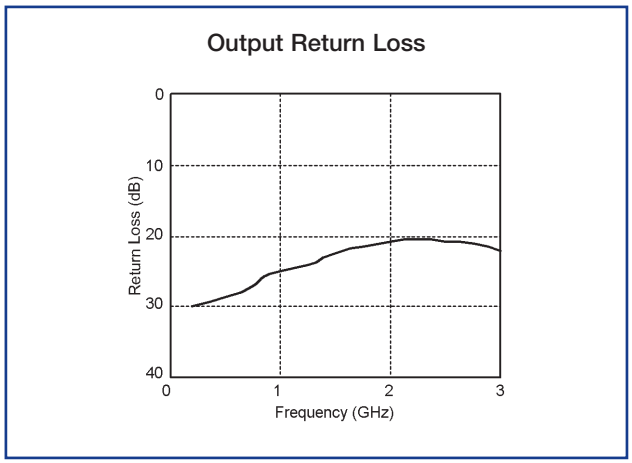
1. Return Loss measured in low loss switch state
2. Input power at which insertion loss compresses by 1dB
3. Input power 10dBm/tone

Typical Performance at 22° C





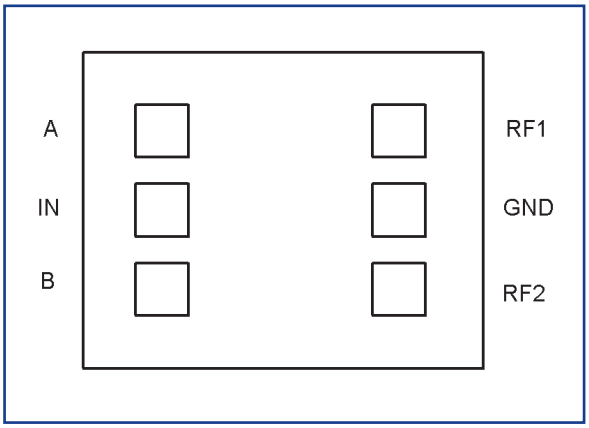




Absolute Maximum Ratings

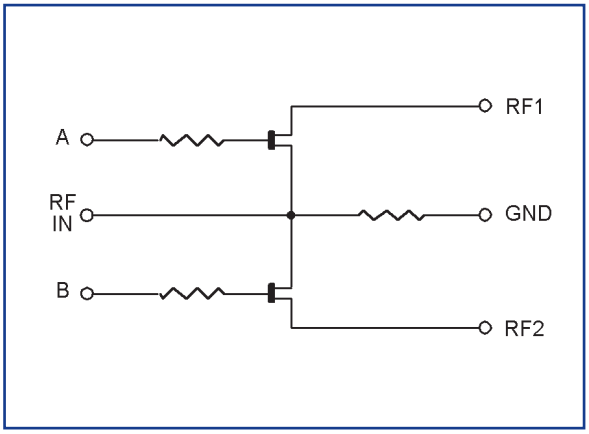
Max control voltage	-8V
Max I/P power	+33 dBm
Operating temperature	-55 °C to +125 °C
Storage temperature	-65 °C to +150 °C

Chip Outline



Die size 0.51 x 0.56mm
Bond pad size 90 µm x 90 µm
Die thickness: 210 µm

Electrical Schematic



Switching Truth Table

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

Ordering Information

P35-4211-000-200

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Important Notice

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