

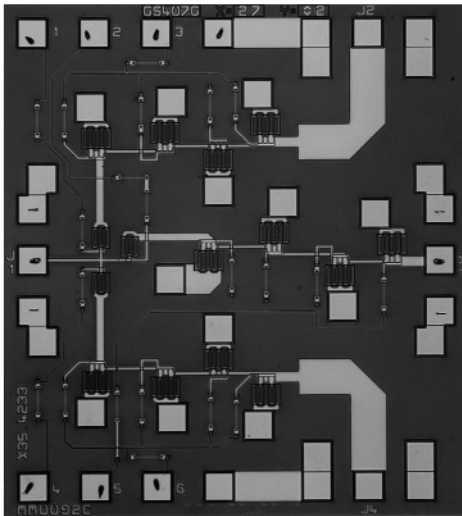
MMIC SP3T Reflective Switch, DC - 20GHz

The **P35-4233-000-200** is a high performance broadband Gallium Arsenide monolithic single pole three throw 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

- Ultra Broadband
- Low insertion loss 2.2dB typ at 18GHz
- Fast switching speed
- High isolation 55dB at 18GHz
- Through GaAs Vias for improved performance



Electrical Performance

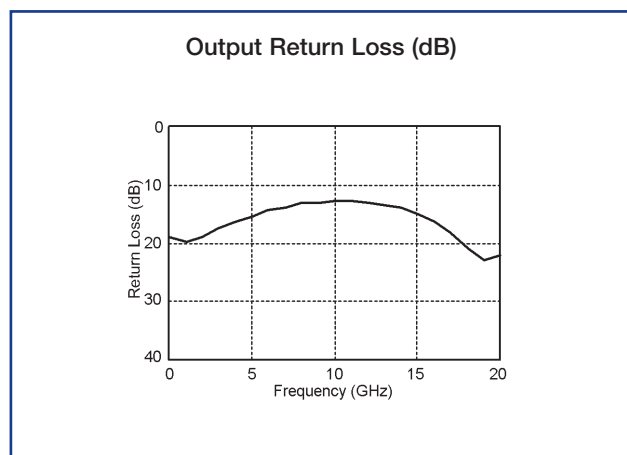
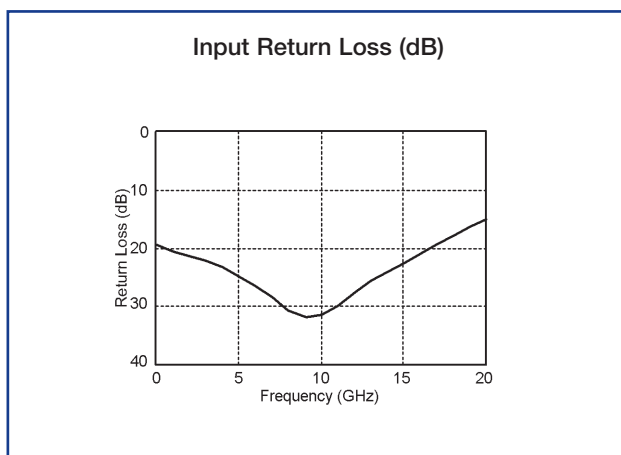
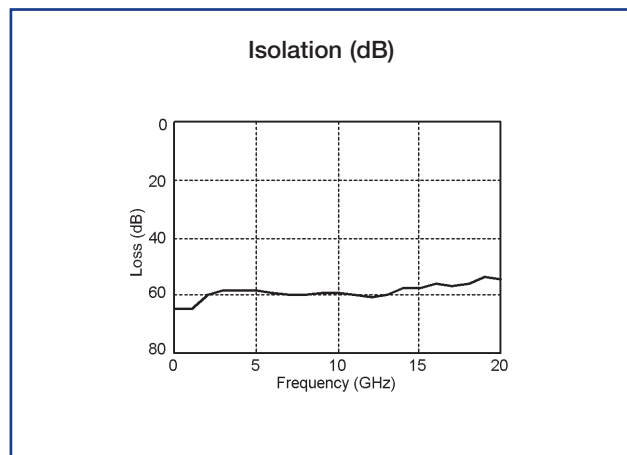
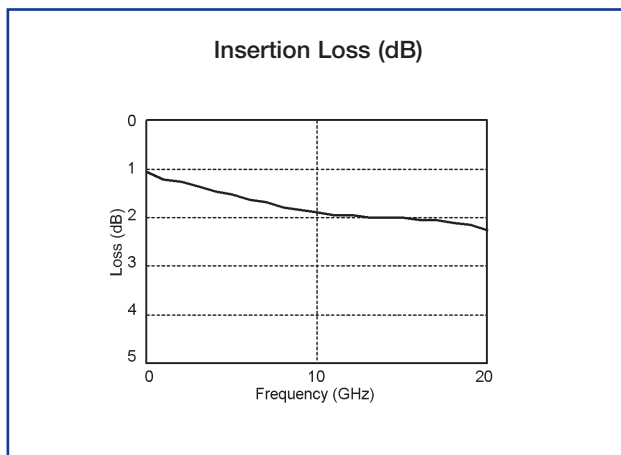
Ambient temperature = 22 ± 3 deg C , $Z_o = 50 \Omega$, Control Voltage = 0V/-5V

Parameter	Conditions	Min	Typ	Max	Units
Insertion Loss	DC - 10GHz	-	1.2	2.0	dB
	18GHz - 10GHz	-	2.0	2.2	dB
	18GHz - 20GHz	-	2.3	2.6	dB
Isolation	DC - 10GHz	55	60	-	dB
	18GHz - 10GHz	50	55	-	dB
	18GHz - 20GHz	48	55	-	dB
Input Return Loss (1)	DC -20 GHz	13	15	-	dB
Output Return Loss (1)	DC -20 GHz	12	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

Notes

- Return loss measured is low loss state

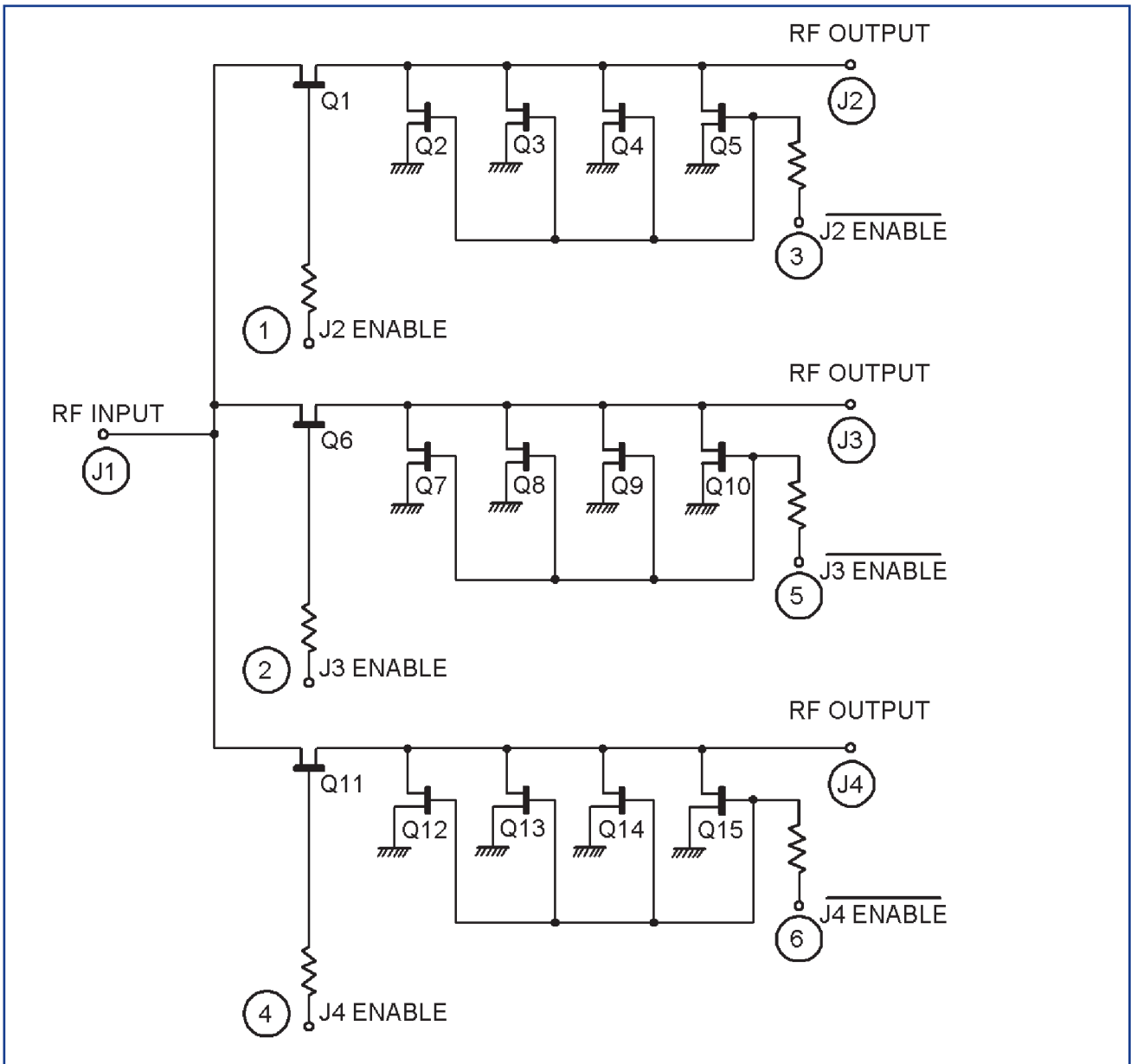
Typical Performance at 22° C



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

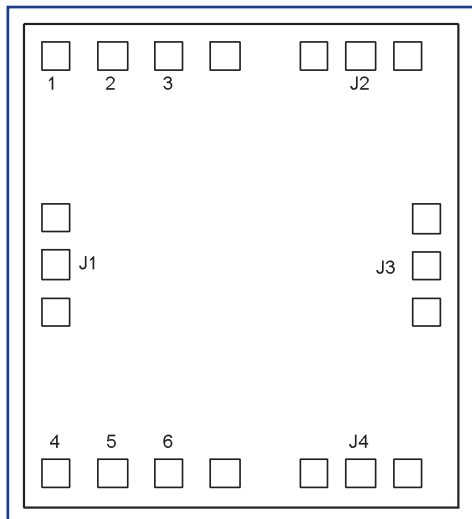
Electrical Schematic



Truth Table

Control Line						State	State	State
1	2	3	4	5	6	J1/J2	J1/J3	J1/J4
0V	-5V	-5V	-5V	0V	0V	Low Loss	Isolation	Isolation
-5V	0V	0V	-5V	-5V	0V	Isolation	Low Loss	Isolation
-5V	-5V	0V	0V	0V	-5V	Isolation	Isolation	Low Loss
-5V	-5V	0V	-5V	0V	0V	Isolation	Isolation	Isolation

Chip Outline



Chip size: 1.91 x 2.11mm
 Bond pad size: 120 µm square
 Chip thickness: 200 µm

Ordering Information

P35-4233-000-200

Pad Details

Pad	Function
J1	RF INPUT
J2	RF OUTPUT
J3	RF OUTPUT
J4	RF OUTPUT
1	Enable J1-J2
2	Enable J1-J3
3	Isolate J1-J2
4	Enable J1-J4
5	Isolate J1-J3
6	Isolate J1-J4



MMICS

Bookham Technology plc
 Caswell
 Towcester
 Northamptonshire
 NN12 8EQ
 UK

• Tel: +44 (0) 1327 356 789

• Fax: +44 (0) 1327 356 698

rfsales@bookham.com

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.



22735