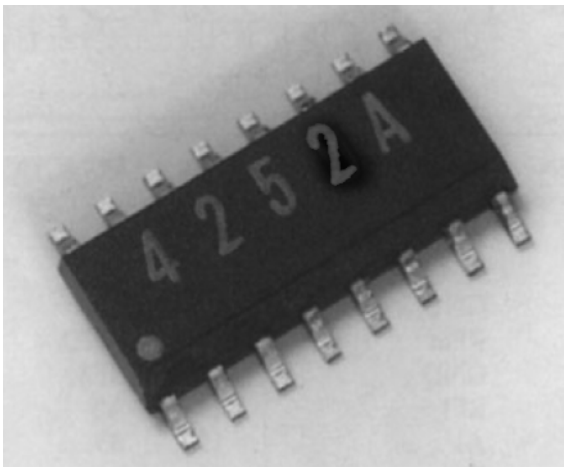
Data sheet

GaAs MMIC SP4T TERMINATED SWITCH, DC - 2GHz

The **P35-4252-3** is a high performance Gallium Arsenide single pole four throw RF switch. It is suitable for use in broadband communications and instrumentation applications. A 50 Ω termination is presented at the isolated outputs 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 Bookham'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 packaged in a low-cost surface-mount plastic package.



Features

- Broadband performance
- Low insertion loss; 0.7dB typ at 1GHz
- Ultra low DC power consumption
- Fast switching speed; 3ns typical
- SO16 surface mount package

Electrical Performance

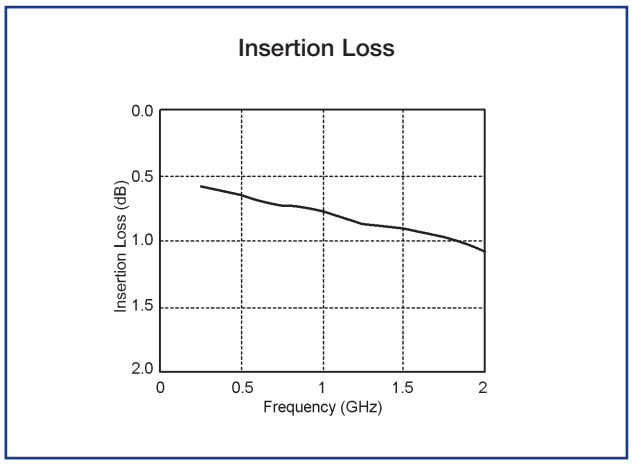
Ambient temperature = 22 ±3 °C, Zo = 50 Ω, Control voltages = 0V/-5V unless otherwise stated

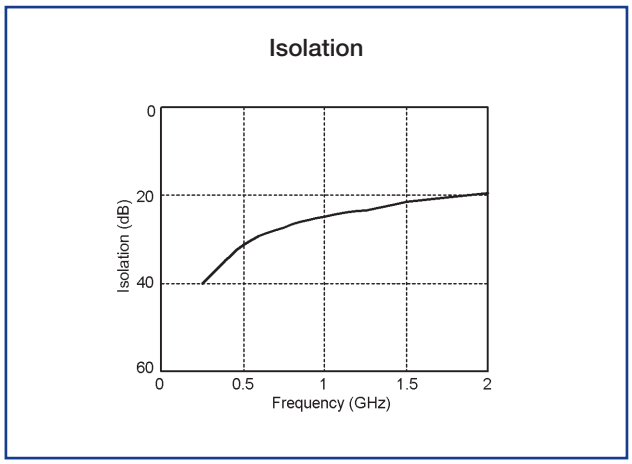
Parameter	Conditions	Min	Typ	Max	Units
Insertion Loss[1]	DC - 1GHz	-	0.7	0.9	dB
	1 - 2GHz	-	0.9	1.1	dB
Isolation[1]	DC - 1GHz	26	28	-	dB
	1 - 2GHz	16	20	-	dB
Input Return Loss[2]	DC - 1GHz	21	28	-	dB
	1 - 2GHz	14	25	-	dB
Output Return Loss[2]	DC - 1GHz	21	28	-	dB
	1 - 2GHz	14	22	-	dB
1dB power compression point[3]	0/-5V Control; 50MHz	-	19	-	dBm
	0/-5V Control; 2GHz	-	22.5	-	dBm
	0/-8V Control; 50MHz	-	21.5	-	dBm
	0/-8V Control; 2GHz	-	30	-	dBm
Switching Speed	50% Control to 10%90%RF	-	3	-	ns

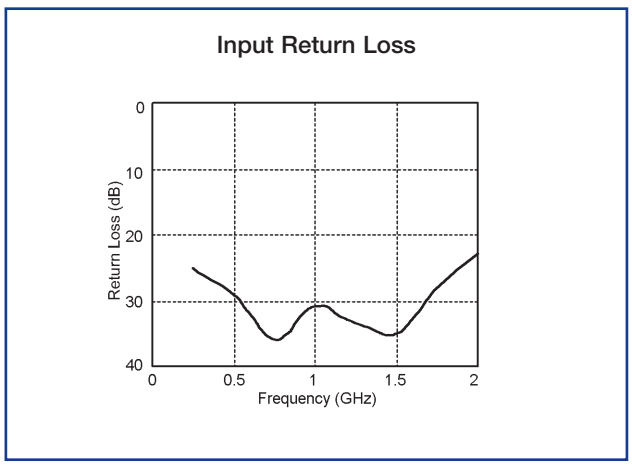
Notes

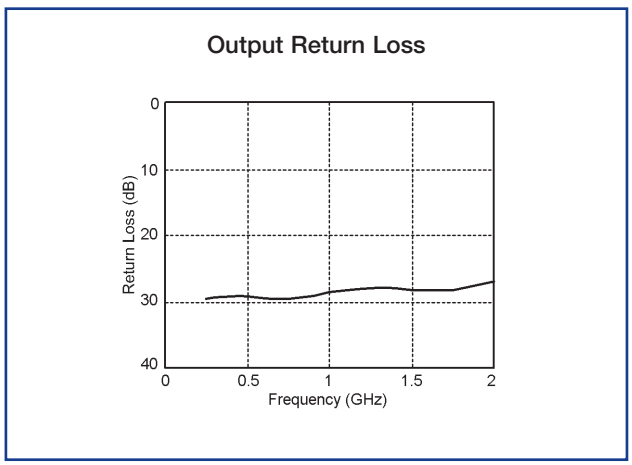
1. Insertion Loss and Isolation measured between RF input and any output.
2. Return Loss measured in low loss switch state.
3. Input power at which insertion loss compresses by 1dB

Typical Performance at 22° C





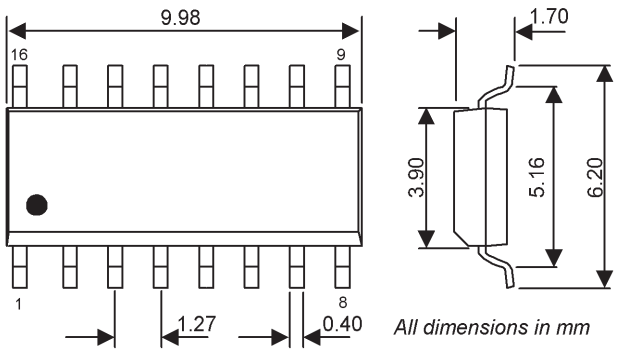




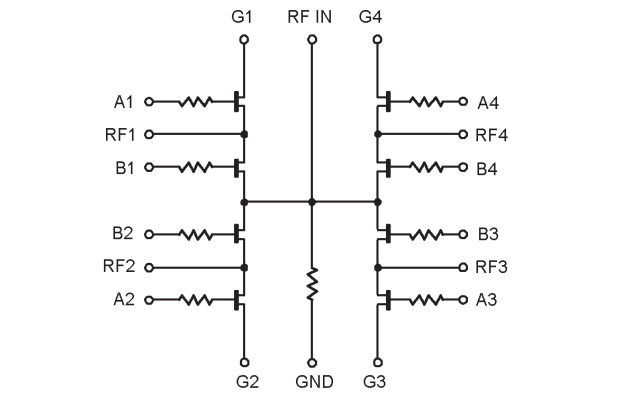
Absolute Maximum Ratings

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



Package Pin Out

Pin	Function	Pin	Function	Pin	Function	Pin	Function
1	A4	5	Ground	9	B2	13	RF3
2	RF4	6	RF1	10	A2	14	A3
3	Ground	7	A1	11	RF2	15	B3
4	RF IN	8	B1	12	Ground	16	B4

Switching Truth Table

Control Pin Voltage (V)								Path From RF IN to			
A1	B1	A2	B2	A3	B3	A4	B4	RF1	RF2	RF3	RF4
-5	0	0	-5	0	-5	0	-5	Low Loss	Isolated	Isolated	Isolated
0	-5	-5	0	0	-5	0	-5	Isolated	Low Loss	Isolated	Isolated
0	-5	0	-5	-5	0	0	-5	Isolated	Isolated	Low Loss	Isolated
0	-5	0	-5	0	-5	-5	0	Isolated	Isolated	Isolated	Low Loss

Ordering Information
P35-4252-3

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Important Notice

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