

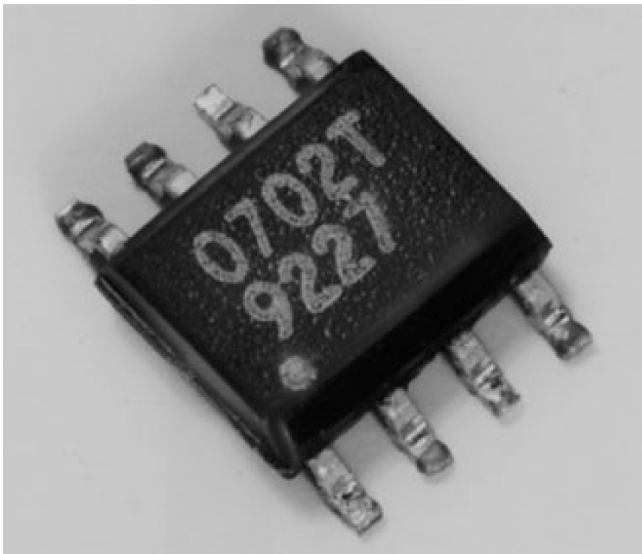
GaAs MMIC SPDT Terminated Switch, DC-2GHz

The **P35-0702T** is a high performance Gallium Arsenide monolithic single pole double throw RF switch suitable for use in broadband communications and instrumentation applications. The isolated port of the switch is terminated with a 50 Ω load. 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 performance
- Low insertion loss; 0.6dB typ at 1GHz
- Ultra low DC power consumption
- Fast switching speed; 3nS typical
- SO8 surface mount package
- 50 Ω output terminations



Electrical Performance

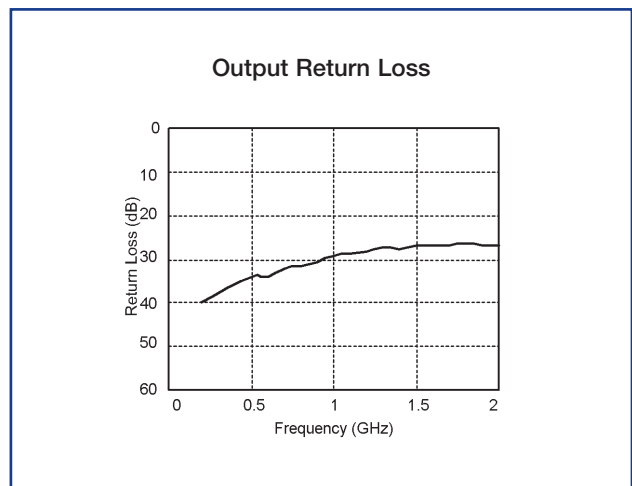
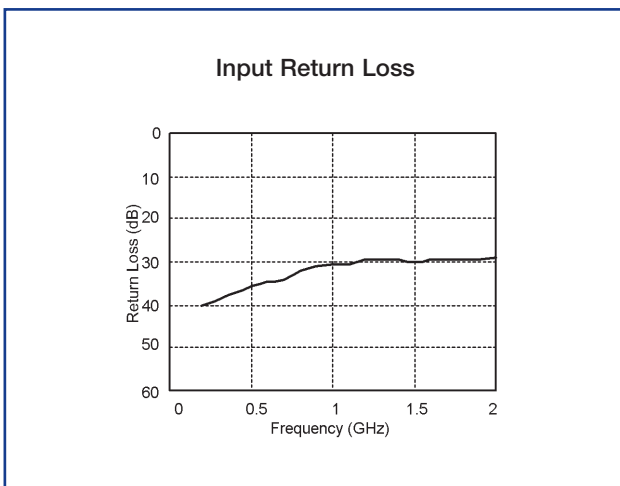
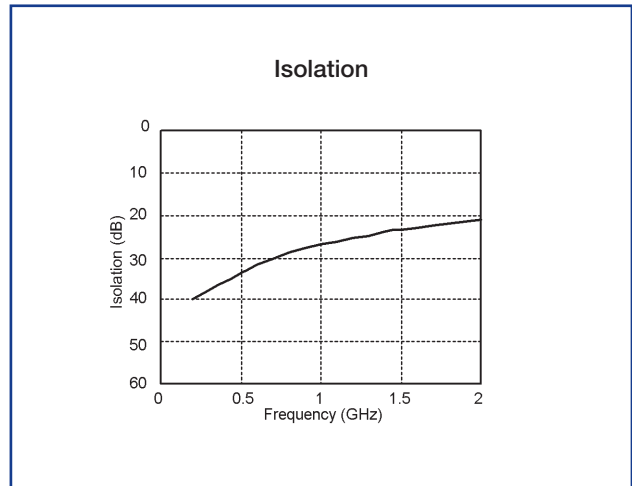
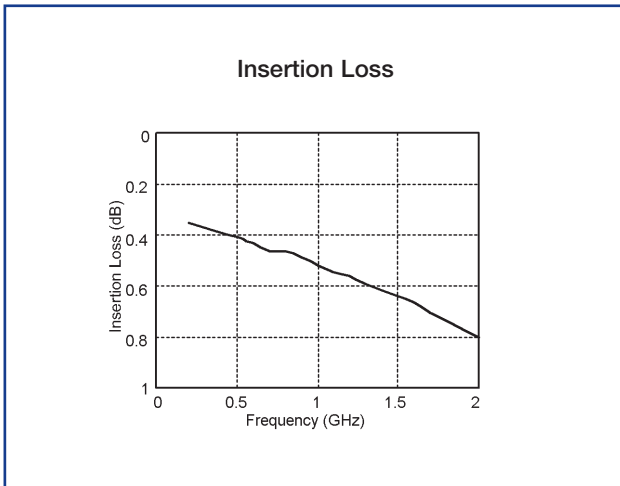
Ambient temperature = 22 ±3 °C , Zo = 50 ohms, Control voltages = 0V/-5V unless otherwise stated

| Parameter | Conditions | Min | Typ | Max | Units |
|--|-------------------------|-----|------|-----|-------|
| Insertion Loss | DC - 0.5GHz | - | 0.4 | 0.6 | dB |
| | 0.5GHz - 2GHz | - | 0.9 | 1.0 | dB |
| Isolation | DC - 0.5GHz | 30 | 33 | - | dB |
| | 0.5GHz - 2GHz | 20 | 22 | - | dB |
| Input Return Loss ¹ | DC - 0.5GHz | 25 | 30 | - | dB |
| | 0.5GHz - 2GHz | 20 | 25 | - | dB |
| Output Return Loss ¹ | DC - 0.5GHz | 25 | 30 | - | dB |
| | 0.5GHz - 2GHz | 20 | 25 | - | dB |
| 1dB power compression point ² | 0/-5V Control; 50MHz | 19 | 21.5 | - | dBm |
| | 0/-5V Control; 2GHz | 21 | 23 | - | dBm |
| | 0/-8V Control; 50MHz | 21 | 23 | - | dBm |
| | 0/-8V Control; 2GHz | 29 | 31 | - | dBm |
| Switching Speed | 50% Control to 10%90%RF | - | 3 | - | ns |
| Third Order Intercept ³ | 500MHz | - | 46 | - | dBm |

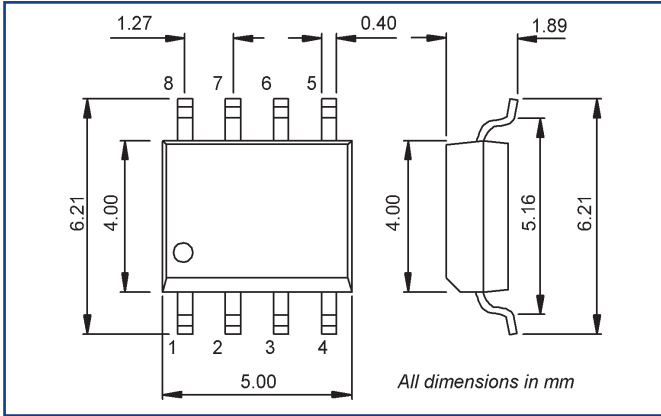
Notes

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

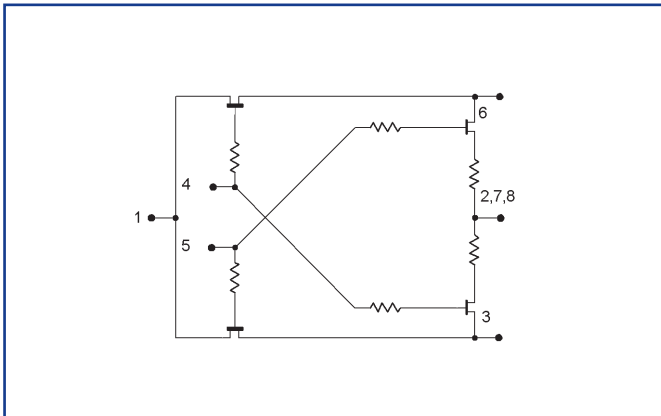
Typical Performance at 22° C



Package Outline



Electrical Schematic



Absolute Maximum Ratings

| | |
|-----------------------|-----------------|
| Max control voltage | -8V |
| Max I/P power | +33 dBm |
| Operating temperature | -40°C to +85°C |
| Storage temperature | -65°C to +150°C |

Pin Details

| Pin | Function |
|-----|-----------|
| 1 | RF Input |
| 2 | Ground |
| 3 | RF1 |
| 4 | Control B |
| 5 | Control A |
| 6 | RF2 |
| 7 | Ground |
| 8 | Ground |

Switching Truth Table

| A | B | RF IN-RF1 | RF IN-RF2 |
|-----|-----|-----------|-----------|
| 0V | -5V | Low Loss | Isolated |
| -5V | 0V | Isolated | Low Loss |

Ordering Information

P35-0702T



MMICS

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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.

