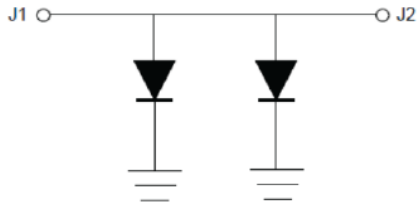
V1.0.0

GaAs PIN Reflective Single-Pole Single-Throw Switch 0.1-40GHz

Features

- Frequency: 0.1-40GHz
- Insertion Loss: 0.4dB typ.
- Isolation: 40dB typ.
- P-1dB: 32dBm
- Input/Output: 50Ω
- Die Size: 1.4x 0.58 x 0.1 mm

Functional Block Diagram



Typical Applications

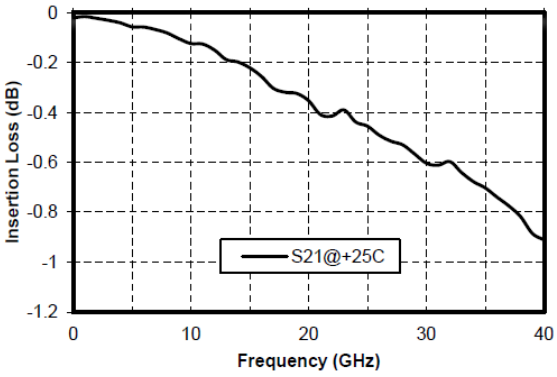
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

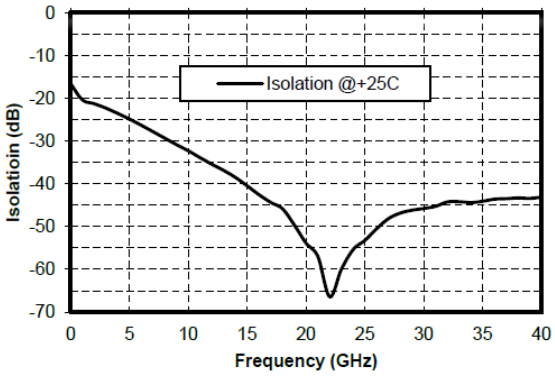
TA = +25ºC

Parameters	Min.	Typ.	Max.	Units
Frequency Range		0.1-40		GHz
Insertion Loss	-	0.15	0.3	dB
Isolation	16	31	-	dB
Input Return Loss	24	37	-	dB
Output Return Loss	24	36	-	dB
Frequency Range		18-40		GHz
Insertion Loss	-	0.6	0.9	dB
Isolation	43	48	-	dB
Input Return Loss	15	18	-	dB
Output Return Loss	15	18	-	dB
P-1dB	-	32	-	dBm
Switching Speed	-	10	-	ns

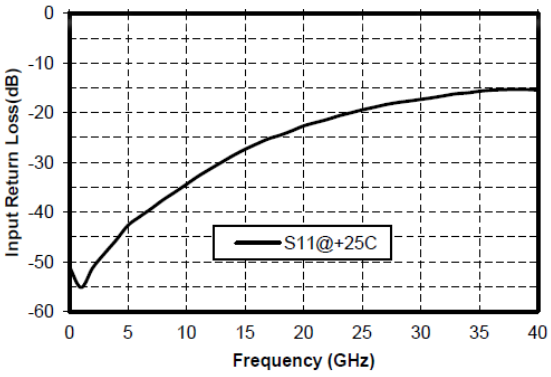
Insertion Loss vs. Operating Frequency



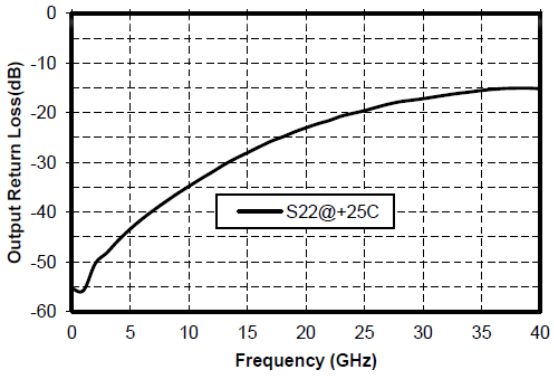
Isolation vs. Operating Frerquency



Input Return Loss vs. Operating Frequency



Output Return Loss vs. Operating Frequency



Typical Driver Connections

CONTROL LEVEL (DC CURRENT)	RF OUTPUT STATE
IN(J1) or OUT(J2)	IN(J1)-OUT(J2)
-5V	Low Loss
+5V +10mA	Isolation

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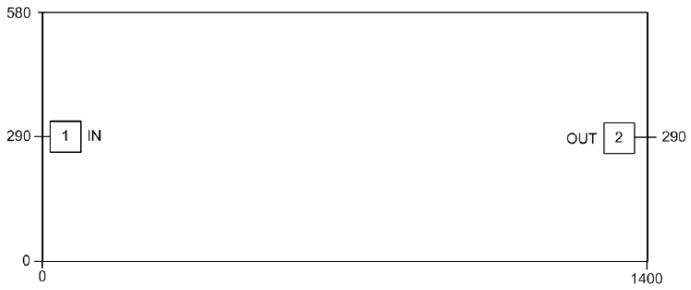
Outline Drawing

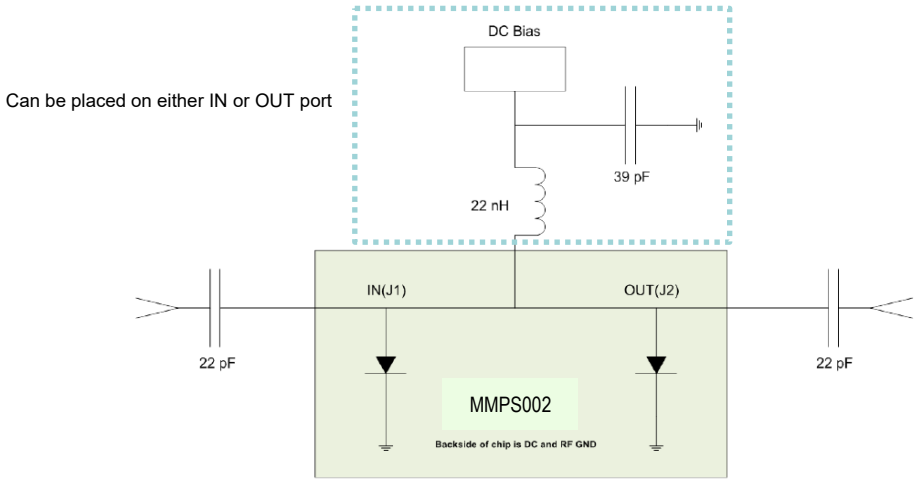
All Dimensions in μm



Pad Description

Pad	Function	Description
1	J1 (IN)	RF signal port, DC blocking capacitor needed.
2	J2 (OUT)	RF signal port, DC blocking capacitor needed.
Die bottom	GND	Die bottom must be connected to RF/DC ground.

Assembly Drawing



Notes:

1. Die thickness: 100um
2. Typical bond pad is 100*100 μm²
3. Bond pad metalization: Gold
4. Backside metalization: Gold
5. Backside of the die (GND)
6. No connection required for unlabeled bond pads

Maximum Ratings:

1. Maximum input voltage: 25V
2. Maximum input power: +36dBm CW
3. Operating temperature: -55℃ to +85℃
4. Storage temperature: -65℃ to +150℃