MILLER MMIC

MMS106

V1.0.0

GaAs pHEMT MMIC SPDT Absorptive Switch DC-20GHz

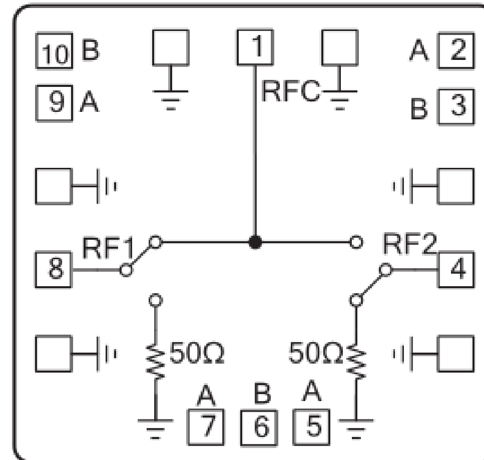
MMS106

ABSORPTIVE SWITCH- MMIC DC-20GHz

Features

- Isolation: >50dB @ 20GHz
- Insertion Loss: 1.9dB @ 20GHz
- Absorptive design
- Die Size: 1.3x 0.84x 0.1 mm

Functional Block Diagram



Typical Applications

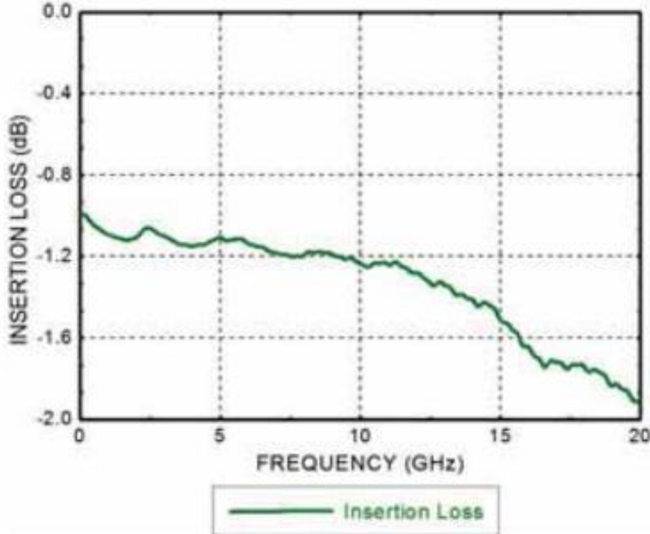
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request

Electrical Specifications

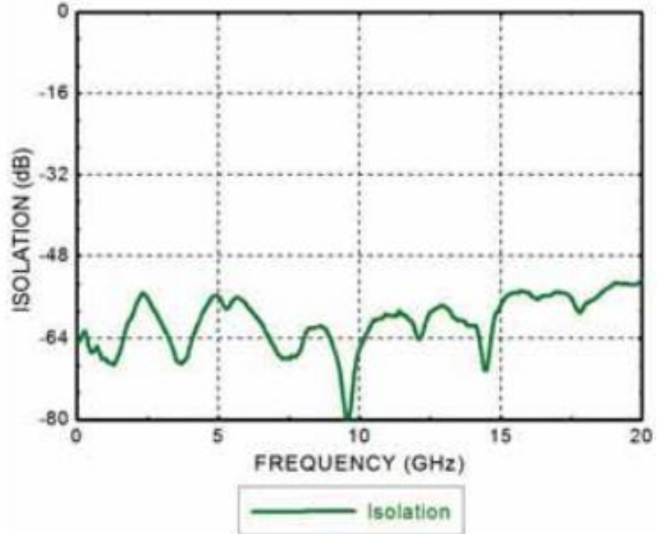
TA = +25ºC, Vctl = 0/-5V

Parameters	Min.	Typ.	Max.	Units
Frequency		DC - 20		GHz
Insertion Loss		1.9		dB
Isolation		50		dB
Return Loss (ON State)		20		dB
Return Loss (OFF State)		22		dB
Input 1dB Compression (P1dB)		25		dBm
Switching Speed		15		ns

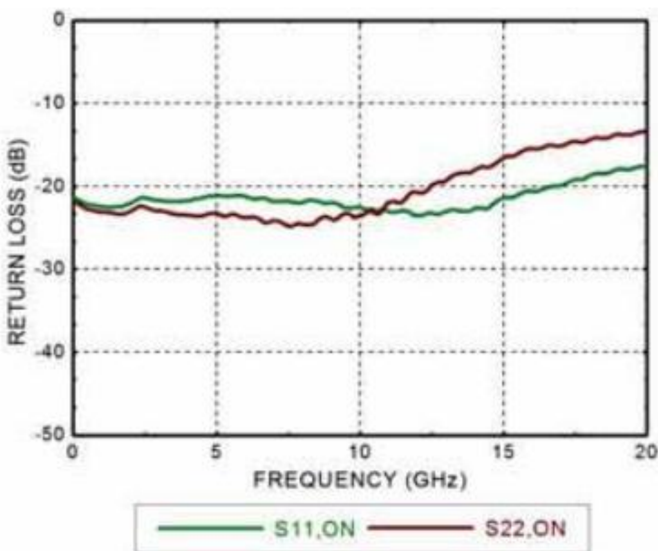
Insertion Loss



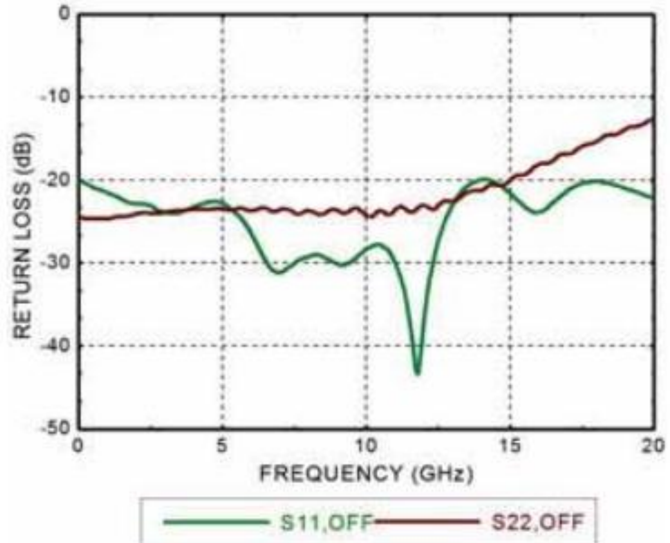
Isolation



Return Loss (ON State)

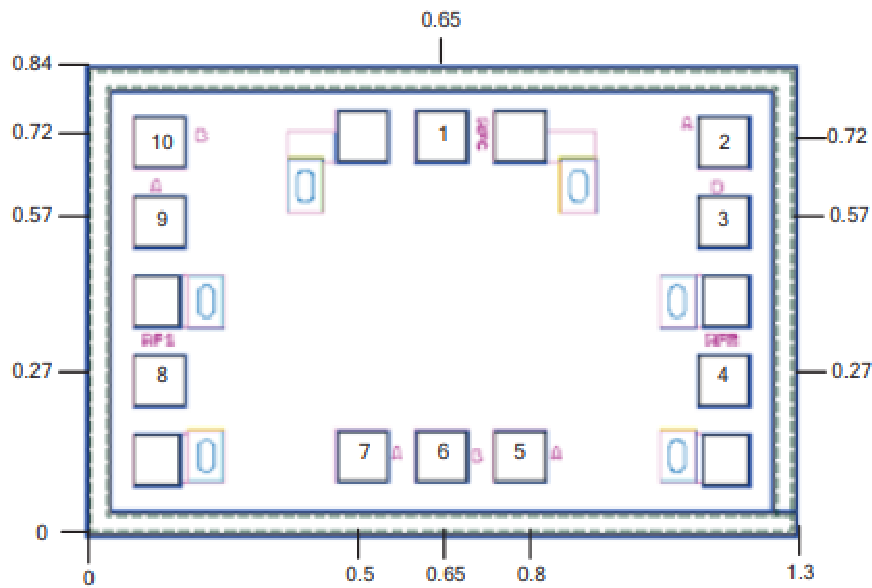


Return Loss (OFF State)



Outline Drawing:

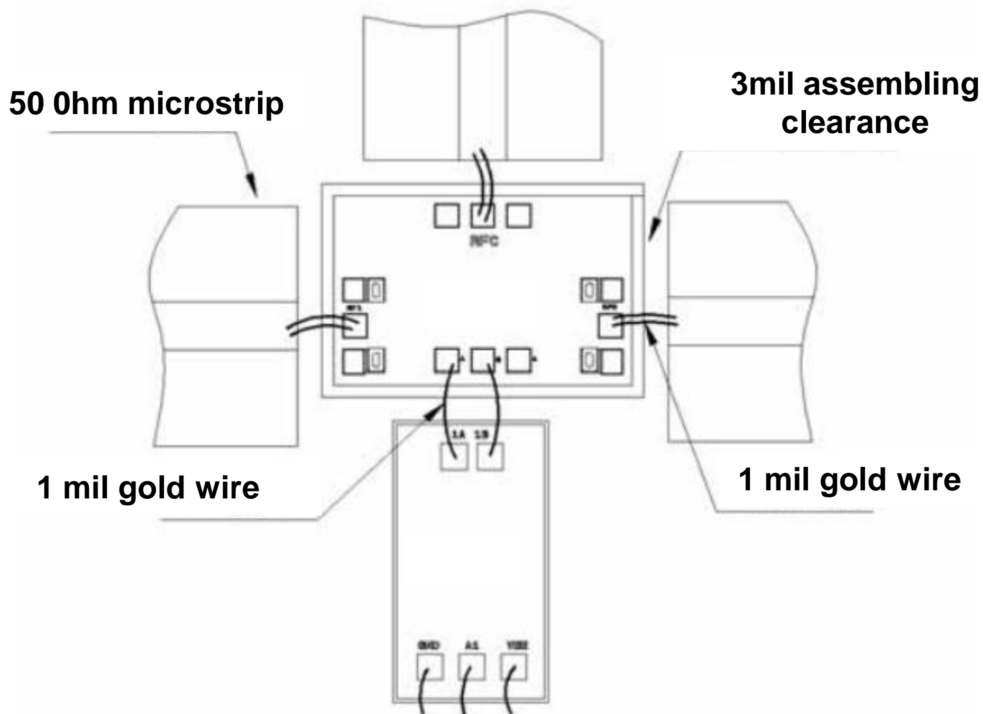
All Dimensions in mm



Pad Description

PAD	Function	Description
1	RFC	The pad is DC coupled to 50 ohms . If the RF level is not 0V, then the blocking capacitor is required externally.
8	RF1	
4	RF2	
2, 5, 7, 9	A	When A=0V, B=-5V, The RF1 is "ON" state; RF2 is "OFF" state When A=-5V, B=0V, The RF1 is "OFF" state; RF2 is "ON" state
3, 6, 10	B	
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 μm^2
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. RF input power: +27dBm
2. Storage temperature: -65℃ to +150℃
3. Operating temperature: -55℃ to +85℃