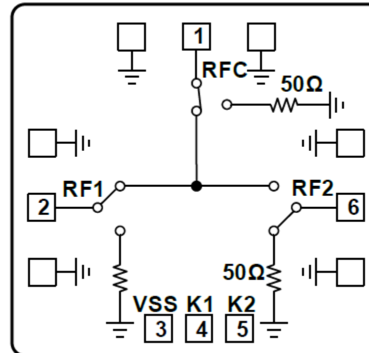
GaAs pHEMT MMIC
SPDT Matching Switch
DC-20GHz

Features

- Isolation: 46dB@ 20GHz
- Insertion Loss: 2.7dB@ 20GHz
- SPDT Matching design
- Power supply: -5V@4mA
- Die Size: 1.2x1.5x 0.075 mm

Functional Block Diagram



Typical Applications

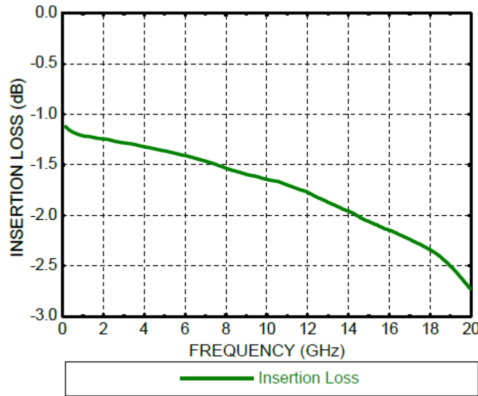
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request

Electrical Specifications

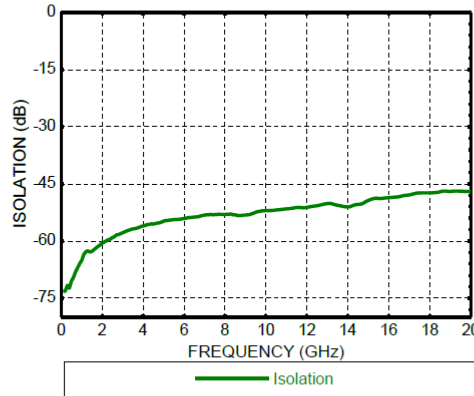
TA = +25ºC, VCTL=0/+5V, VSS= -5V

Parameters	Min.	Typ.	Max.	Units
Frequency	DC-20			GHz
Insertion Loss		2.0		dB
Isolation		50		dB
Return Loss (ON State)		20		dB
Return Loss (OFF State)		20		dB
Input 1dB Compression@1-20GHz		21		dBm
Switching Speed		30		ns

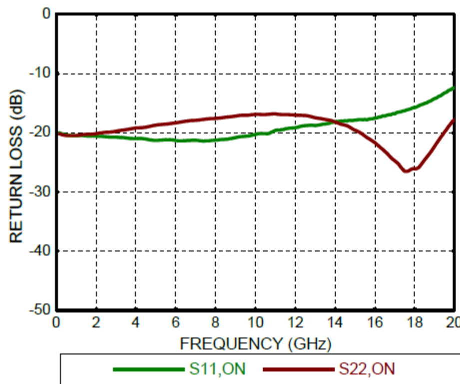
Insertion Loss



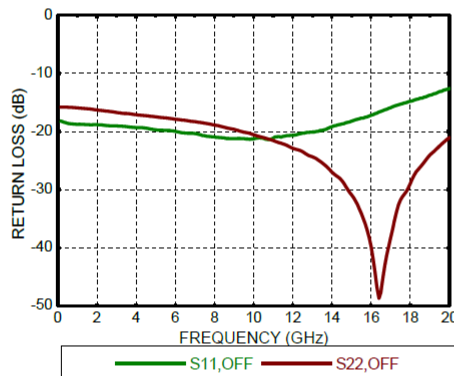
Isolation



Return Loss (ON State)



Return Loss (OFF State)



MILLER MMIC

MMS132

V1.0.0

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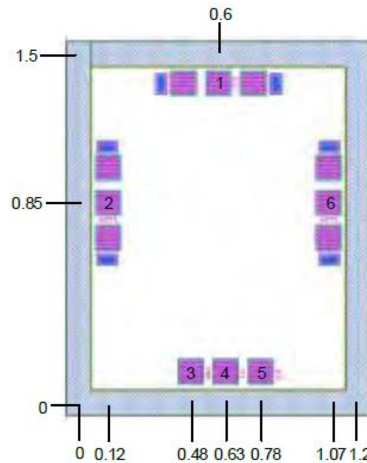
Outline Drawing:

All Dimensions in mm



Pad Description

PAD	Function	Description
1	RFC	These pads are DC coupling and matched to 50Ω. If RF voltage is not 0V, then blocking capacitor is required externally.
2	RF1	
6	RF2	
5	K2	When K1=0V, K2=0V, then RF1 is “ON” state, RF2 is “OFF” state; When K1=5V, K2=0V, then RF1 is “OFF” state, RF2 is “ON” state; When K1=0V, K2=5V, then RF1 is “OFF” state, RF2 is “OFF” state.
4	K1	
3	VSS	This pad is TTL driver circuit power supply port, connected to -5V voltage.
Die Bottom	GND	Die bottom must be connected to RF/DC ground.

True Table

Function	VSS	K1	K2
RFC-RF1	-5V	0	0
RFC-RF2		1	0
ALL OFF		0	1
“0” voltage range:0~0.8V, “1” voltage range:2.3~5V			

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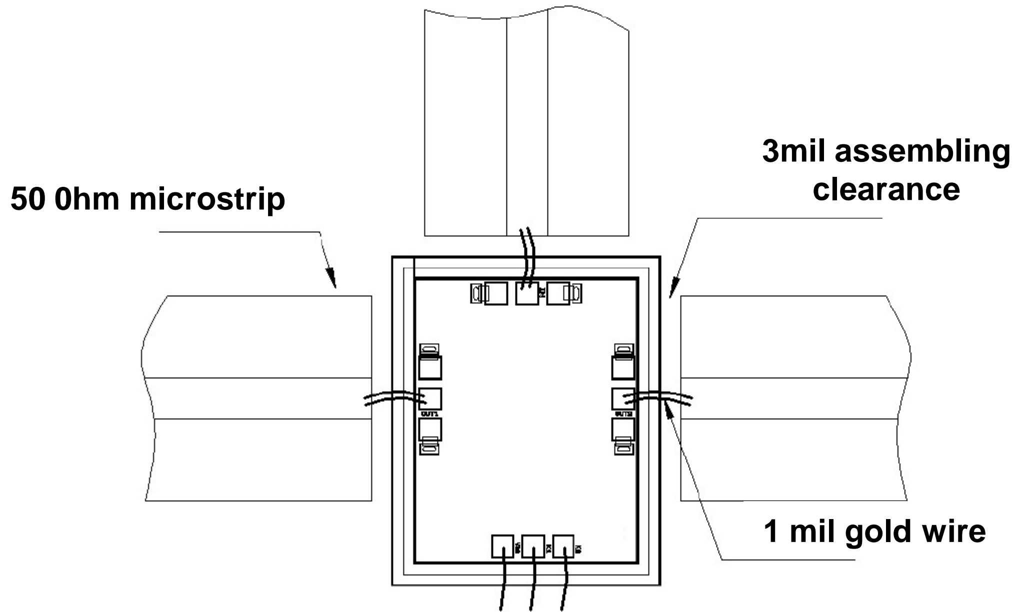
Assembly Drawing



Notes:

1. Die thickness: 75um
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. Power supply: -6V
2. RF input power: +25dBm
3. Storage temperature: -65℃ to +150℃
4. Operating temperature: -55℃ to +85℃