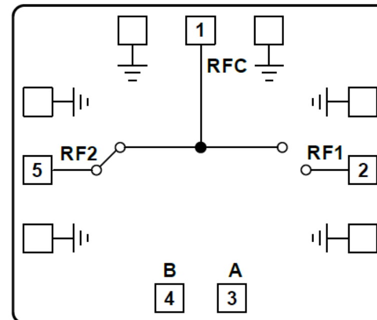
GaAs pHEMT MMIC
SPDT Reflective Switch
DC-18GHz

Features

- SPDT Reflective design
- Isolation: 30dB
- Insertion Loss: 1.6dB
- Input P-1: +39dBm@RFC port
- +36.5dBm@ RF1/RF2 port
- Maximum input power:
  10W@RFC port
  5W@ RF1/RF2 port
- Die Size: 1.25x1.11x 0.1 mm

Functional Block Diagram



Typical Applications

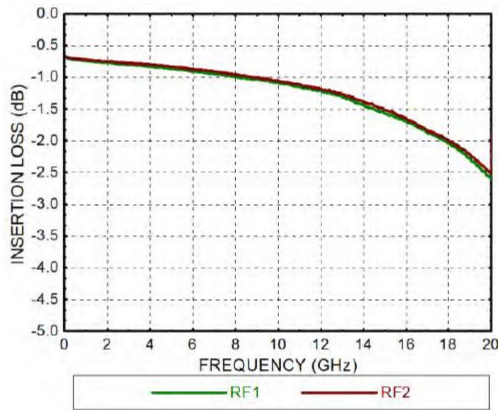
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request

Electrical Specifications

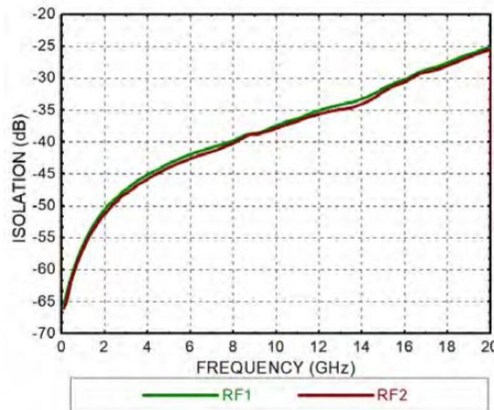
TA = +25°C, VCTL=0/-5V

Parameters	Min.	Typ.	Max.	Units
Frequency	DC-18			GHz
Insertion Loss		1.6		dB
Isolation		30		dB
Return Loss (ON State)		15		dB
RFC port input power 1dB Compression@1-18GHz		39		dBm
RFX port input power 1dB Compression@1-18GHz		36.5		dBm
RFC port maximum input power		40		dBm
RFX port maximum input power		37		dBm
Switching Speed		650		ns

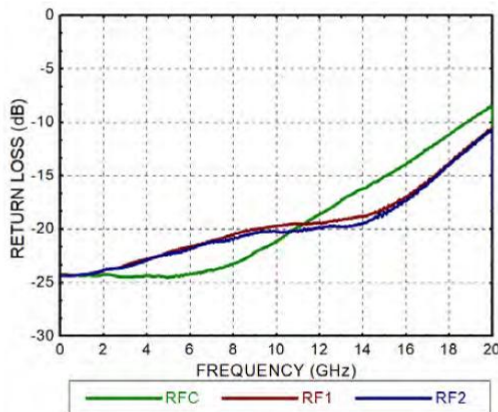
Insertion Loss



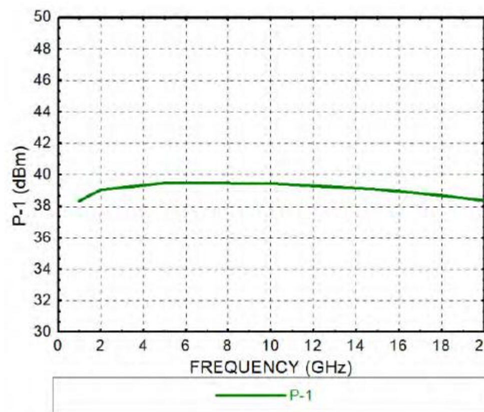
Isolation



Return Loss (ON State)

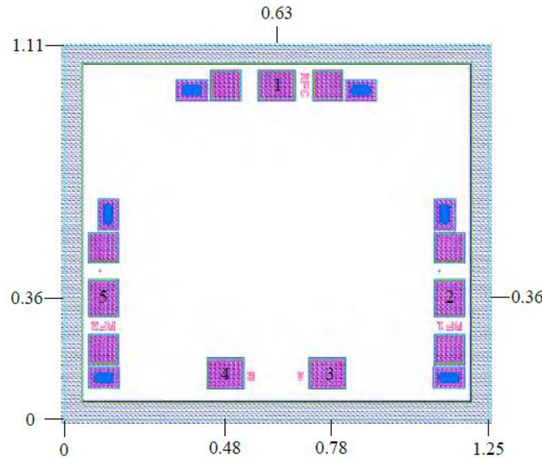


RFC Input Power P-1



Outline Drawing:

All Dimensions in mm



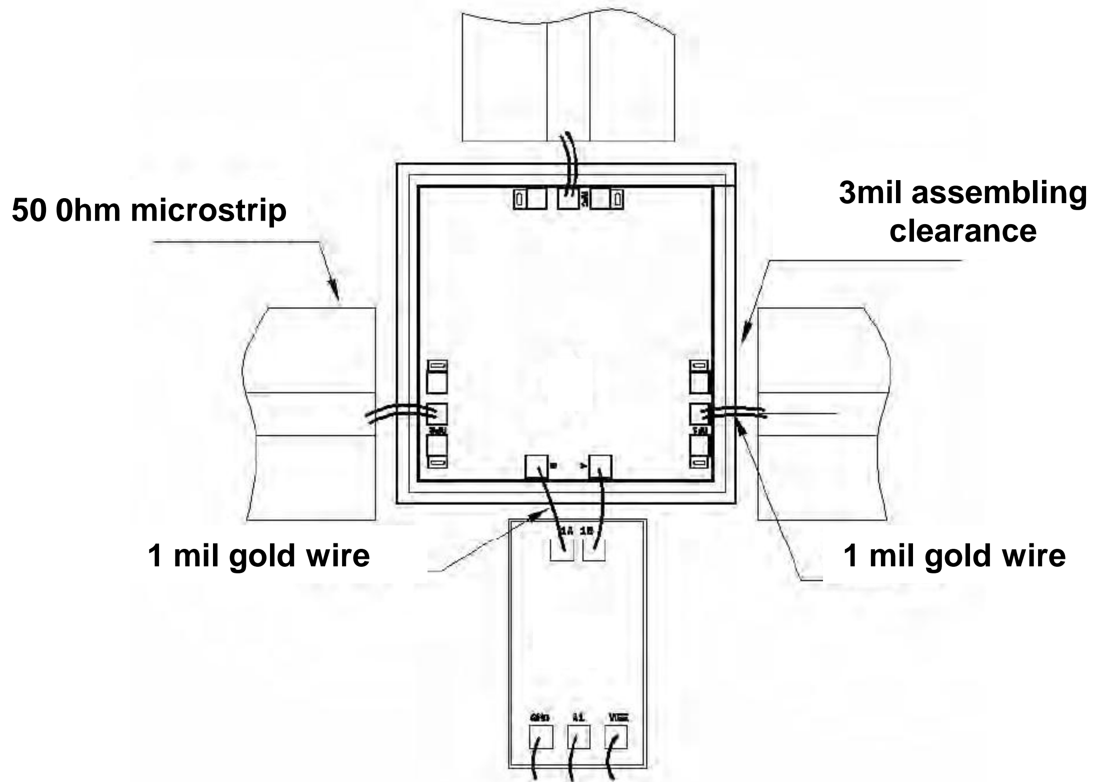
Pad Description

PAD	Function	Description
1	RFC	The pad is DC coupling and matched to 50Ω. If RF voltage is not 0V, then blocking capacitor is required externally.
2,5	RF1,RF2	The pad is DC coupling and matched to 50Ω. If RF voltage is not 0V, then blocking capacitor is required externally.
3,4	A,B	When A=-5V, B=0V, then RF1 is “ON” state, RF2 is “OFF” state; When A=0V, B=-5V, then RF1 is “OFF” state, RF2 is “ON” state.
Die Bottom	GND	Die bottom must be connected to RF/DC ground.

True Table

Function	A	B
RFC-RF1	1	0
RFC-RF2	0	1
“0” voltage range:0~-0.2V, “1” voltage range:-3~-6V		

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: +40dBm
2. Storage temperature: -65℃ to +150℃
3. Operating temperature: -55℃ to +85℃