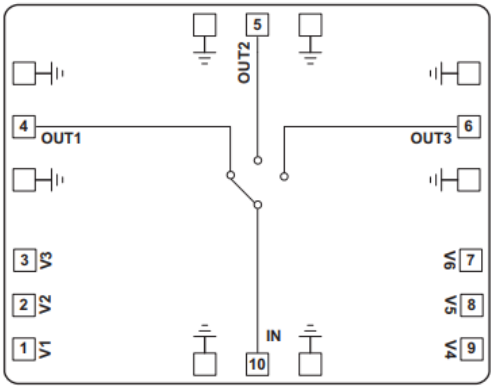
V1.0.0

GaAs pHEMT MMIC SP3T Absorptive Switch DC-20GHz

Features

- Isolation: 40dB @ 20GHz
- Insertion Loss: 2.5dB @ 20GHz
- Absorptive design
- Die Size: 1.5x 1.5x 0.1 mm

Functional Block Diagram



Typical Applications

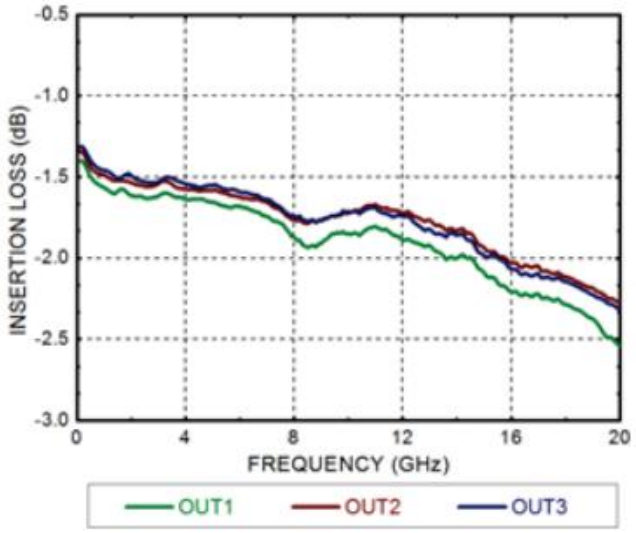
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request

Electrical Specifications

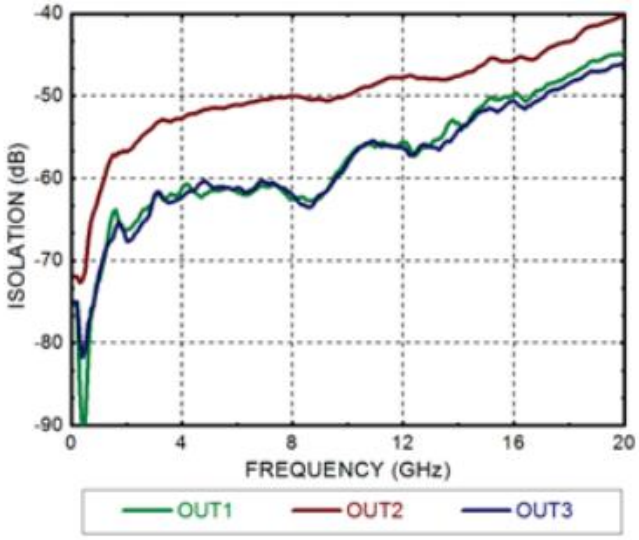
TA = +25°C, Vctl = 0/-5V

Parameters	Min.	Typ.	Max.	Units
Frequency		DC - 20		GHz
Insertion Loss		2.5		dB
Isolation		50		dB
Return Loss (ON State)		15		dB
Return Loss (OFF State)		15		dB
Input 1dB Compression (P1dB)		25		dBm
Switching Speed		15		ns

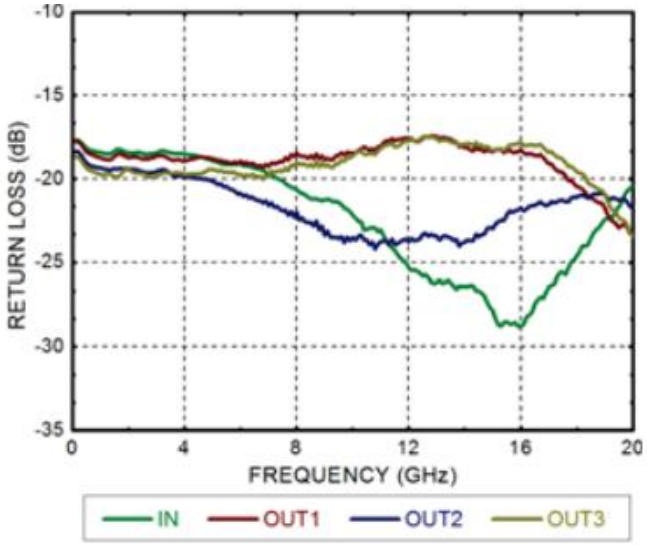
Insertion Loss



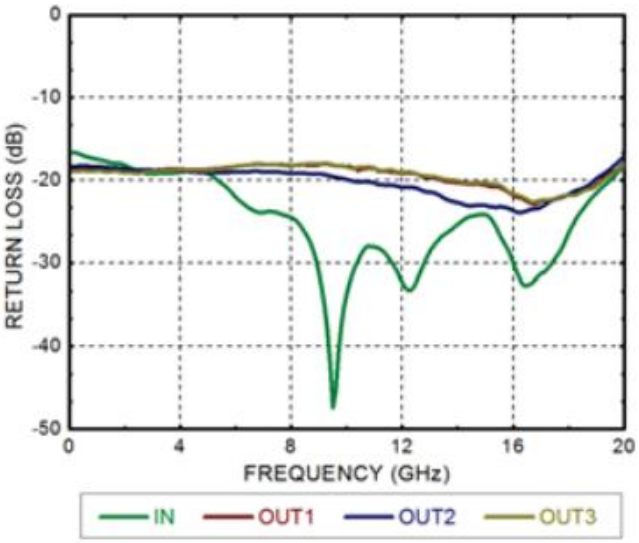
Isolation



Return Loss (ONState)

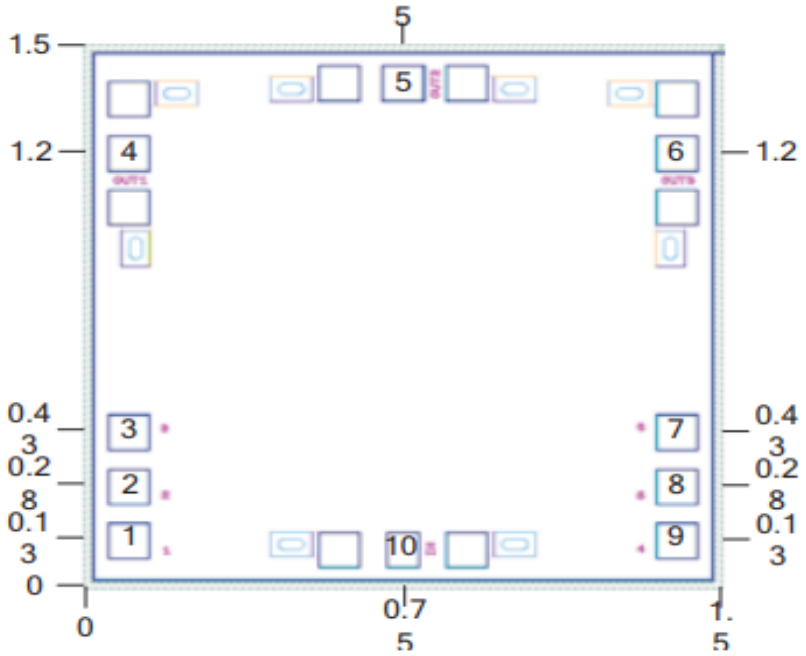


Return Loss (OFF State)



Outline Drawing:

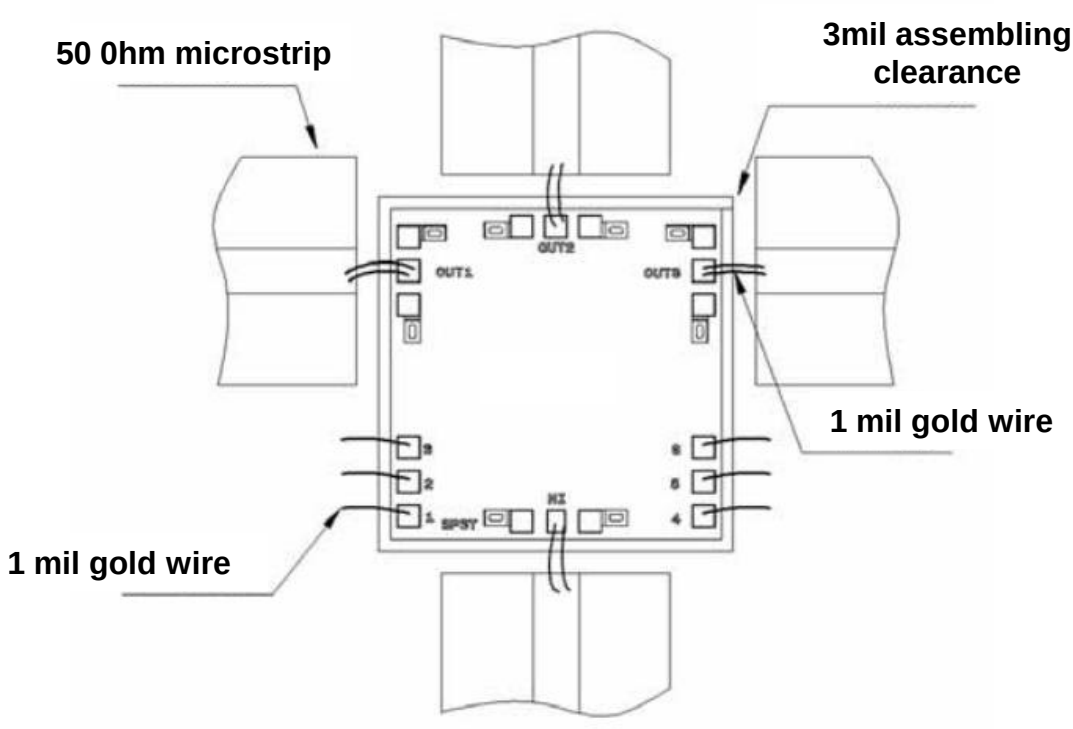
All Dimensions in mm



Pad Description

PAD	Function	Description
10	IN	The pad is DC coupled to 50 ohms . If the RF level is not 0V, then the blocking capacitor is required externally.
4, 5, 6	OUT1, OUT2, OUT3	The pad is DC coupled to 50 ohms . If the RF level is not 0V, then the blocking capacitor is required externally.
1, 2, 3 7, 8, 9	V1, V2, V3 V6, V5, V4	When V1, V5, V6=0V, V3, V2, V4=-5V, The OUT1 is "ON" state; When V2, V3, V6=0V, V5, V1, V4=-5V, The OUT2 is "ON" state; When V4, V3, V5=0V, V6, V1, V2=-5V, The OUT3 is "ON" state; When V3, V5, V6=0V, V1, V2, V4=-5V, The OUT1, OUT2, OUT3 are all "OFF" state
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 +175℃
3. Operating temperature: -55℃ to +85℃