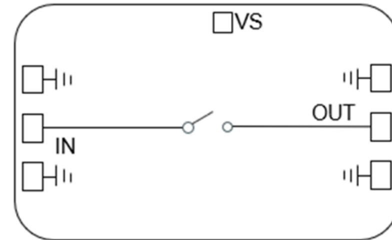
MMS142

GaAs pHEMT MMIC
SPST Reflective *Switch*
DC-40GHz

Features

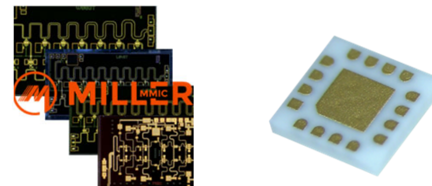
- SPST Reflective design
- Frequency:DC-40GHz
- Isolation: 33dB
- Insertion Loss: 0.2dB~1.5dB
- Return Loss (ON):20dB
- Control Voltage:0/-5V
- Switching Speed: 15 ns
- Die Size: 1.1x0.75x 0.1 mm



Typical Applications

- Voltage control no current
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request

- QFN package available 3x3 mm

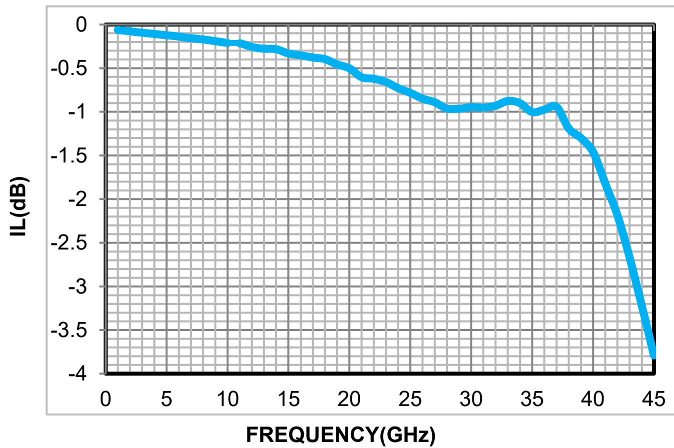


Electrical Specifications

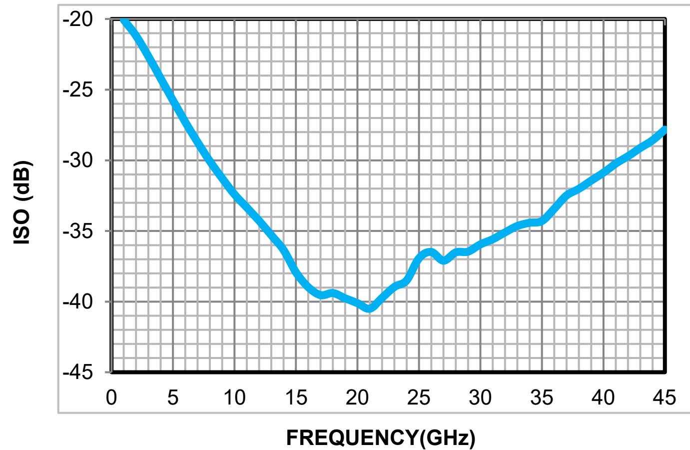
TA = +25ºC, VCTL=0/-5V

Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency	DC-6			6-18			18-40			GHz
Insertion Loss		0.2	0.3		0.3	0.5		0.8	1.5	dB
Isolation	18	25		30	35		30	35		dB
Return Loss (ON State)	30	35		25	30		16	18		dB
Input P-1		18			18			18		dBm
RF Input power			30			30			30	dBm
IIP3		28			28			28		dBm
Switching Speed	15									ns

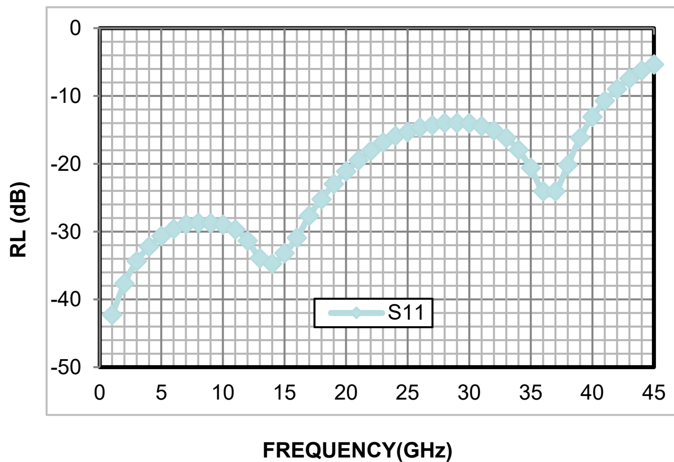
Insertion Loss vs. Frequency



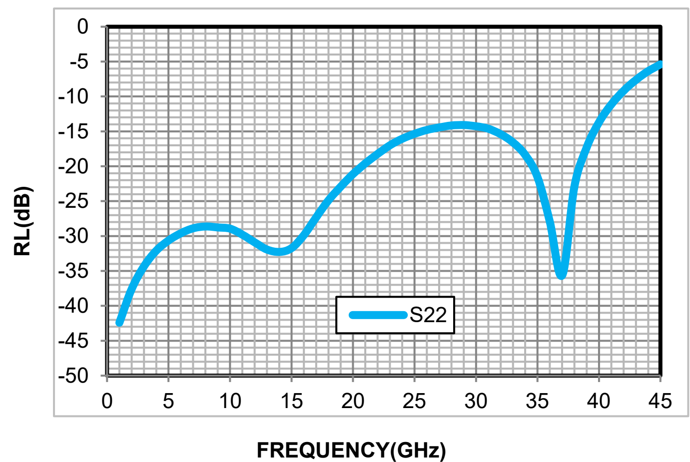
Isolation vs. Fequency



Input RL-On vs. Frequency

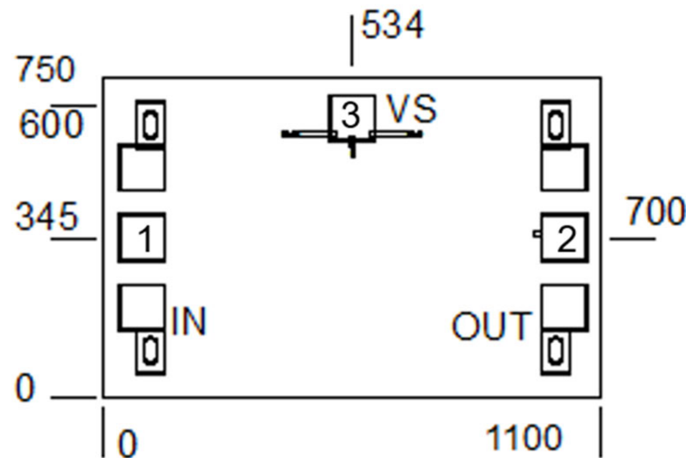


Output RL-On vs. Frequency



Outline Drawing:

All Dimensions in mm



True Table

Ctrl (V)	Status
VS	IN-OUT
0	OFF
-5	ON

Pad	Function	Description
1,2	IN, OUT	50 ohm circuit matched, and there is no blocking capacitor integrated inside the chip
3	VS	Control Voltage
Bottom of chip	GND	The bottom of the chip should be in good contact with the RF and DC ground

MILLER MMIC

MMS142

V1.0.0

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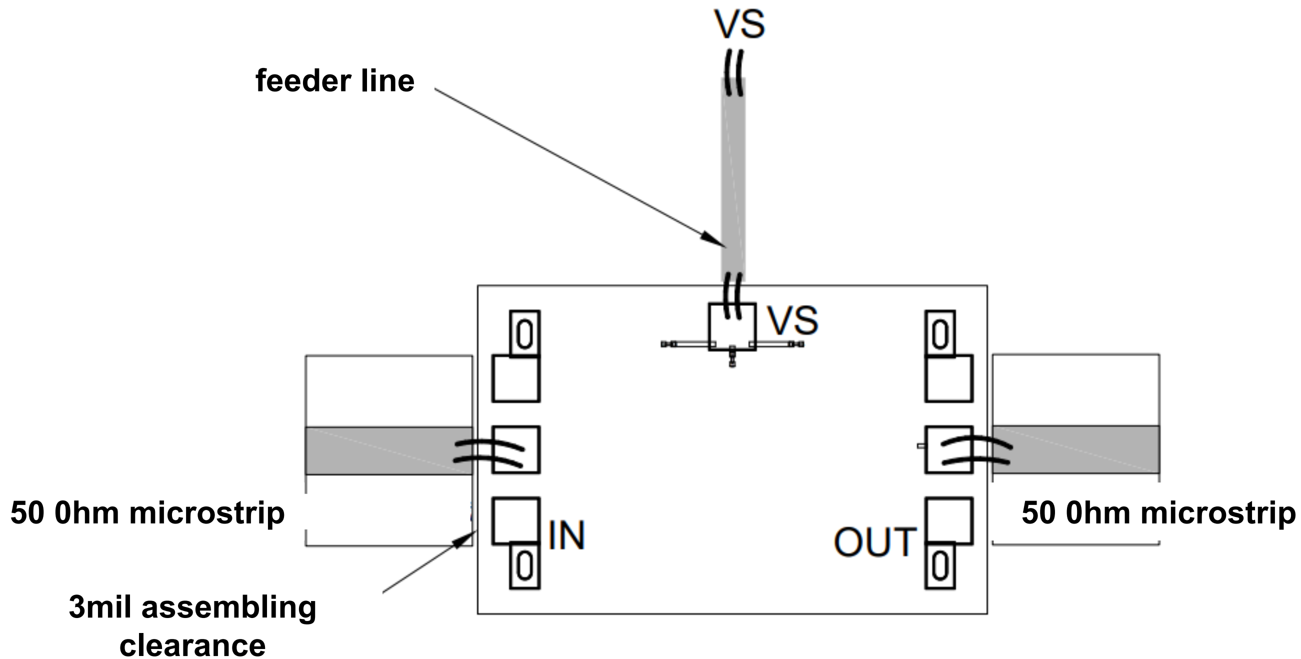
Assembly Drawing



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: +30dBm
2. Control Voltage: -8~+1V
3. Storage temperature: -65℃ to +150℃
4. Operating temperature: -55℃ to 125℃