Features

- RF/LO Frequency: 2-6 GHz
- IF Frequency: DC-2.5 GHz
- Conversion Loss: 7.5 dB
- LO-RF Isolation: 47 dB
- LO-IF Isolation: 40 dB
- RF-IF Isolation: 19 dB
- Local Oscillator Frequency: +13dBm~+15 dBm
- Die Size: 1.32 x 1.52 x 0.1 mm

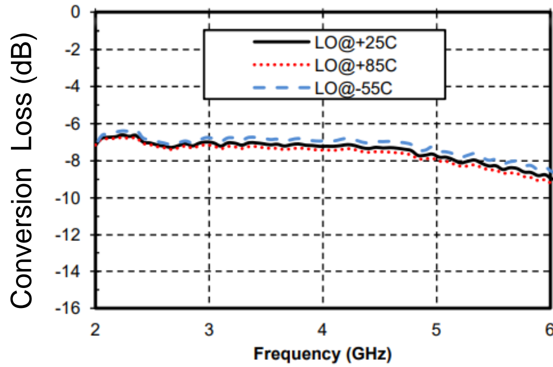
Typical Applications

- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

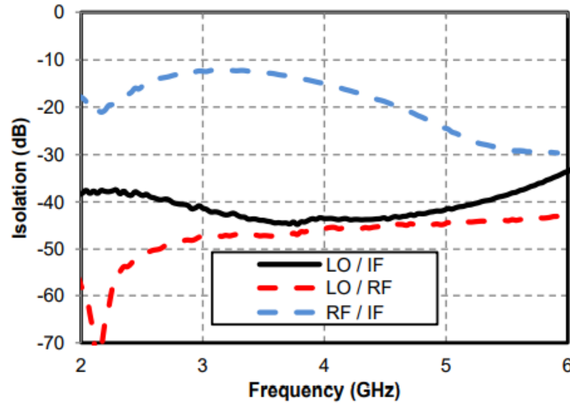
Electrical Specifications
TA = +25ºC, IF=100MHz, LO=+13dBm

Parameters	Min.	Typ.	Max.	Units
RF Frequency		2-6		GHz
Local Oscillator Frequency		2-6		GHz
IF Frequency		DC-2.5		GHz
Conversion Loss	-	7.5	-	dB
Isolation “LO to RF”	-	47	-	dB
Isolation “LO to IF”	-	40	-	dB
Isolation “RF to IF”	-	19	-	dB
RF Input P1dB Compression		11		dBm
IIP3		18		dBm
Parameters above are intended for down-conversion test. IF frequency is 0.1GHz; local oscillator power +13dBm.				

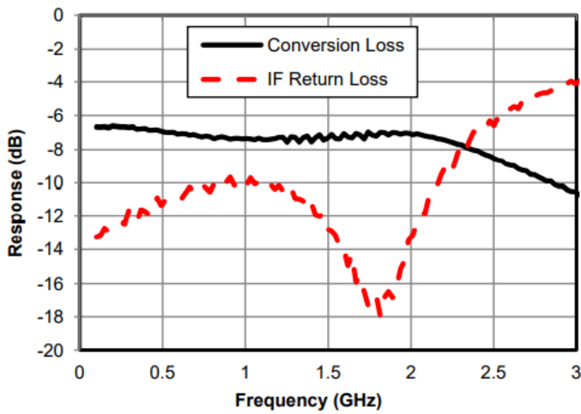
Conversion Loss vs. Temperature @ LO=+13dBm



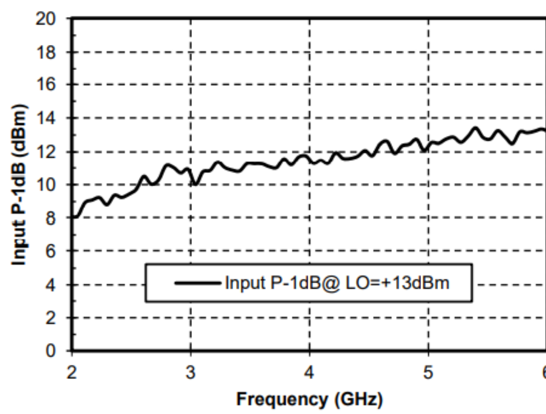
Isolation @ LO=+13dBm



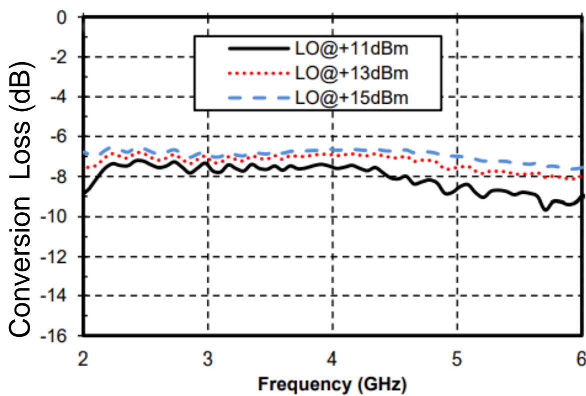
IF Bandwidth @ LO=2G/+13dBm



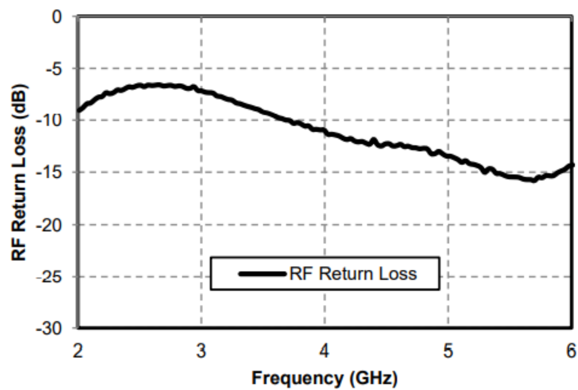
Input P1dB vs. RF Frequency



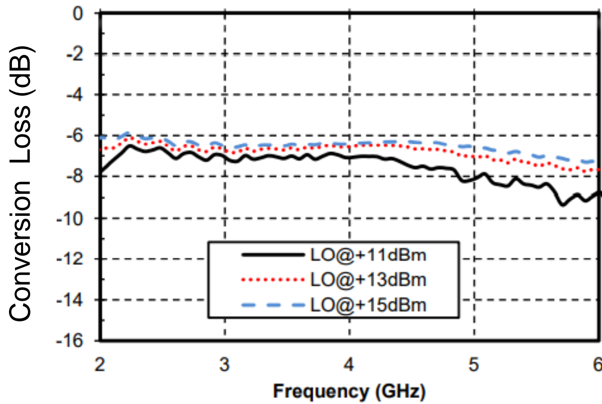
Down Conversion RF Loss vs. LO Power



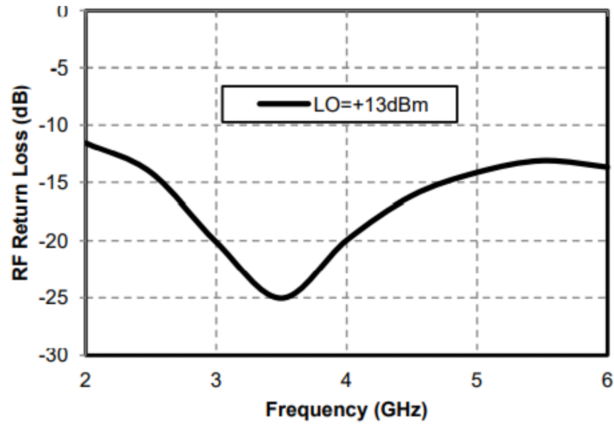
Down Conversion RF Return Loss vs. Frequency LO=+13dBm



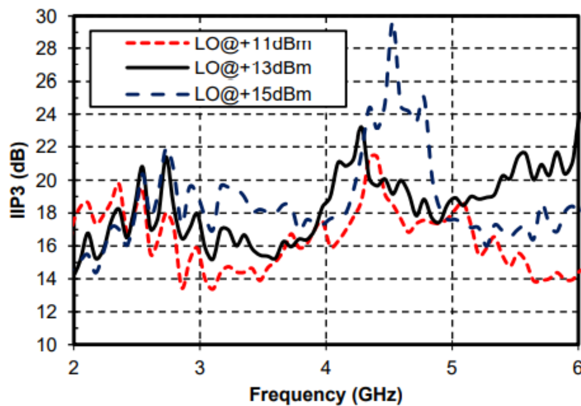
Up Conversion RF Loss vs. LO Power



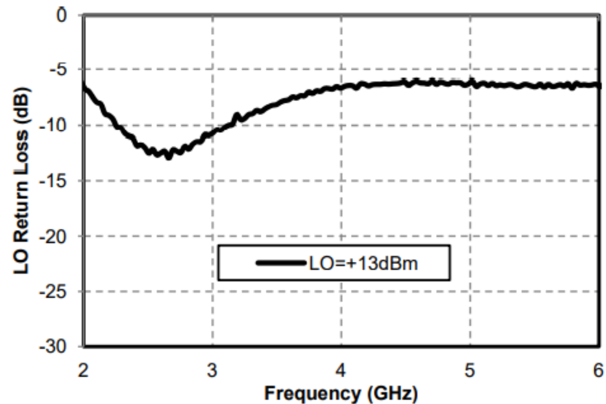
Up Conversion RF Return Loss vs. Frequency LO=+13dBm



IIP3



LO Return Loss vs. Frequency



Local oscillator harmonic leakage

nLO (RF port)

LO(GHz)	1	2	3
2	62	83	101
3	53	77	91
4	53	89	105
5	54	100	104
6	54	85	99

Combinatorial spurious suppression

	nLO				
mRF	0	1	2	3	4
0	×××	13	25	25	35
1	9	0	30	38	31
2	77	70	69	58	74
3	72	77	71	66	89
4	88	/	/	/	96

Test conditions: RF=4.1GHz@-10dBm, LO=4GHz@13dBm, all values are relative values of 1*RF-1*LO(P_IF, dBm) in dBc.

	nLO				
mRF	0	1	2	3	4
0	×××	3	15	15	25
1	8	0	30	38	32
2	73	78	79	68	83
3	81	/	/	85	90
4	82	/	/	91	/

Test conditions: RF=4.1GHz@-20dBm, LO=4GHz@13dBm, all values are relative values of 1*RF-1*LO(P_IF, dBm) in dBc.

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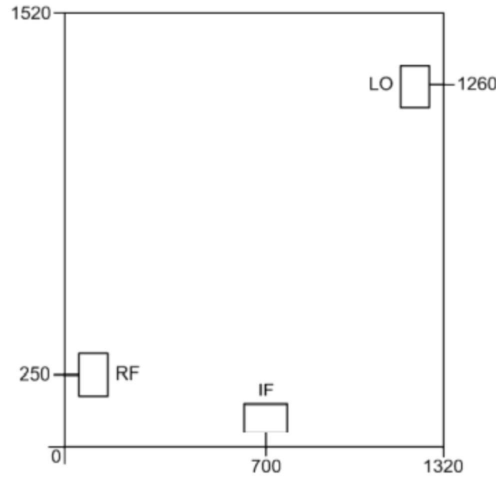
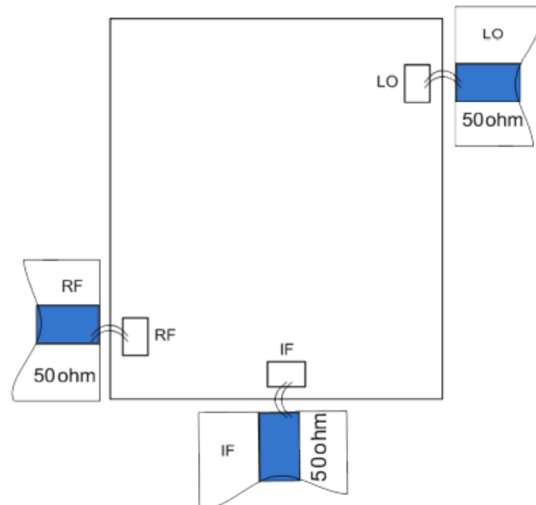
Sales: sales@millermmic.com

Outline Drawing:

All Dimensions in um， tolerance range ±50um



Recommended 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 is grounded
6. No connection required for unlabeled bond pads

Maximum Ratings:
1. Max RF input power: +20dBm
2. Max local oscillator input power: +20dBm
3. Operating temperature: -55℃ to +85℃
4. Storage temperature: -65℃ to +150℃