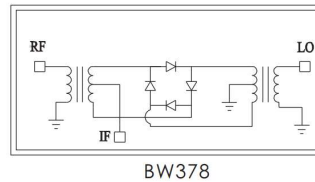
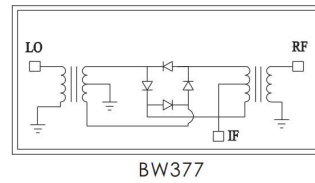


Performance

- Excellent consistency
- Passive double balanced configuration
- LO Level: +14dBm
- Conversion Loss: 8.0dB
- LO/RF Isolation: 45dB
- Chip size: 1.1*1.1*0.1mm

Function Diagram

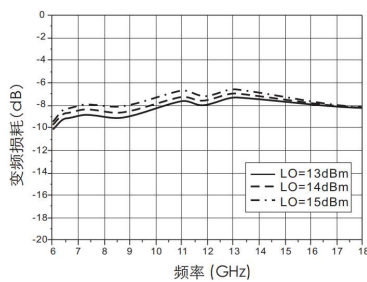


Electrical specifications (TA=+25°C, IF=100MHz, LO=+14dBm, 50Ω system)

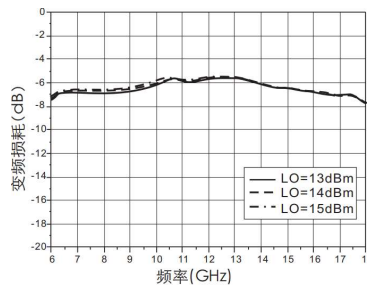
Parameter	Min	Typical	Max	Unit
LO/RF Frequency Range		6-18		GHz
IF Frequency Range		DC-7		GHz
Conversion Loss	-	8.0	10.5	dB
LO/RF Isolation	42	45	-	dB
LO/IF Isolation	35	40	-	dB
RF/IF Isolation	11	20	-	dB
Input P1dB	-	12	-	dBm
Input IP	-	21	-	dBm

Test Curves (Die chip test)

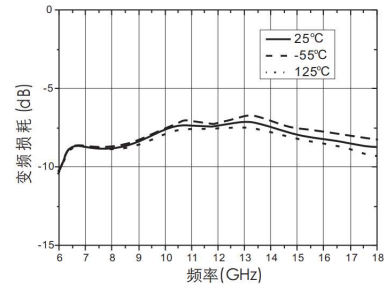
Downconverter Loss
(TA=+25°C, IF=100MHz)



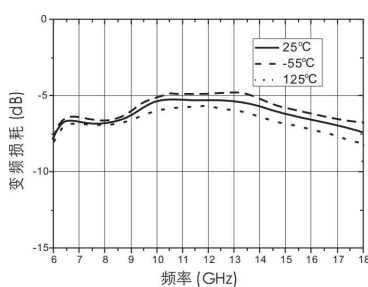
Upconverter Loss
(TA=+25°C, IF=100MHz)



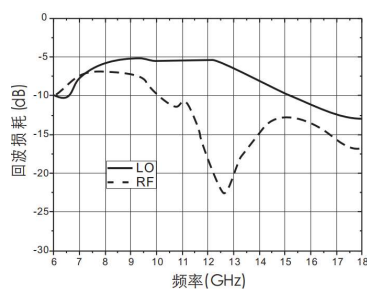
Downconverter Loss
(LO=14dBm, IF=100MHz)



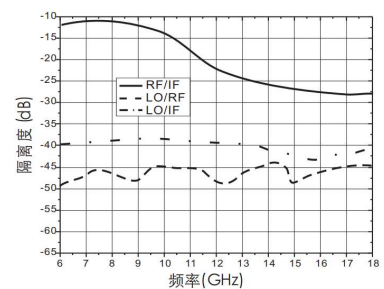
Upconverter Loss
(LO=14dBm, IF=100MHz)



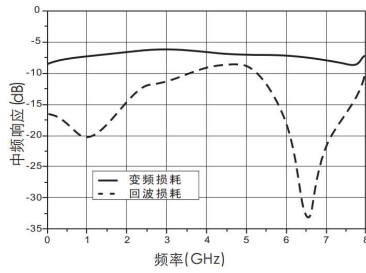
Port Return Loss



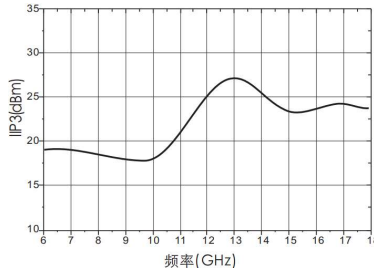
Isolation
(LO=-14dBm)



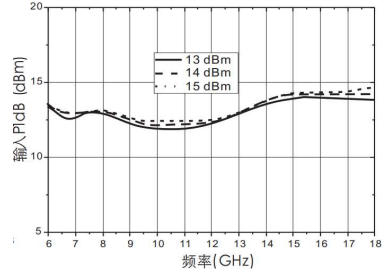
IF Response
 (LO=RF-IF=8GHz)



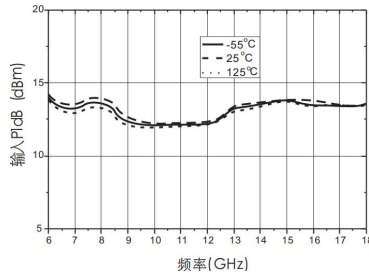
Input IP3
 (LO=14dBm)



Input P1dB
 (TA=+25°C)



Input P1dB
 (LO=14dBm)



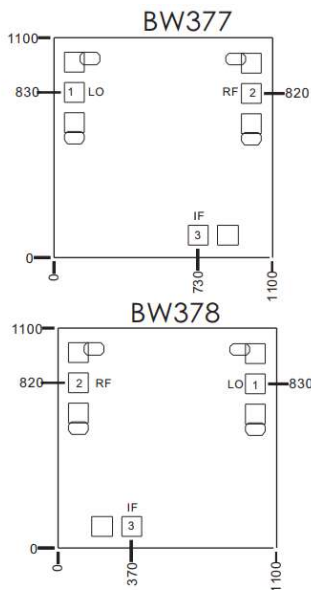
Spurious

LO=12GHz@+14dBm; RF=11.9GHz@-10dBm

nLO					
mRF	0	1	2	3	4
0	X	-7.6	-33.4	-25.5	X
1	-17.1	0	-32.4	-56.7	-61.5
2	-83	-70	-70.1	-70.8	X
3	-87.3	X	-73.7	-77.6	-78.9
4	X	X	X	X	X

All value is $-1 \times RF + 1 \times LO = IF$ (-16.7dBm) relative value (dBc)

Outline Size



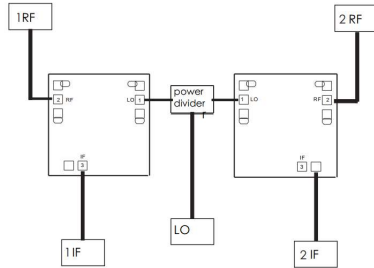
Note:

1. Unit: μm
2. Bottom side is gold plated
3. Bottom side is GND
4. Bonding pads is gold plated, size: $100 \times 100 \mu\text{m}$
5. Don't bonding on thru holds
6. Tolerance: $\pm 50 \mu\text{m}$

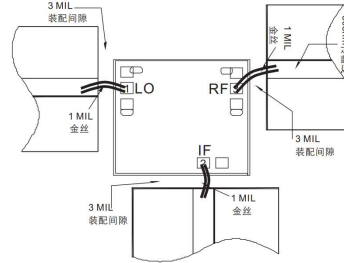
Bonding Pads Definition

Number	Symbol	Description
1	LO	LO port, Impedance 50Ω
2	RF	RF port, Impedance 50Ω
3	IF	IF port, Impedance 50Ω
-	GND	Bottom must be grounded

Recommended Circuits



Application



Absolute Max Ratings

RF/LO Input Power	+24dBm
IF Input Power	+24dBm
Static Class	Class 1A
Storage Temperature	-65 ~ 150°C
Operating Temperature	-55 ~ 125°C



ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS