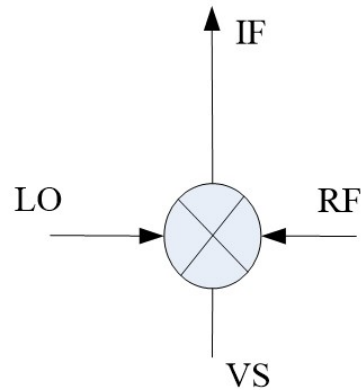


### Performance

- 0.7um InP HBT
- Circuit Type: Active Mixer
- RF Frequency: 0.1~67GHz
- LO Frequency: 0.1~26.5GHz
- IF Frequency: DC~5GHz
- Conversion Loss: 6.0dB @ 0.1~26.5GHz  
18dB @ 26.5~67GHz
- LO/RF Isolation: 40dB
- LO/IF Isolation: 30dB
- Application: Down converter
- Chip size: 0.85\*0.65\*0.1mm

### Function Diagram

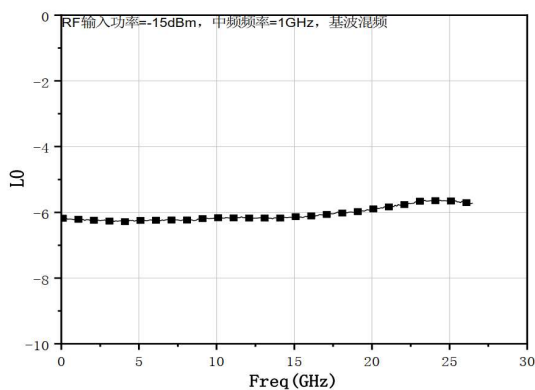


### Electrical specifications (TA=+25°C)

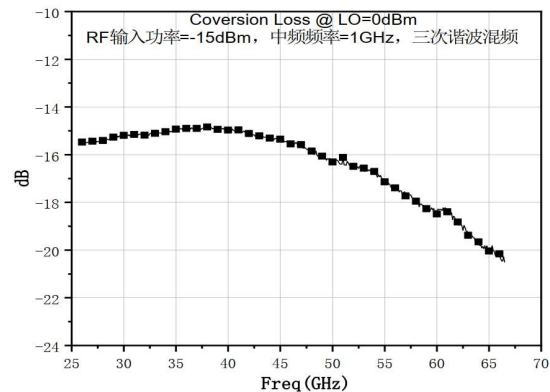
Parameter	Fundamental Mixing LO=0dB, IF Freq=1GHz			Third Harmonic Mixing LO=0dBm, IF Freq=1GHz			Unit
	Min	Typ.	Max	Min	Typ.	Max	
RF Frequency	0.01~26.5			26.5~67			GHz
LO Frequency	0.01~26.5			DC~1			GHz
IF Frequency	DC~5			DC~5			GHz
Conversion Loss		6.5			18		dB
P-1dB		5			-2		dBm
LO-RF Isolation		50			-		dB
RF-LO Isolation		40			30		dB
LO-IF Isolation		30			-		dB
Idq		72			72		mA

### Test Curves (Die chip test)

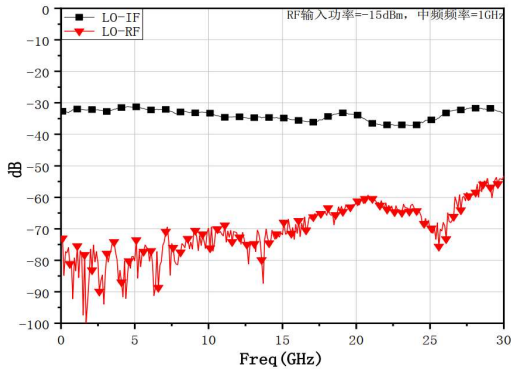
Conversion loss @ LO=0dBm



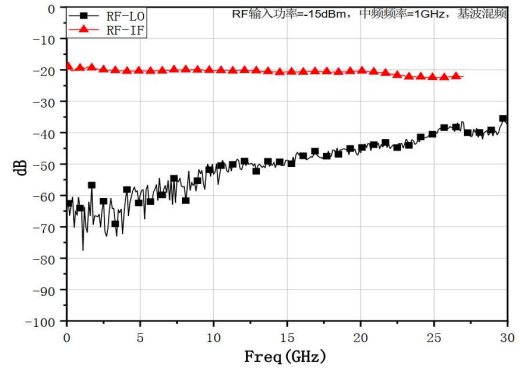
Conversion loss @ LO=0dBm



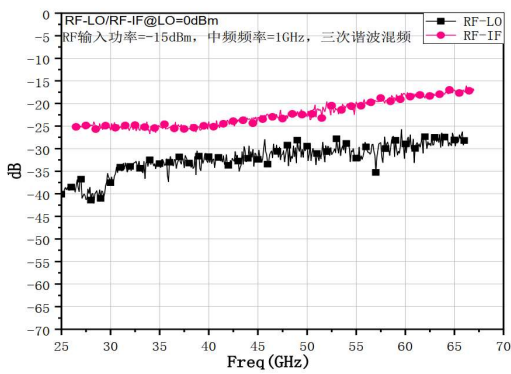
LO-RF/LO-IF Isolation @ LO=0dBm



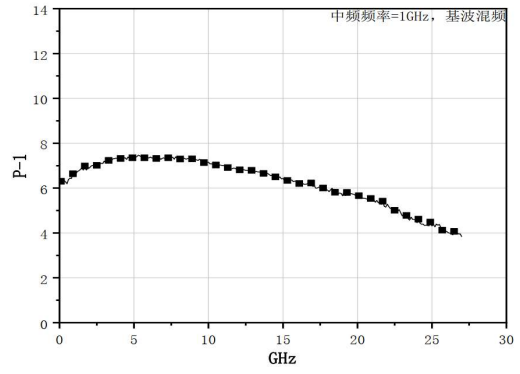
LO-RF/LO-IF Isolation @ LO=0dBm



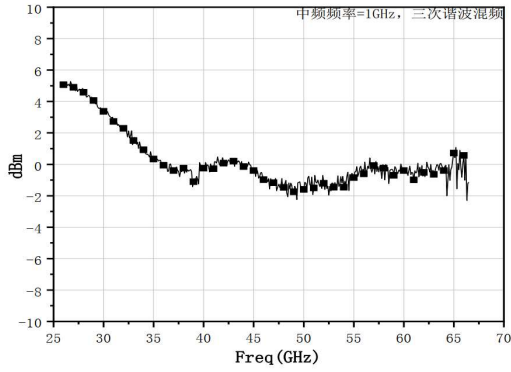
LO-RF/LO-IF Isolation @ LO=0dBm



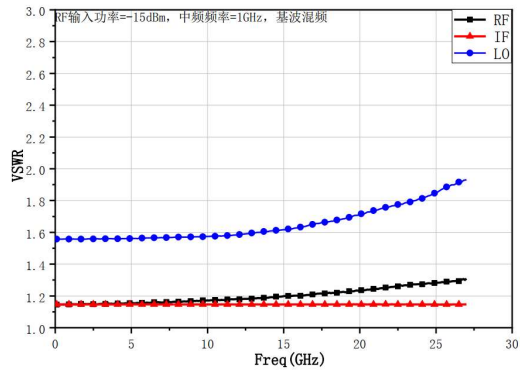
P-1dB



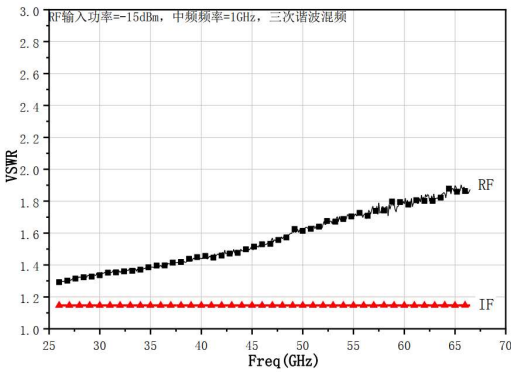
P-1dB @ LO=0dBm



VSWR @ LO=0dBm



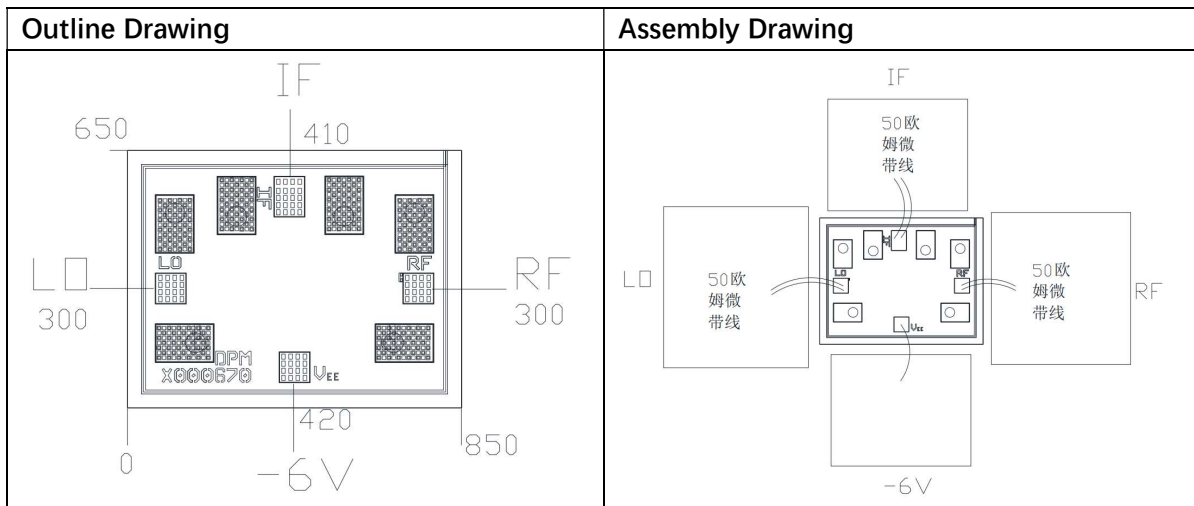
VSWR @ LO=0dBm



### Absolute Max Ratings (TA=25°C)

LO Drive Power	15dBm
RF & IF Input Power	15dBm
Operating Temperature	-55 ~ 125°C

Exceeding any one or combination of these limits may cause permanent damage.



### Pads Definition

Number	Description
LO	LO input, connect to 50ohm system, block capacitor is needed
RF	RF input, connect to 50ohm system, block capacitor is needed
IF	IF output, connect to 50ohm system, block capacitor is needed
VS	Mixer DC port

### Operating Notes

1. Limit the gold wire at LO and RF ports is less than 250um.
2. Pay attention to static protection at all ports.
3. Series block capacitors are needed at LO, RF, IF ports, capacitance is chosen according to Freq.
4. Sintering Temperature: 290°C (10s, N<sub>2</sub> Protection/Vacuum, please don't exceed this temperature).