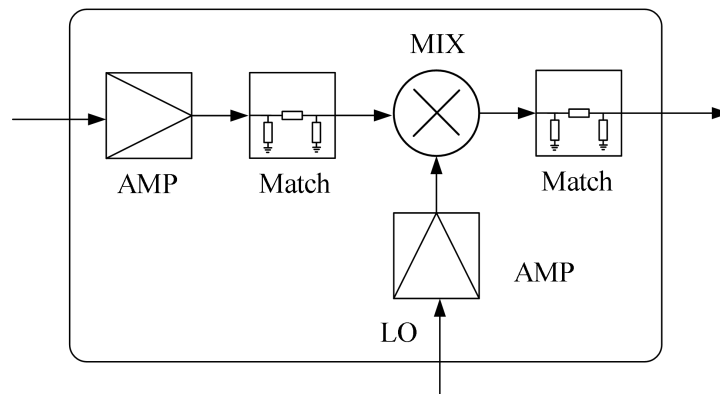


Multifunctional frequency conversion chip, 5~15GHz

Performance characteristics

- RF frequency: 5~15GHz
- LO frequency: 5~15GHz
- IF frequency: DC~6GHz
- Conversion gain: 3dB
- LO input power: 0dBm
- Outline Dimensions: 10x8x2.5mm

Principle diagram



Product introduction

GF010515Q multifunctional frequency conversion chip, using GaAs technology, with a frequency range of 5-15GHz, can achieve frequency conversion within 5-15GHz. The typical LO/RF isolation value is 40dB, the typical LO/IF isolation value is 40dB, and the local oscillator input power is ≥ 0 dBm. It is housed in a ceramic package, suitable for SMT.

Absolute maximum ratings	
Parameter	Ratings
VDD	+5.5V
RF Input power	+20dBm
LO Input power	+20dBm
Operating temperature	-55~+85° C
Storage temperature	-55~+150° C
Note: Exceeding any of these limits may cause permanent damage.	

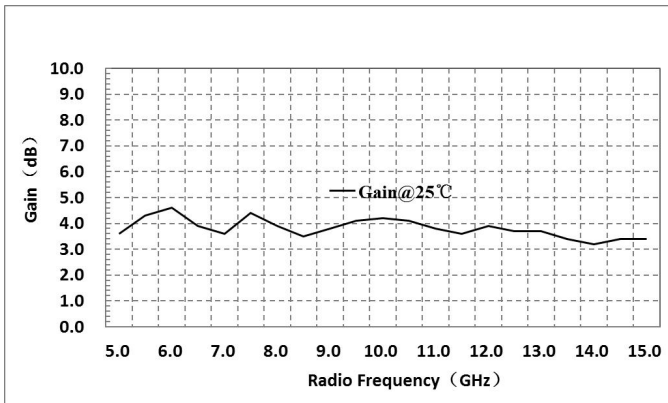
Multifunctional frequency conversion chip, 5~15GHz

Electrical parameters(TA = +25°C, 50Ω system)

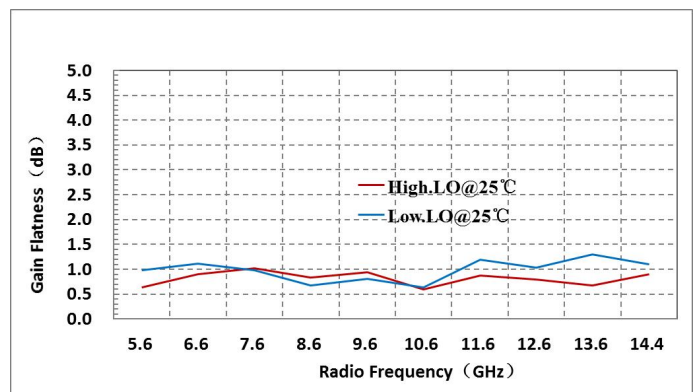
Parameter	Min	Typ	Max	Unit
RF frequency	5		15	GHz
LO frequency	5		15	GHz
IF output frequency	DC		6	GHz
Conversion gain		3		dB
In-band flatness		±0.6		dB
LO/RF isolation		40		dB
LO/IF isolation		40		dB
RF/IF isolation		10		dB
LO input power		0		dBm
Current		90		mA

Main indicator testing curve

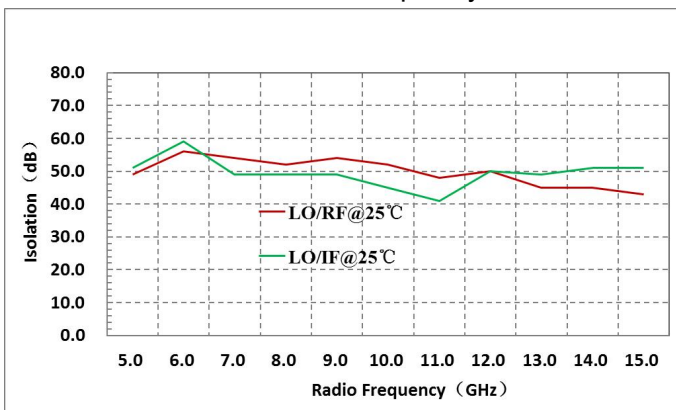
Conversion gain at IF output=1200MHz



Gain flatness at IF output=1200MHz±600MHz



Isolation VS. Frequency

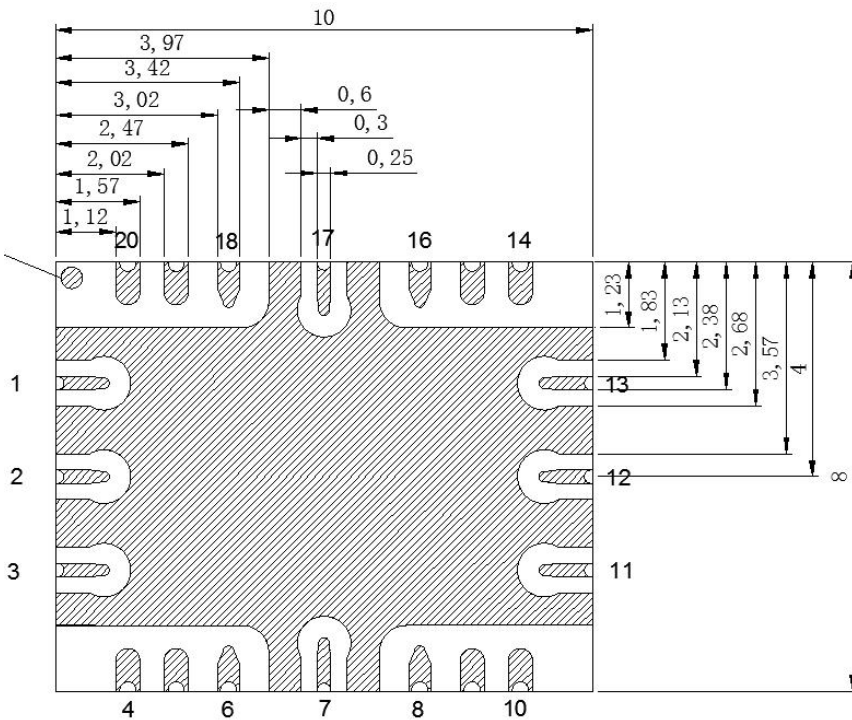


Multifunctional frequency conversion chip, 5~15GHz

Spurious suppression				
	nLO			
mRF	0	1	2	3
0	x	-22	-24	x
1	-12	0	-34	-46
2	-48	-54	-54	-56
3	x	-70	-70	-54

RF=10.1G@-10dBm
 LO=10G@0dBm
 All Values in dBc below the IF power level.

External structure



Pin	Function	Description
1、10	+5V	+5V power supply
2	RFin	RF input, no need for blocking capacitors
3~6/8/9/11 13~20	GND	Ground
7	IFout	IF output, no need for blocking capacitors
12	LOin	LO input, no need for blocking capacitors

Multifunctional frequency conversion chip, 5~15GHz**Note:**

- Unit: mm;
- The device should be stored in a dry and nitrogen environment. When the device cannot be used up after being unpacked, it should be immediately stored in a drying oven or vacuum sealed to avoid absorbing moisture from the air;
- Devices are sensitive to static electricity, and attention should be paid to anti-static measures during storage, transportation, assembly, and use;
- Please connect all grounding pins to RF ground;
- This product is suitable for reflow soldering installation process, with a maximum reflow soldering peak temperature of 260 °C.