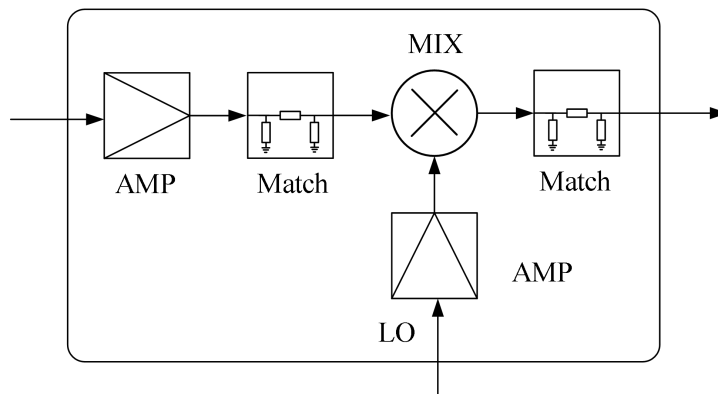


**Multifunctional frequency conversion chip, 0.5~2.5GHz**

Performance characteristics

- RF frequency: 0.5~2.5GHz
- LO frequency: 0.5~2.5GHz
- IF frequency: DC~1GHz
- Conversion gain: 1dB
- LO input power: 0dBm
- Outline Dimensions: 10x8x2.5mm

Principle diagram



Product introduction

GF010102Q multifunctional frequency conversion chip, using GaAs technology, with a frequency coverage range of 0.5-2.5GHz, can achieve frequency conversion within 0.5-2.5GHz. The typical LO/RF isolation value is 40dBc, the typical LO/IF isolation value is 35dBc, and the local oscillator input power is  $\geq 0$ 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.	

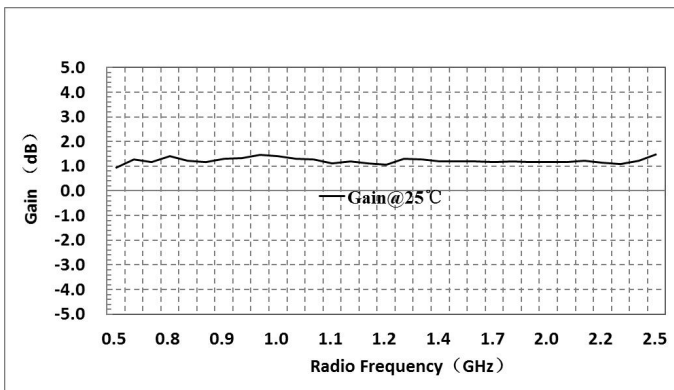
## Multifunctional frequency conversion chip, 0.5~2.5GHz

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

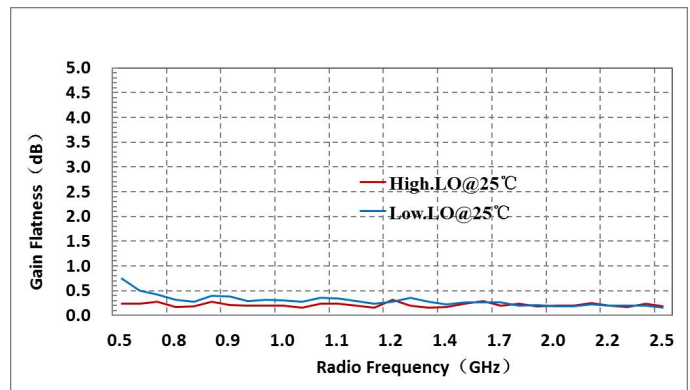
Parameter	Min	Typ	Max	Unit
RF frequency	0.5		2.5	GHz
LO frequency	0.5		2.5	GHz
IF output frequency	DC		1	GHz
Conversion gain		1		dB
In-band flatness		±0.2		dB
LO/RF isolation		40		dB
LO/IF isolation		35		dB
RF/IF isolation		10		dB
LO input power		0		dBm
Current		90		mA

### Main indicator testing curve

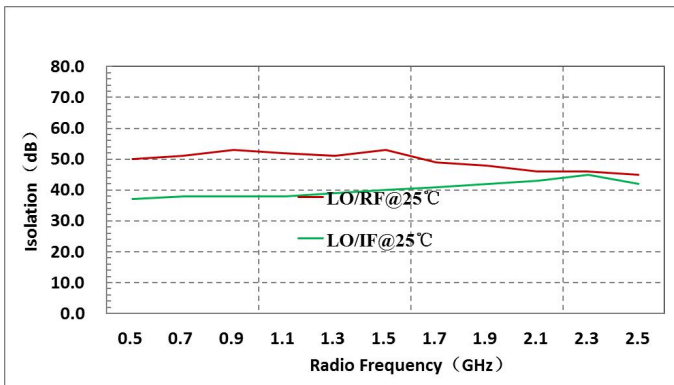
Conversion gain at IF output=70MHz



Gain flatness at IF output=70MHz±20MHz



Isolation VS. Frequency

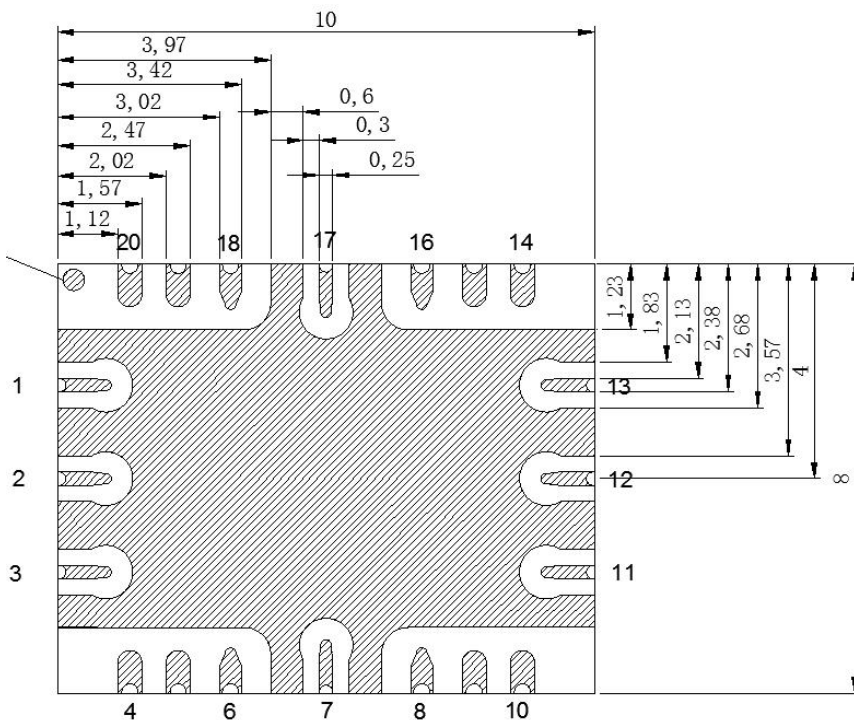


## Multifunctional frequency conversion chip, 0.5~2.5GHz

Spurious suppression				
	nLO			
mRF	0	1	2	3
0	x	3	12	22
1	2	0	29	18
2	44	52	61	47
3	53	68	64	71

RF=1.5G@-10dBm  
LO=1.4G@0dBm  
All Values in dBc below the IF power level.

### External structure



Pin	Function	Description
2	RFin	RF input, no need for blocking capacitors
5、9	+5V	+5V power supply
1/3/4/6/8/10/11/13~20	GND	Ground
7	IFout	IF output, no need for blocking capacitors
12	LOin	LO input, no need for blocking capacitors

**Multifunctional frequency conversion chip, 0.5~2.5GHz****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.