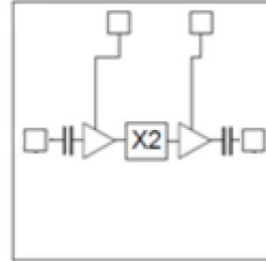


Performance characteristics

- Frequency range: 8-14GHz
- Typical power output : 16.5dBm
- Typical input power: -2dBm
- Working voltage: +5V/75mA
- 50Ohm input/output
- 100% on-chip testing
- Chip size : 2.33 x 1.2 x 0.1mm

Functional Block Diagram



Product Introduction

GL-0814-2A is an active doubler chip. When the input signal power is -2 dBm , the output signal power in the range of 8 GHz to 14GHz is 16.5 dBm. The chip through-hole metallization process ensures good grounding, and the back side is metallized, which is suitable for eutectic sintering or conductive adhesive bonding process .

Use restriction parameter ¹

Maximum input power	+20dBm
Maximum working range	+ 8V
Operating temperature	-55 ~ +85°C
storage temperature	-65 ~ +150°C

【1】 Exceeding any of these maximum limits may cause permanent damage.

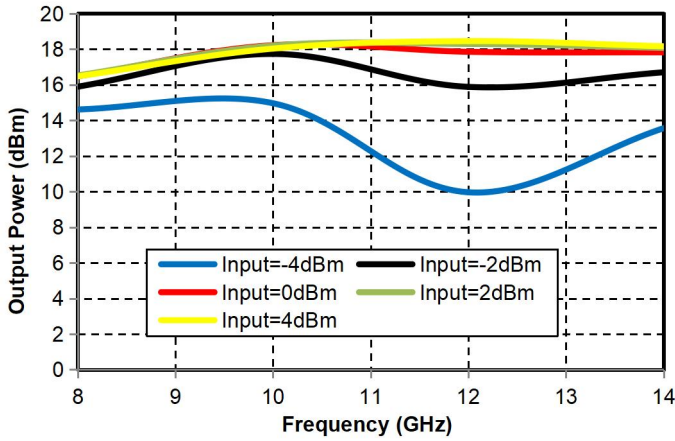
Electrical performance parameters (TA = +25°C , Vdd = +5V, Pin = -2dBm)

index	Minimum	Typical Value	Maximum	unit
Input frequency range	4-7			GHz
Output frequency range	8-14			GHz
Output Power	-	16.5	-	dBm
Fundamental Suppression	-	18	-	dBc
Third harmonic suppression	-	26	-	dBc
Input return loss	-	15	-	dB
Output return loss	-	13	-	dB
Current	75			mA

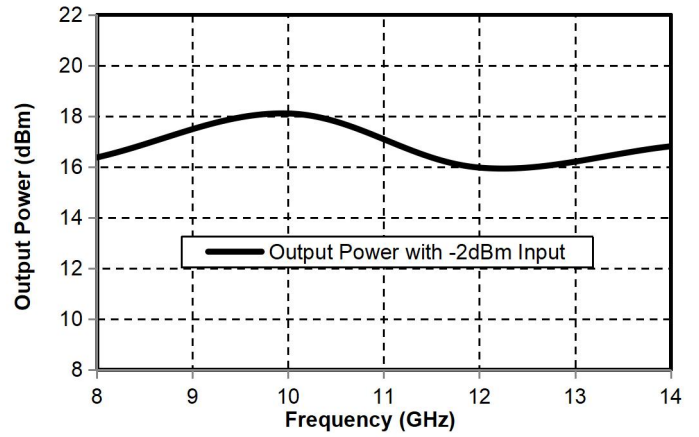
GaAs MMIC Frequency Multiplier Chip, 8-14GHz

Main index test curve

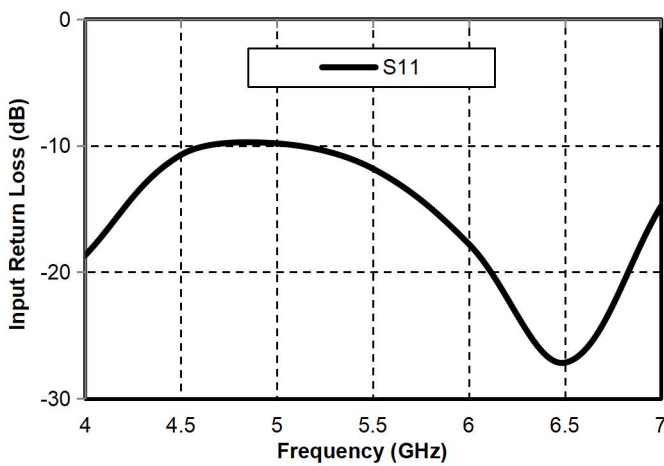
Output Power vs. Input Power



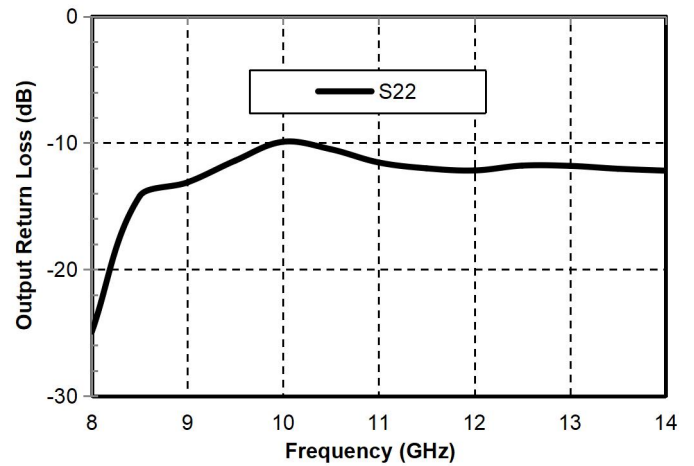
Output power vs. frequency @Pin=-2dBm



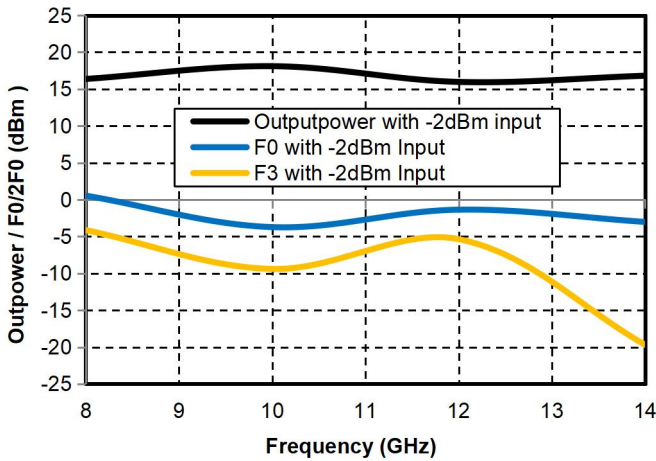
Input Return Loss vs. Operating Frequency



Output Return Loss vs. Operating Frequency

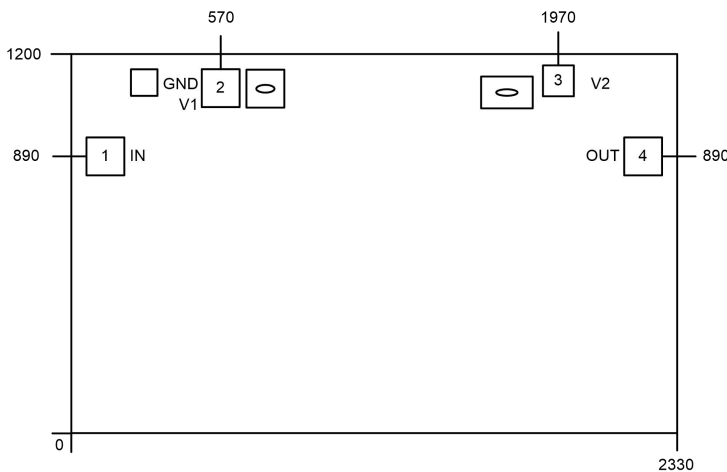


Fundamental vs. Second Harmonic vs. Third Harmonic



GaAs MMIC Frequency Multiplier Chip, 8-14GHz

Appearance structure ²



【2】 The units in the figure are all microns , and the dimensional tolerance is : ±50um .

Bonding point definition		
Bonding point number	Function Symbol	Functional Description
1	RFIN	RF signal input terminal
4	RF OUT	RF signal output terminal
2,3	V1, V2	Amplifier drain bias, external 100pF , 1000pF bypass capacitor required
Chip bottom	GND	The bottom of the chip needs to be well grounded to RF and DC

Recommended assembly drawing

