Standard Circuit

GL-0814-3A

GaAs MMIC Frequency Multiplier Chip, 8-14GHz

Performance characteristics

- Frequency range: 8 - 14 GHz
- Typical power output : 17.5dBm
- Typical input power: 4dBm
- Working voltage: +5V/90mA
- 50Ohm input/output
- 100% on-chip testing
- Chip size : 3.03 x 1.13 x 0.1mm

Product Introduction

GL - 0814-3A is an active tripler chip. When the input signal power is 4 dBm, the output signal power in the range of 8 GHz to 14 GHz is 17.5 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 = 4dBm)				
index	Minimum	Typical Value	Maximum	unit
Input frequency range		2.33-4.66		GHz
Output frequency range		8-14		GHz
Output Power	-	17.5	-	dBm
Fundamental Suppression	-	18	-	dBc
Third harmonic suppression	-	11.5	-	dBc
Input return loss	-	15	-	dB
Output return loss	-	14	-	dB
Current		90		mA

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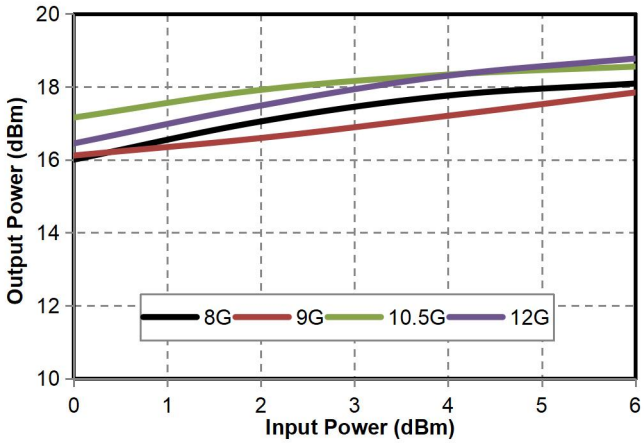
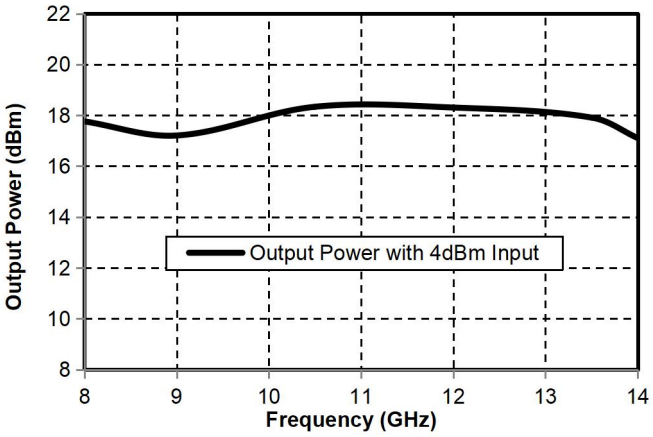
Main index test curve

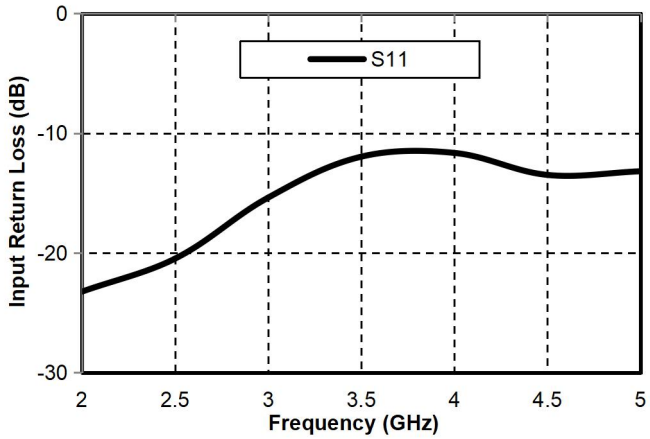
Output Power vs. Input Power



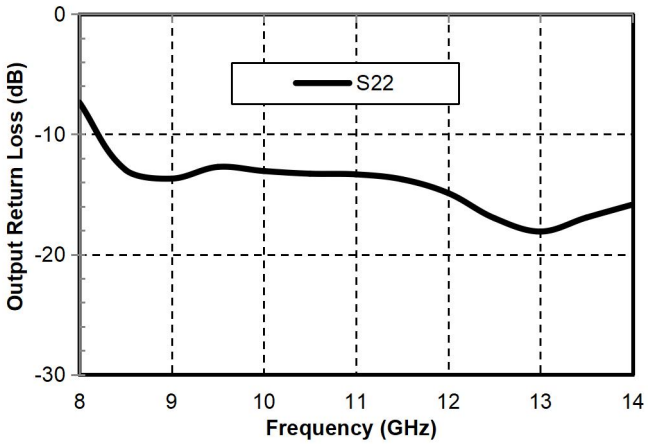
Output power vs. frequency @Pin=4dBm



Input Return Loss vs. Operating Frequency



Output Return Loss vs. Operating Frequency



Fundamental vs. Second Harmonic vs. Output Power

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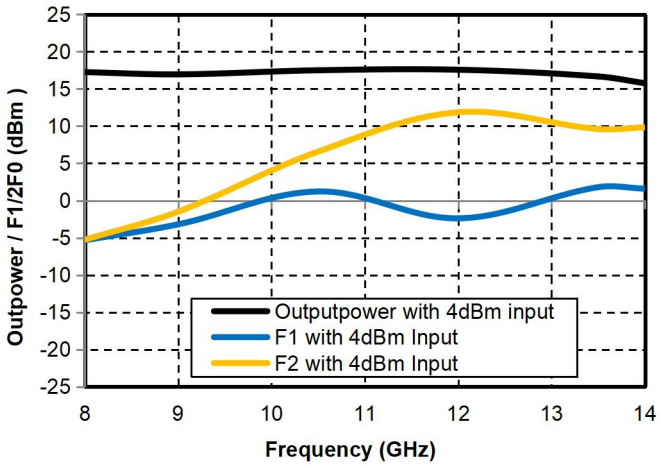
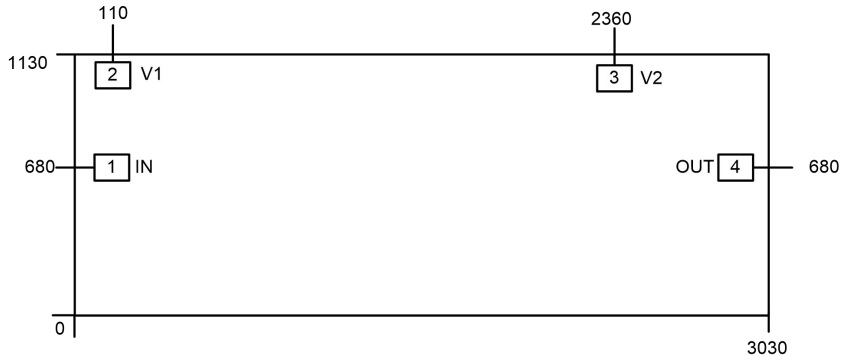


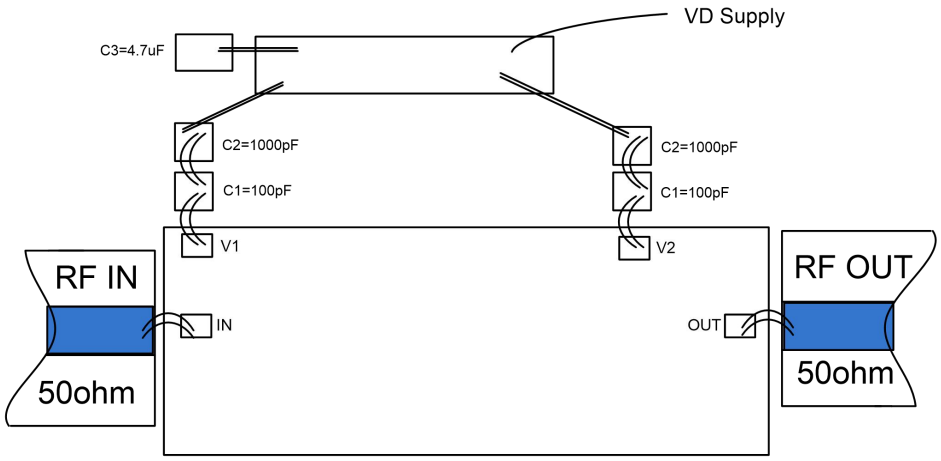
Appearance structure [2]



【2】The units in the figure are all micrometers (dimensional tolerance : ±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



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