GPA-1550F

GaAs MMIC Power Amplifier Chip, 15-50GHz

Performance characteristics

Frequency range: 15-50GHz
Small signal gain: 19dB
Noise figure: 7.0dB
P-1dB: 18.5dBm
Psat: 19.5dBm
Power supply: +5V@200mA
50Ohm input/output
100% on-chip testing
Chip size: 1.96 x 1.25 x 0.1mm

Product Introduction

GPA-1550F is a broadband amplifier chip based on GaAs technology, covering a frequency range of 15~50GHz, with a small signal gain of 19dB and a P-1 output power of 18.5dBm. The chip via metallization process ensures good grounding, and the back side is metallized, which is suitable for eutectic sintering process.

Use restriction parameter [1]	
Maximum drain voltage	+7 V
Maximum input power	+20 dBm
Operating temperature	-55 ~ +85°C
Storage temperature	-65 ~ +150°C

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

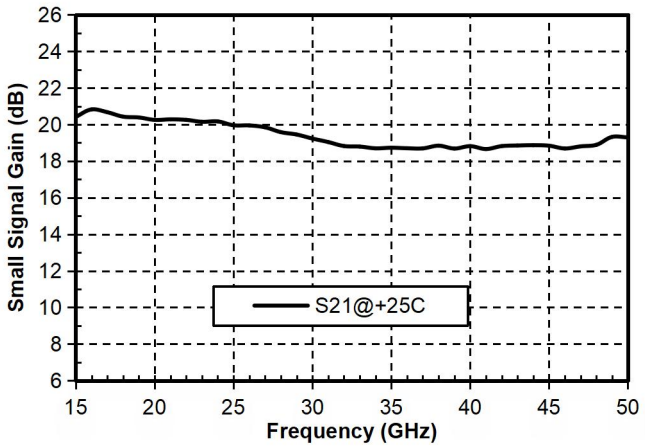
Electrical parameters (Ta=+25°C, Vd = +5 V , Ids= 200 mA)				
index	Minimum	Typical Value	Maximum	unit
Frequency Range		15-50		GHz
Small Signal Gain	-	19	-	dB
Gain Flatness		± 1.1		dB
Noise Figure		7.0		dB
P-1dB	-	18.5	-	dBm
Psat	-	19.5	-	dBm
Input return loss	-	14	-	dB
Output return loss	-	13	-	dB

Add: 101 cecil street #14-10, tong eng building singapore 069533
Email: info@standardcircuit.com
Web: www.standardcircuit.com
Tel: +65 82613258

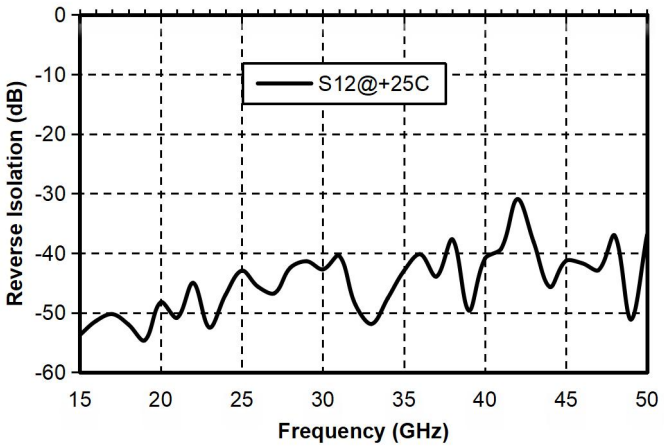
GaAs MMIC Power Amplifier Chip, 15-50GHz

Main index test curve

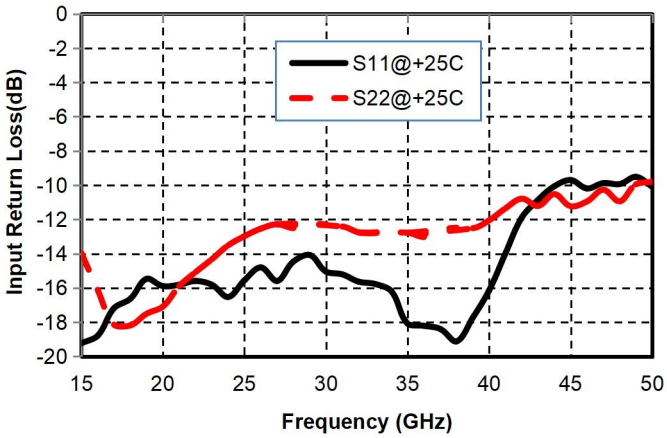
Gain vs. Frequency



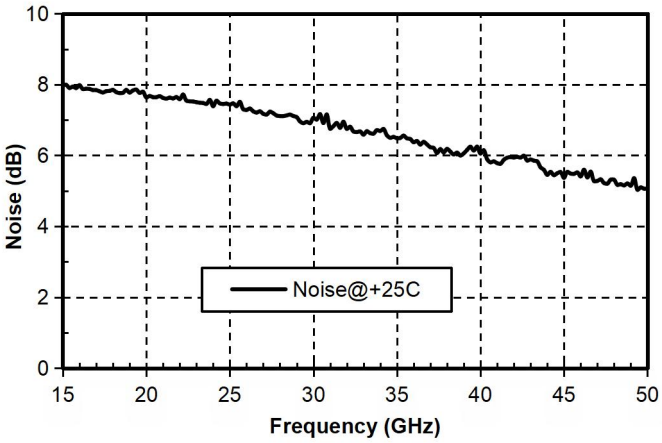
Reverse Isolation vs. Frequency



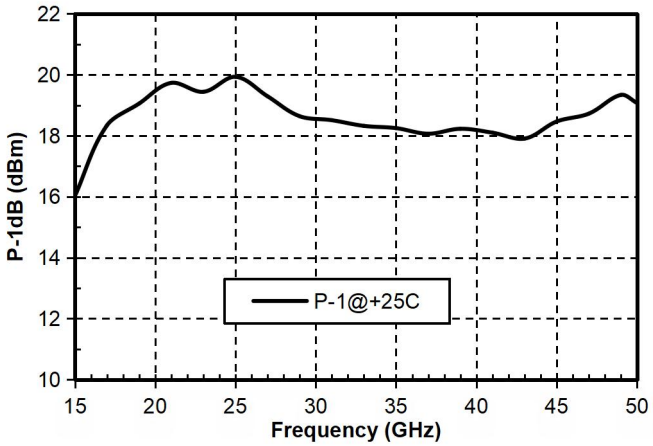
Input /Output Return Loss vs. Frequency



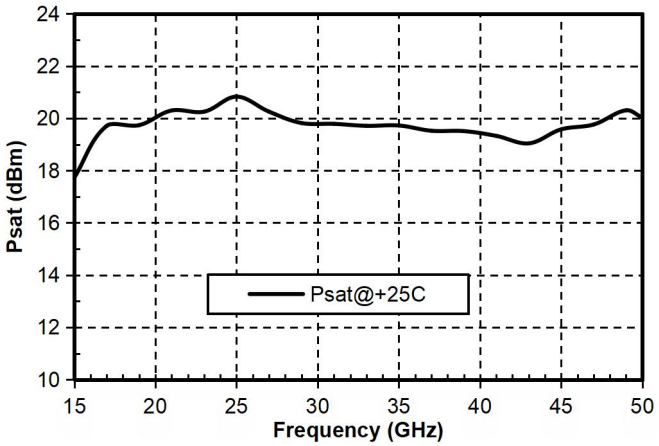
Noise Figure vs. Frequency



P-1dB vs. Frequency



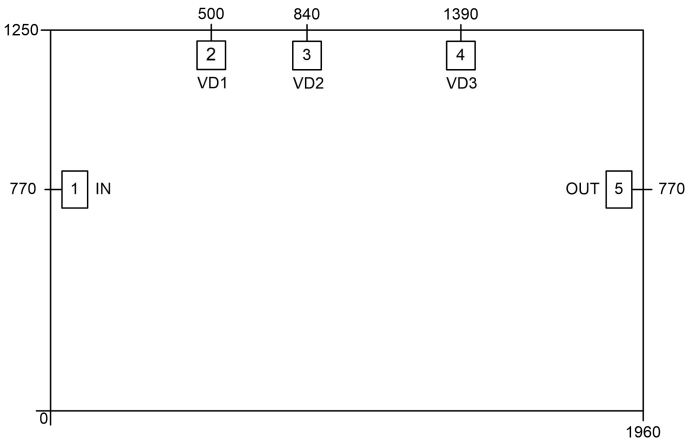
Psat vs. Frequency



Add: 101 cecil street #14-10, tong eng building singapore 069533
Email: info@standardcircuit.com
Web: www.standardcircuit.com
Tel: +65 82613258

GaAs MMIC Power Amplifier Chip, 15-50GHz

Appearance structure [2]



【2】The units in the figure are all micrometers (dimensional tolerance: ± 5 0um.)

Bonding point definition		
Bonding point number	Function Symbol	Functional Description
1	RF IN	The signal input terminal is connected to a 50 ohm circuit, and no DC blocking capacitor is required
5	RF OUT	The signal output terminal is connected to a 50 ohm circuit, and no DC blocking capacitor is required
2, 3, 4	VD1 , VD2, VD3	Amplifier drain bias, requires external 100pF bypass capacitor
Chip bottom	GND	The bottom of the chip needs to be in good contact with the RF and DC grounds

Recommended assembly diagram