GPA-3238B

GaAs MMIC Power Amplifier Chip, 32-38GHz

Performance characteristics

Frequency range: 32-38GHz
Small Signal Gain: 28 dB
Psat: 28.5 dBm
PAE: 18%
Power supply: +5V@730mA
50Ohm input/output
100% on-chip testing
Chip size: 2.77 x 1.59 x 0.1mm

Product Introduction

GPA-3238A is a broadband amplifier chip based on GaAs technology, covering a frequency range of 32-38 GHz, with a small signal gain of 28dB and a Psat output power of 28.5dBm. The chip's through-hole metallization process ensures good grounding, and the back side is metallized for eutectic sintering. The chip supports +5V and +6V operation.

Use restriction parameter [1]	
Maximum drain voltage	+8 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= 730 mA)				
index	Minimum	Typical Value	Maximum	unit
Frequency Range		32-38		GHz
Small Signal Gain	-	28	-	dB
Gain Flatness		± 1.5		dB
Psat	-	28.5	-	dBm
PAE		18		%
Input return loss	-	8	-	dB
Output return loss	-	12	-	dB
*By tuning the Vg terminal voltage from -2V to 0V, the recommended Vg terminal voltage is -0.6V .				

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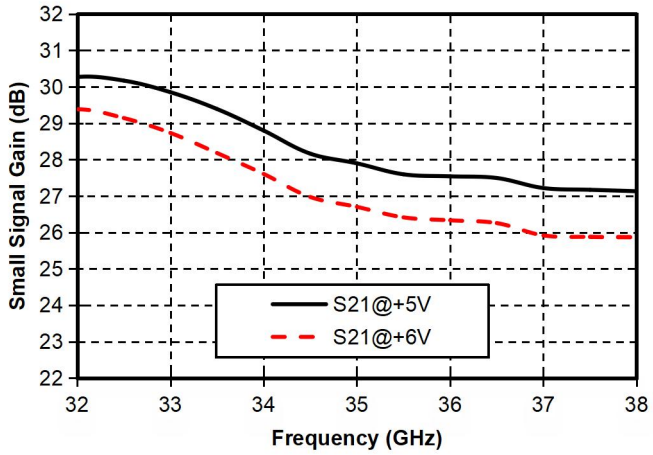
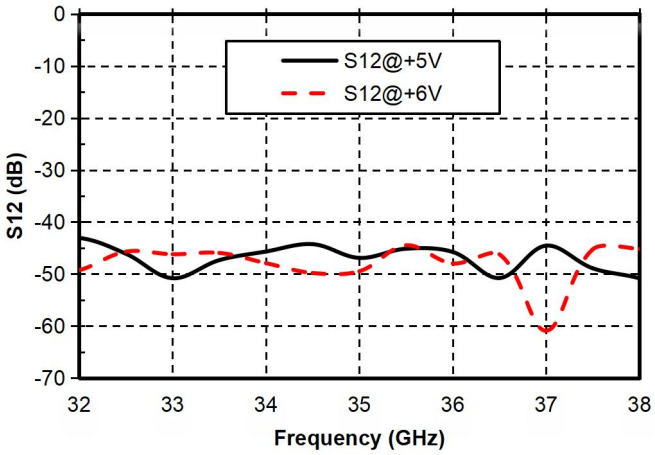
Main index test curve

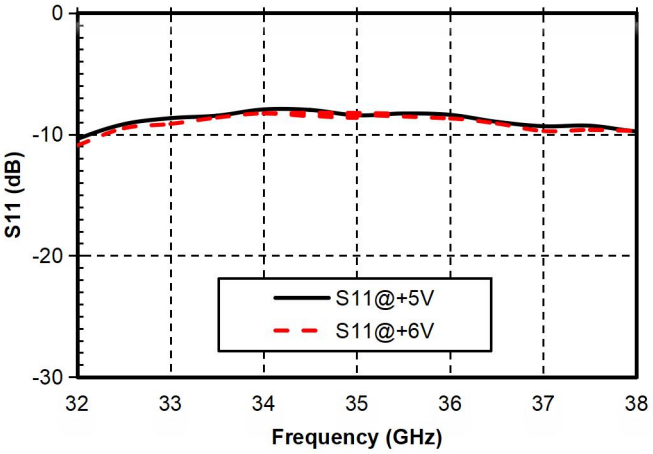
Gain vs. Frequency



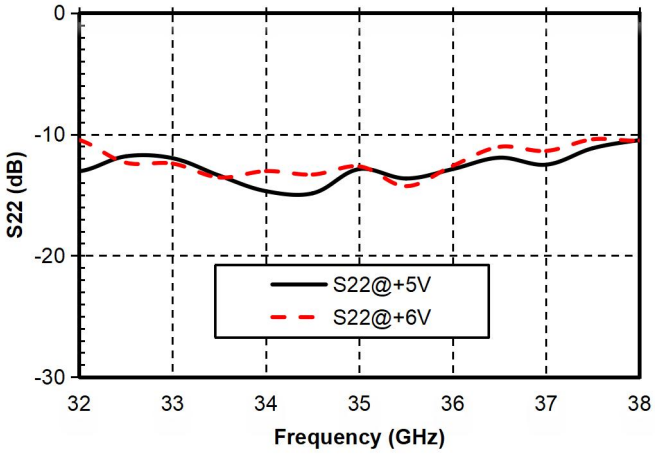
Reverse Isolation vs. Frequency



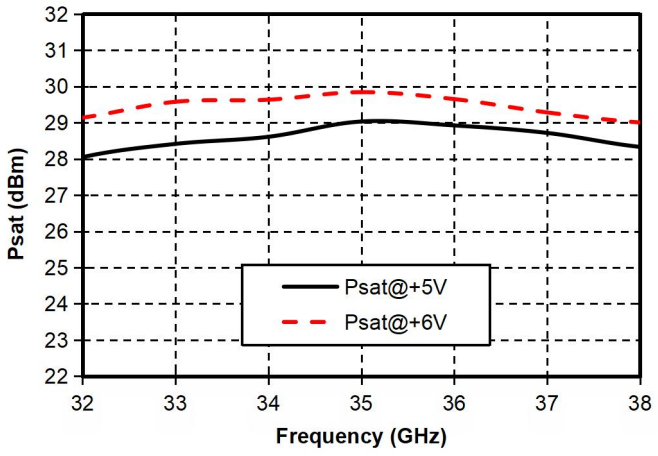
Input Return Loss vs. Frequency



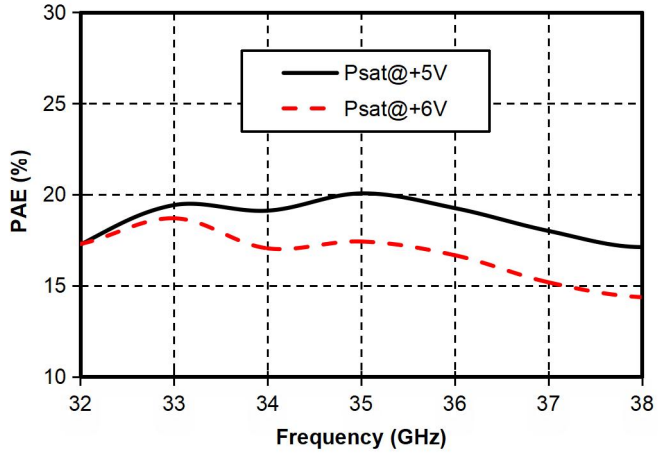
Output Return Loss vs. Frequency



P sat vs. frequency



P AE vs. Frequency



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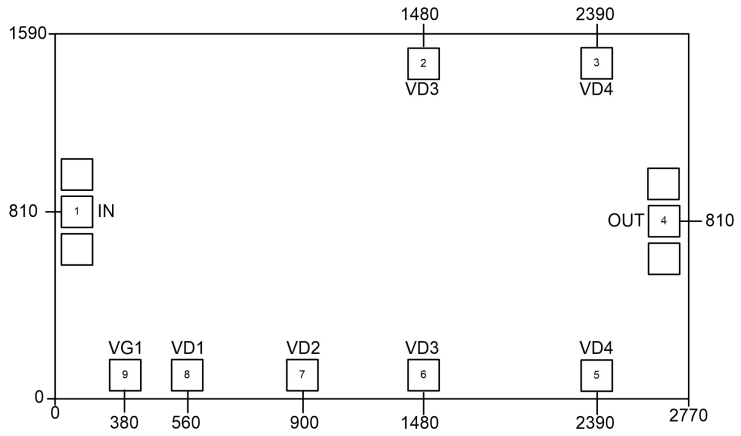
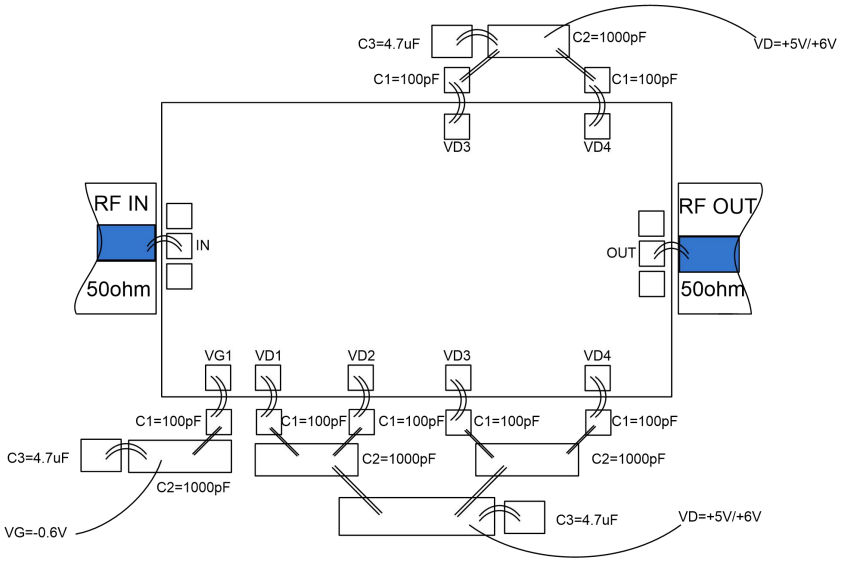
Appearance structure [2]



【2】The units in the figure are all micrometers (dimensional tolerance: ±100um.)

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
4	RF OUT	The signal output terminal is connected to a 50 ohm circuit, and no DC blocking capacitor is required
2, 3, 5, 6, 7, 8	VD1 , VD2, VD3, VD4	Amplifier drain bias, external 100pF , 1000pF , 4.7uF bypass capacitors are required
9	VG	Amplifier gate bias , external 100pF , 1000pF , 4.7uF bypass capacitors are required
Chip bottom	GND	needs to be in good contact with the RF and DC grounds

Recommended assembly diagram



Note: It is recommended to input 2 gold wires with a length of 350Um ; output 2 gold wires with the length of the gold wires as short as possible.