

GaAs monolithic integrated driver amplifier

0.9~1.3GHz

key indicator

- Frequency range: 0.9~1.3GHz
- Gain: 20.2dB
- Output P_{1dB}: 26dBm
- Single power supply operation: +8V@142mA
- Chip size: 1.1mm×1.25mm×0.1mm

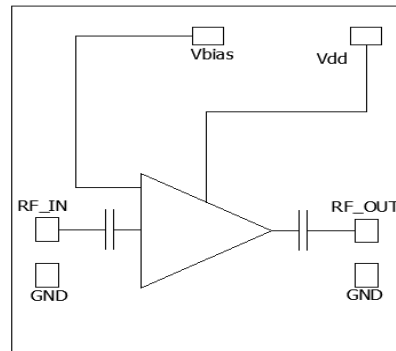
typical application

- Point-to-point communication
- Satellite Communications
- Military and aerospace
- Testing and measuring instruments
- radar

Product Introduction

AY1567 amplifier chip works from 0.9 to 1.3 GHz and is made of GaAs technology. Under 142mA working current, it can provide 20.2dB gain, 26dBm output P_{1dB}, and the noise in the normal temperature band is lower than 3.4dB. The chip uses on-chip metal chemical technology to ensure good grounding, and the back of the chip is metalized, which is suitable for eutectic sintering or conductive adhesive bonding processes.

Functional block diagram



Electrical performance (T_A=25°C, V_D=+8V, I_D=142mA, Z₀=50Ω)

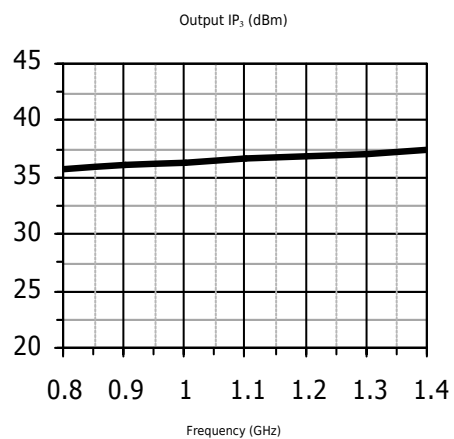
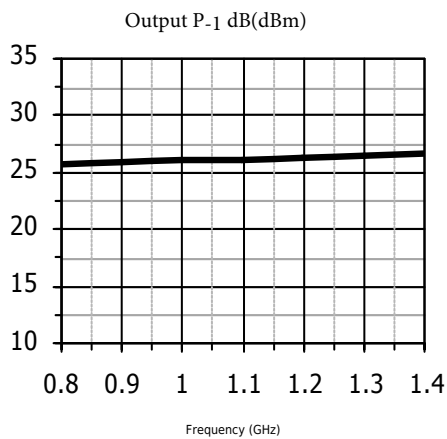
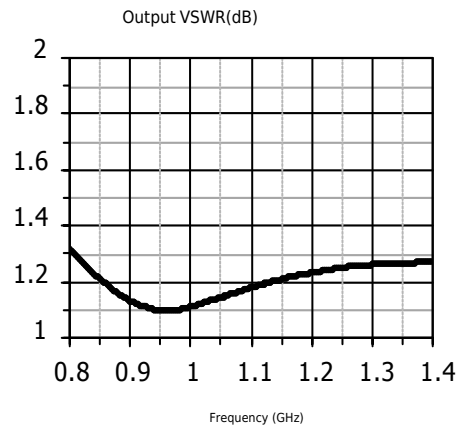
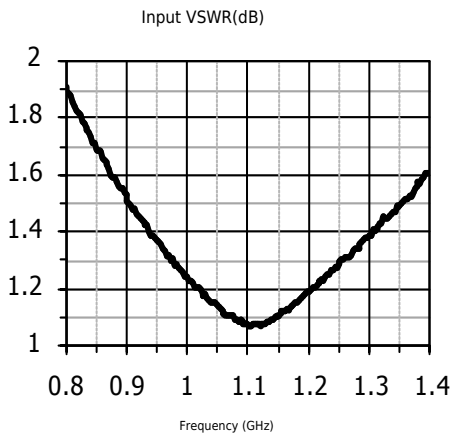
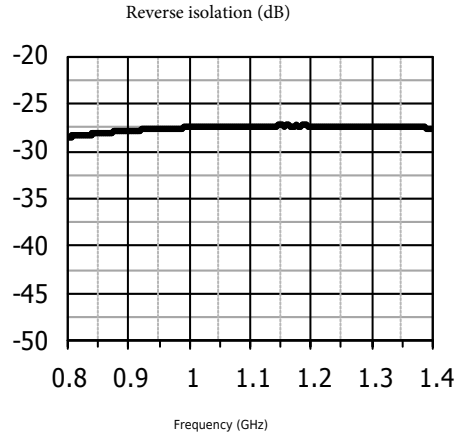
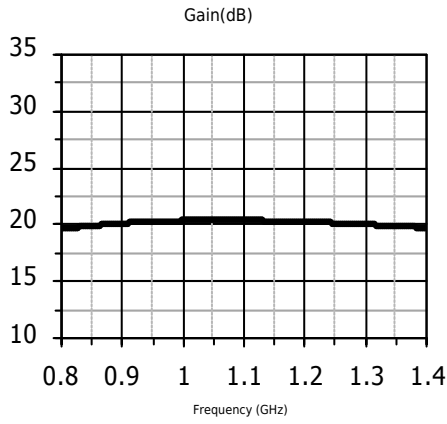
index	Minimum	Typical value	Max	unit
frequency	0.9 ~ 1.3			GHz
Small signal gain	-	20.2	-	dB
Small signal gain flatness	-	0.4	-	dB
Reverse isolation	-	- 27	-	dB
Input/output standing wave ratio	-	1.4	-	:one
Noise Figure	-	3.4	-	dB
Output P _{1dB}	-	26	-	dBm
Output IP ₃	-	36	-	dBm
Working current	-	142	-	mA

Absolute maximum rating

Maximum input power	+18dBm	Operating temperature	-55 °C ~ + 85 °C
Channel temperature	150 °C	Storage temperature	-65 °C ~ + 150 °C

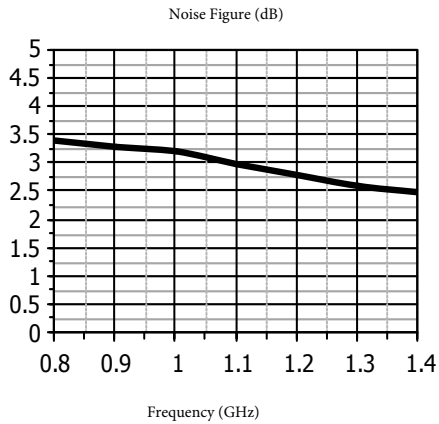
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Typical test curve



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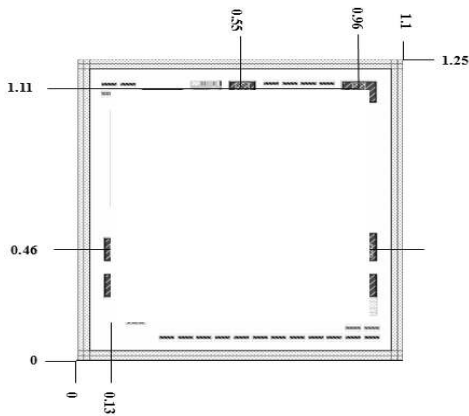
0.9~1.3GHz



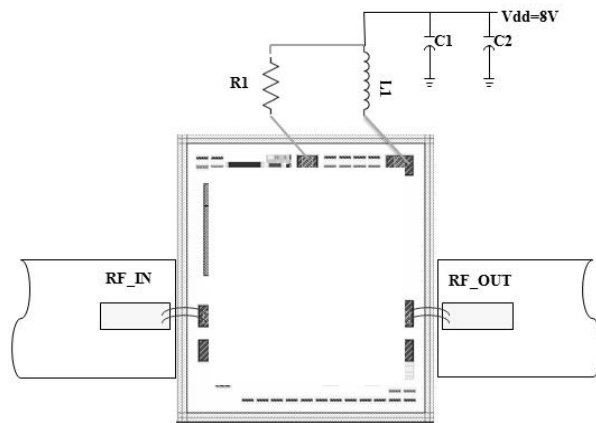
Component list

serial number	Numerical value	model	manufacturer	Encapsulation
R1	300Ω	-	-	0603
C1	330pF	GRM1885C1H331JA01	Murata	0603
C2	10nF	GRM1857U1A103JA44	Murata	0603
L1	10nH	0603LS10NXJLC	Thread art	0603

Shape and port size (mm)



Recommended assembly drawing



Precautions

Gallium arsenide MMIC devices are susceptible to electrostatic discharge damage. Precautions should be taken during transportation, assembly and testing.