GaAs Power Amplifier

APPLICATIONS

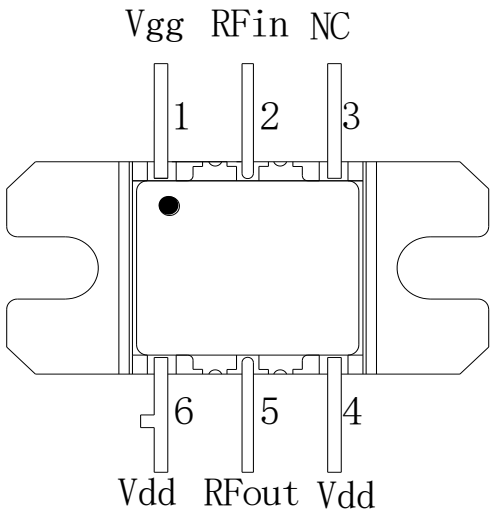
- Radar
- SATCOM Terminals
- RF/Millimeter-wave Circuits

Description

The device is a MMIC amplifier that contains a four-stage amplifier，internally matched，for standard communications band in the 8 to 12GHz frequency range.

Feature

- Frequency Range：8GHz~12GHz
- Gain：26dB
- P1dB：37dBm
- PAE@P1dB：30%
- Input Return Loss：10dB
- Impedance Matched Zin/Zout：50Ω
- Hermetic Metal-Ceramic SMT Package
- Size：17.78mm x 8.33mm x 2.02 mm



ELECTRICAL CHARACTERISTICS

(T_A= 25℃, 50Ω system, V_{dd} =+8V, V_{gg}= -5V)

Item	Min.	Type.	Max.	Unit
Frequency	8	-	12	GHz
Gain	-	26	-	dB
P1dB	36.2	37	-	dBm
PAE	22	30	-	%
IRL	-	10	-	dB

ESD

HBM Human Body Model	1A（250V~500V）
CDM Charge Device Model	C1（≥250V）

ABSOLUTE MAXIMUN RATING

Item	Rating
Input Power P_{IN}	27dBm
Drain-Source Voltage V_{dd}	+10V
Gate Source Voltage V_{gg}	-20 V
Storage Temperature T_{STG}	-55℃~+125℃
Operating Case Temperature T_A	-40℃~+85℃

RECOMMENDED OPERATING CONDITIONS

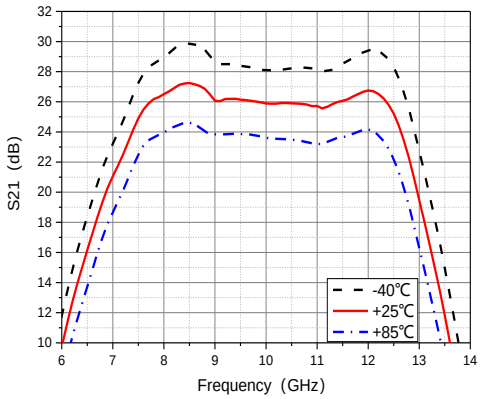
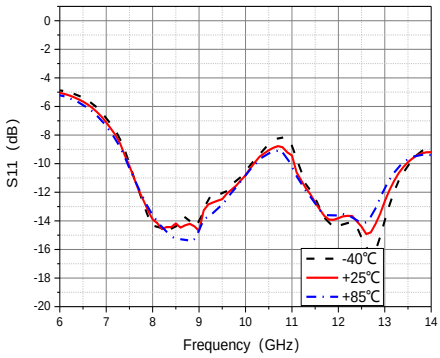
Item	Rating
Drain-Source Voltage V_{dd}	+8V
Gate Source Voltage V_{gg}	-5V
Input Power P_{in}	≤15dBm

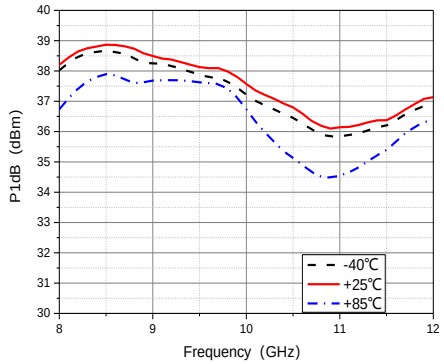
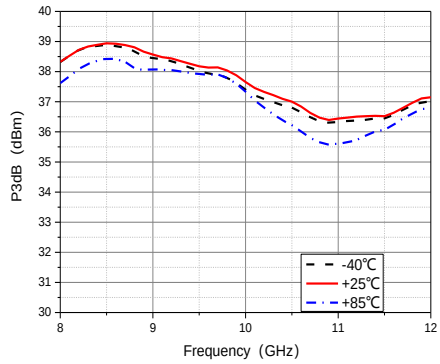


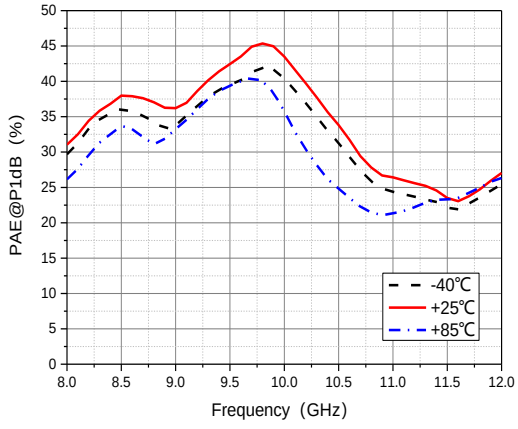
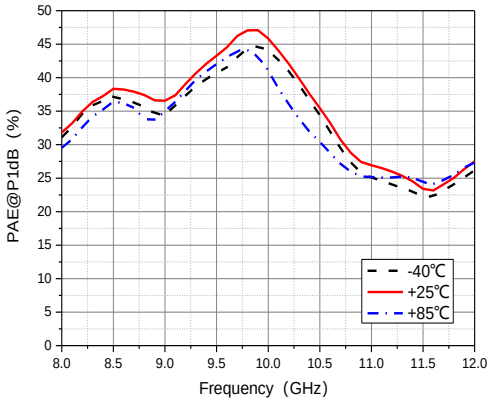
ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

Measured Performance (CW)

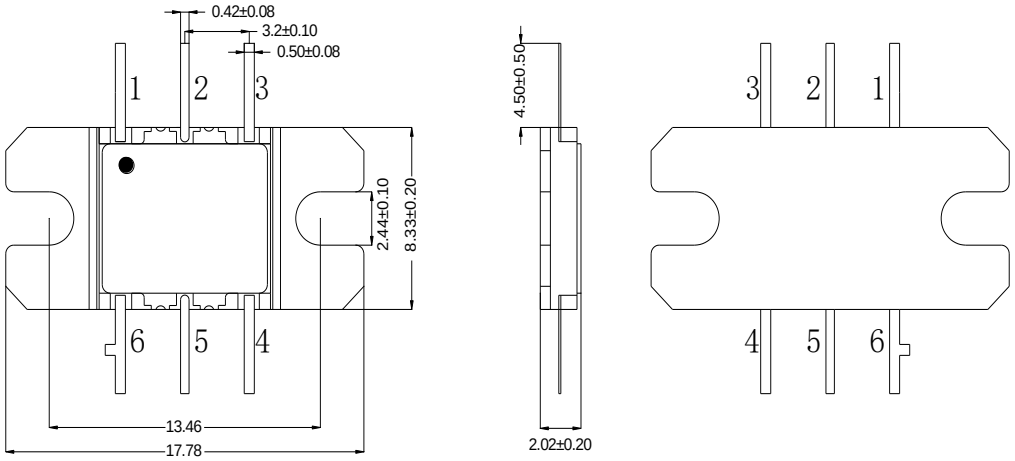
Test Conditions: T_A=-40℃~+85℃, V_{dd}=+8V, V_{gg}=-5V, I_{dq}=1.55A

Gain vs Frequency	RLin vs Frequency
	

OP1 vs Frequency	OP3 vs Frequency
	

PAE@P1dB vs Frequency	PAE@P3dB vs Frequency
	

Package Outline



FRONT VIEW SIDE VIEW BOTTOM VIEW

Unit: mm, Tolerance±0.15mm。

Pin Assignment

1	V_{gg}
2	RF_{in}
5	RF_{out}
4、6	V_{dd}
3	NC

Recommended Bias Network

