

Performance Characteristics

- Frequency band: 42GHz to 46GHz
- Power gain: 15dB
- Saturated output power: 30dBm
- Power added efficiency: 18%
- +6V @ 1A (static)
- Chip size: 3.57mm×2.37mm×0.10mm

Product Introduction

This is a GaAs MMIC power amplifier chip with a frequency range covering 40GHz~45.5GHz, a power gain of 15dB, a saturated output power of 30dBm, and a power added efficiency of 18%

Electrical Parameters (TA = + 25°C)

Parameter	Min	Typ	Max	Unit
Frequency Range	40-45.5			GHz
Saturated Output Power		30		dBm
Power Gain		15		dB
Power Added Efficiency		18		%
Operating Current	1			A

Note: 1) All chips have undergone 100% DC testing on the chip.
2) Test conditions: VD=6V (duty cycle 2%, pulse width 100 μs, and continuous wave), VG=-0.6V, Pin=15dBm

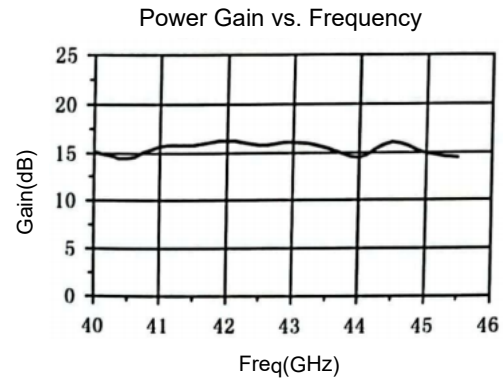
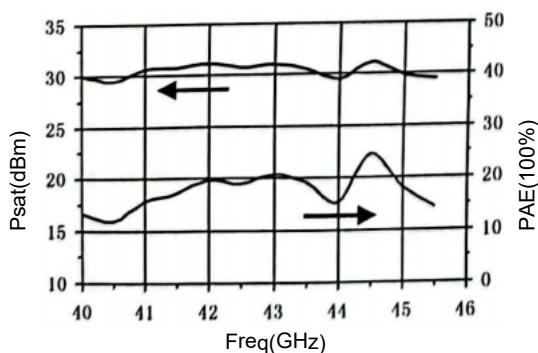
Use Restriction Parameters

Symbol	Parameter	Value
V _{DS}	Positive drain voltage	+8V
V _{GS}	Negative gate voltage	-3V
P _{in}	Input continuous wave power	+20dBm
T _{ch}	Channel temperature	+175°C
T _{STG}	Storage temperature	-65°C ~ +150°C

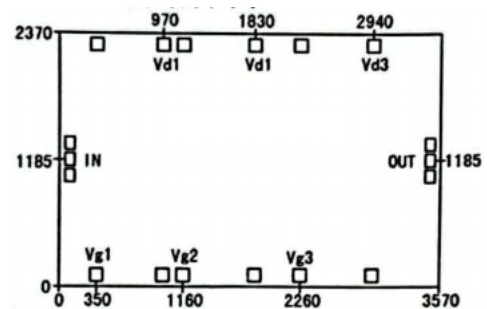
Typical Curve

In order to provide users with a more intuitive understanding of the performance indicators of the chip, the following are curve graphs for each indicator.

Saturated Output Power/Efficiency vs Frequency

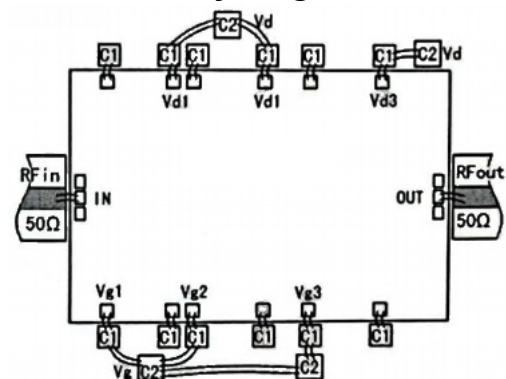


External Dimensions



Note: The dimensions indicated in the figure are in micrometers (um); Input/output pressure point size 90×120 μm²; The size of the bias pressure point is 120 × 120 μm².

Suggested Assembly Diagram



Note: Peripheral capacitor C1: 100pF, C2: 1000pF.

Note:

- 1) Assemble and use in a purified environment.
- 2) GaAs material is very brittle and the chip surface is easily damaged (do not touch the surface), so caution must be taken when using it.
- 3) Use 2 bonding wires (true diameter 25 μm gold wire) for input and output, and keep the bonding wires as short as possible, not longer than 500 μm.
- 4) When powering on, apply gate voltage first and then drain voltage; When powering off, first reduce the leakage voltage, then reduce the gate voltage;
- 5) Use 8020 gold tin sintering, with a sintering temperature not exceeding 300 °C and a sintering time as short as possible, not exceeding 30 seconds.
- 6) The input and output have DC blocking capacitors.
- 7) This product is a static sensitive device, so be careful to prevent static electricity during storage and use.
- 8) Store in a dry and nitrogen environment.
- 9) Do not attempt to clean the surface of the chip using dry or wet chemical methods.
- 10) If you have any questions, please contact the supplier