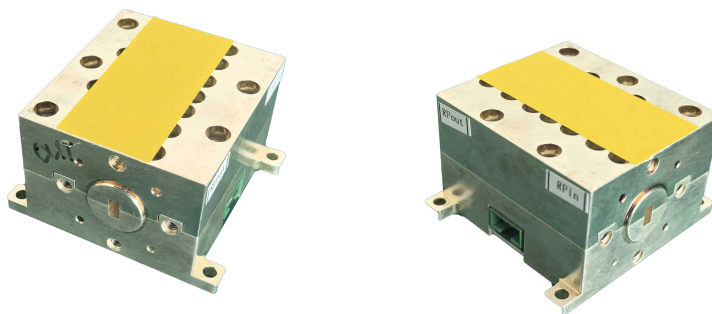


V-Band Power Amplifier Module, 47-52GHz

Performance characteristics

- Frequency Range: 47GHz~52GHz
- Gain: 17dB
- Psat: 39.5dBm
- PAE: 23%
- +24V @1.4A (Quiescent)
- Dimensions: 2.60 mm×2.90 mm×0.10mm



Product Description

GPAm-4752 is a GaN millimeter-wave power amplifier MMIC. It covers a frequency range of 47 GHz to 52 GHz, featuring 17 dB power gain, 39.5 dBm Psat, and 23% PAE.

Electrical Specifications (TA=+25°C)

Parameter	Min	Typ	Max	Unit
Frequency range	47-52			GHz
Psat		39.5		dBm
Power gain		17		dB
PAE		23		%
Quiescent Drain Current	1.7			A

Notes:

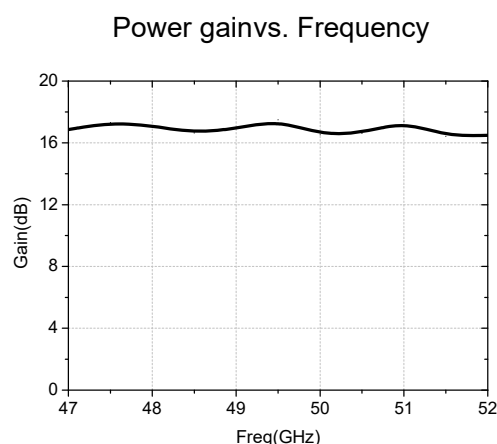
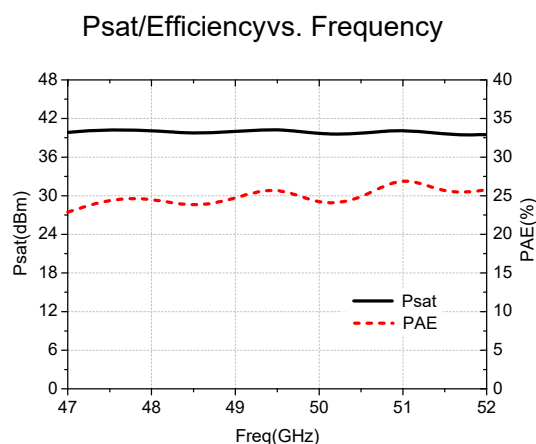
All dies undergo 100% on-wafer DC test.

Test conditions: VD=24V (CW), VG=-1.2V, Pin=23dBm

Absolute Maximum Ratings

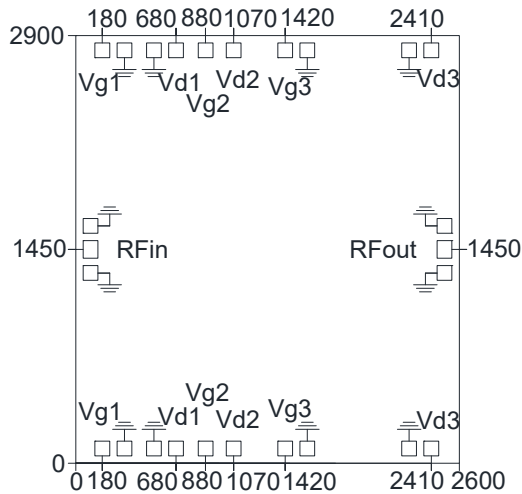
Symbol	Parameter	Value
V _{DS}	Forward Drain-Source Bias	+26V
V _{GS}	Negative Gate-Source Bias	-6V
P _{in}	Input CW Power	+26dBm
T _{ch}	Channel Temperature	+175°C
T _{STG}	Storage Temperature	-65°C ~ +150°C

Typical Curves (24V CW, V_G=-1.2V, P_{in}=23dBm)



V-Band Power Amplifier Module, 47-52GHz

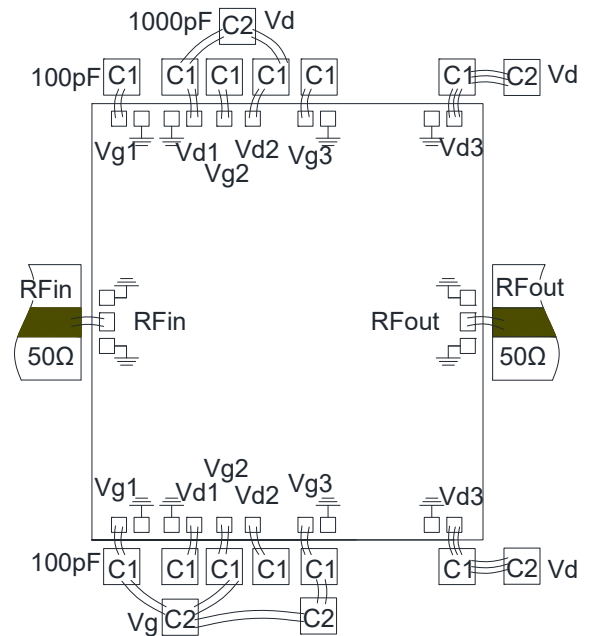
Die Outline Dimensions



Notes:

All dimensions marked in the drawing are in μm . The RF input and output bond pads measure $100 \times 100 \mu\text{m}^2$, and the bias bond pads are $100 \times 100 \mu\text{m}^2$.

Recommended Assembly Schematic



Notes:

External capacitors: C1 = 100 pF, C2 = 1000 pF.

Precautions

- 1) Assembly and operation shall be performed in a cleanroom environment.
- 2) GaN material is brittle and the die surface is susceptible to damage. Do not touch the die surface and handle with extreme care.
- 3) Use two 25 μm diameter gold bonding wires for RF input and output. Keep bonding wires as short as possible, with maximum length not exceeding 300 μm .
- 4) DC blocking capacitors are required at both input and output ports.
- 5) Sinter with 80/20 AuSn solder. The sintering temperature shall not exceed 300°C, and the sintering time shall be minimized to less than 30 seconds.
- 6) This product is an electrostatic-sensitive device (ESD). ESD protection measures must be adopted during storage and operation.
- 7) Store under dry nitrogen atmosphere.
- 8) Do not clean the die surface by dry or wet chemical methods.
- 9) Contact your supplier for support if any issues arise.



This device is sensitive to electrostatic discharge. Strict ESD precautions are required during handling.