



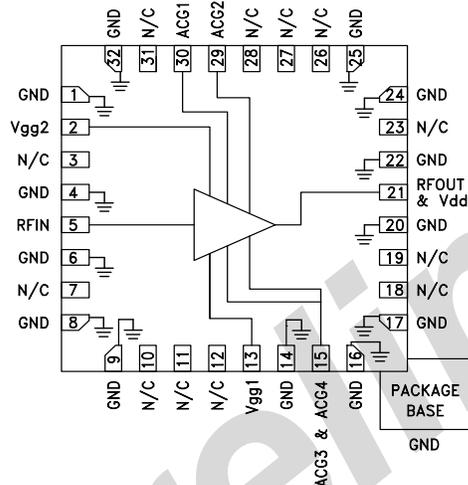
GaAs pHEMT MMIC 2 WATT POWER AMPLIFIER, 0.1 - 20 GHz

Typical Applications

The HMC998APM5E is ideal for:

- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Functional Diagram



Features

- P1dB Output Power: +31 dBm
- Psat Output Power: +33 dBm
- High Gain: 11 dB
- Output IP3: +41 dBm
- Supply Voltage: Vdd = +15V @ 500 mA
- 50 Ohm Matched Input/Output
- 32 Lead 5x5 mm SMT Package: 25 mm²

General Description

The HMC998APM5E is a GaAs pHEMT MMIC Distributed Power Amplifier which operates between 0.1 and 20 GHz. The amplifier provides 11 dB of gain, +41 dBm output IP3, and +31 dBm of output power at 1 dB gain compression while requiring only 500 mA from a +15V supply. The HMC998APM5E exhibits a slightly positive gain from 3 to 17 GHz making it ideal for EW, ECM, Radar and test equipment applications. The HMC998APM5E amplifier I/Os are internally matched to 50 Ohms and is supplied in a leadless QFN 5x5 mm surface mount package.

Electrical Specifications, $T_A = +25^\circ\text{C}$, $V_{dd} = +15\text{V}$, $V_{gg2} = +9.5\text{V}$, $I_{dd} = 500\text{ mA}$ [1]

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	max	Units
Frequency Range		0.1 - 4		4 - 16			16 - 20			GHz
Gain	8	11		8	11		9	12		dB
Gain Flatness		±0.3			±0.5			±0.5		dB
Gain Variation Over Temperature		0.006			0.012			0.017		dB/°C
Input Return Loss		17			15			25		dB
Output Return Loss		10			15			20		dB
Output Power for 1 dB Compression (P1dB)	28	31		28	31		26	29		dBm
Saturated Output Power (Psat)		33			33			31		dBm
Output Third Order Intercept (IP3) [2]		41			41			40		dBm
Noise Figure		8			4.5			5		dB
Total Supply Current		500			500			500		mA

[1] Adjust Vgg between -2 to 0V to achieve Idd = 500 mA typical.

[2] Measurement taken at Pout / tone = +14 dBm.

HMC998APM5E* PRODUCT PAGE QUICK LINKS

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COMPARABLE PARTS

View a parametric search of comparable parts.

DOCUMENTATION

Data Sheet

- HMC998APM5E: GaAs pHEMT MMIC 2 Watt Power Amplifier, 0.1 - 20 GHz Preliminary Data Sheet

DESIGN RESOURCES

- HMC998APM5E Material Declaration
- PCN-PDN Information
- Quality And Reliability
- Symbols and Footprints

DISCUSSIONS

View all HMC998APM5E EngineerZone Discussions.

SAMPLE AND BUY

Visit the product page to see pricing options.

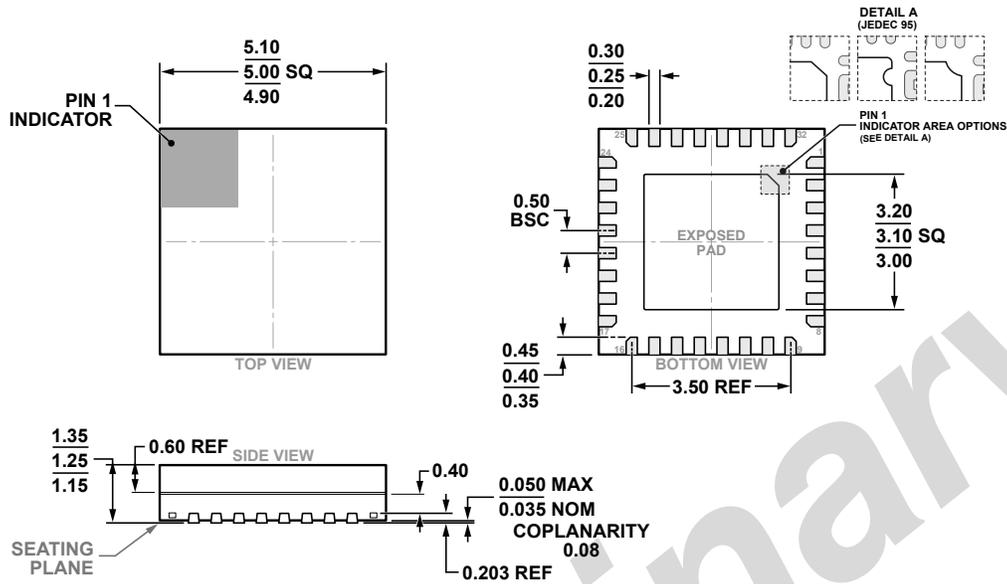
TECHNICAL SUPPORT

Submit a technical question or find your regional support number.

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Outline Drawing



Preliminary