



GaAs PHEMT MMIC POWER AMPLIFIER, 2 - 20 GHz

Typical Applications

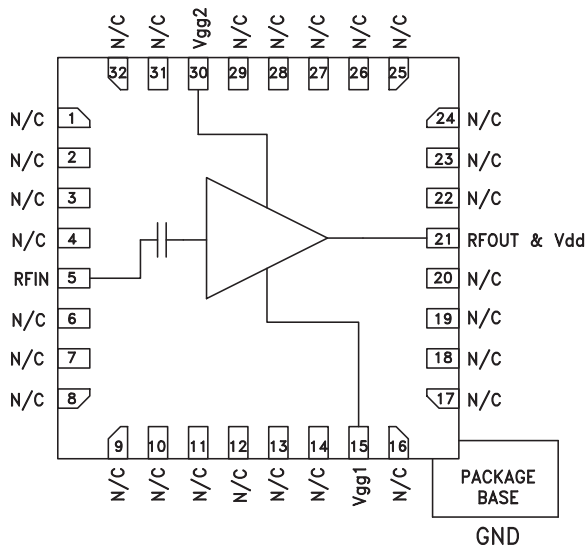
The HMC464LP5 / HMC464LP5E is ideal for:

- Telecom Infrastructure
- Microwave Radio & VSAT
- Military EW, ECM & C³I
- Test Instrumentation
- Fiber Optics

Features

- P1dB Output Power: +26 dBm
- Gain: 14 dB
- Output IP3: +30 dBm
- Supply Voltage: +8V @ 290 mA
- 50 Ohm Matched Input/Output
- 25 mm² Leadless SMT Package

Functional Diagram



General Description

The HMC464LP5 & HMC464LP5E are GaAs MMIC PHEMT Distributed Power Amplifiers in leadless 5 x 5 mm surface mount packages which operate between 2 and 20 GHz. The amplifier provides 14 dB of gain, +30 dBm output IP3 and +26 dBm of output power at 1 dB gain compression while requiring 290 mA from a +8V supply. Gain flatness is good from 2 - 18 GHz making the HMC464LP5(E) ideal for EW, ECM and radar driver amplifiers as well as test equipment applications. The wideband amplifier I/O's are internally matched to 50 Ohms.

Electrical Specifications, $T_A = +25^\circ\text{C}$, $V_{dd} = 8\text{V}$, $V_{gg2} = 3\text{V}$, $I_{dd} = 290\text{mA}$ ^[1]

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	2.0 - 6.0			6.0 - 16.0			16.0 - 20.0			GHz
Gain	12	14		11.5	13.5		8	11		dB
Gain Flatness		±0.5			±0.5			±1.0		dB
Gain Variation Over Temperature		0.025	0.035		0.03	0.04		0.05	0.06	dB/°C
Input Return Loss		15			10			7		dB
Output Return Loss		15			9			11		dB
Output Power for 1 dB Compression (P1dB)	23.5	26.5		22	25		18	21		dBm
Saturated Output Power (Psat)		27.5			26			24.0		dBm
Output Third Order Intercept (IP3)		32			26			22		dBm
Noise Figure		4.0			4.0			6.0		dB
Supply Current (I _{dd}) (V _{dd} = 8V, V _{gg} = -0.5V Typ.)		290			290			290		mA

[1] Adjust V_{gg1} between -2 to 0V to achieve I_{dd} = 290 mA typical.

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