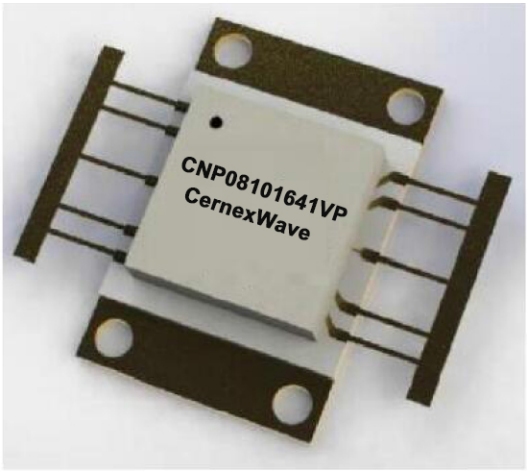


CNP08101641VP

8.5 to 10.5 GHz – 16dB – 41dBm

HPA in Flange Package

Description

The CNP08101641VP is a 2 stages analog High Power Amplifier operating in the frequency range 8.5 to 10.5 GHz. The device is capable of +41dBm output power at Psat.

This amplifier uses a leaded package with a thermally conductive coper composite base. A plastic lid, fixed with epoxy glue, closes the package.

The module has been optimized to provide high efficiency (PAE > 30%) with Vd=+8.0V.

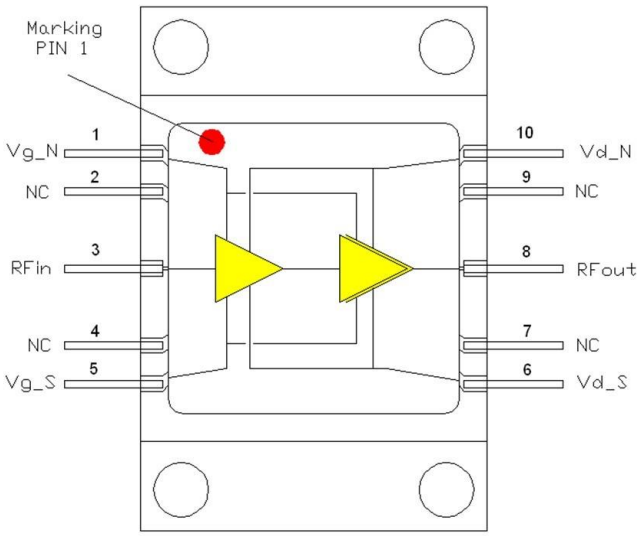
Features

- 2 stages High Power pHEMT GaAs MMIC
- Wide band : 8.5 to 10.5 GHz
- High Output Psat : +41dBm
- Linear gain : 16dB typique
- 50Ω, AC coupled RF input and output,
- Supply (saturation) : 5.5A @ +8.0V; Vg= -0.9V
- Coper composite base to reduce thermal resistance
- Dimensions : 11.43 x 17.32 x 3.15 mm^3

Applications

- X band High Power amplifier
- Broadband communication
- Radar
- Test and measurement

Functional Block Diagram



Ordering information

Product code
CNP08101641VP : Flange package HPA

DC Features

Parameters	Symbol	Min	Typ	Max	Unit
Drain supply voltage : Vd_N, Vd_S	Vd		8		V
Gate supply voltage : Vg_N, Vg_S	Vg		-0.9		V
Supply quiescent current (1)	Idq		4.5		A
Supply drain current at 4dB compression	Id_4dBc		5.5		A

(1) – Can be adjusted by tuning Vg.

Main Characteristics

Tamb = 20°C, Vd = +8V, Idq = 4.5 A, measured in pulsed mode : pulse width 10µS and duty cycle 10%.

Parameters	Symbol	Min	Typ	Max	Unit
Frequency range	F	8.5		10.5	GHz
Saturated output power	PSat		41		dBm
Linear gain	G		16		dB
Power added efficiency at 4dB compression	PAE_4dBc		32		%

Measurement reference planes are the INPUT and OUTPUT plans of Flange Package.

Environment Parameters

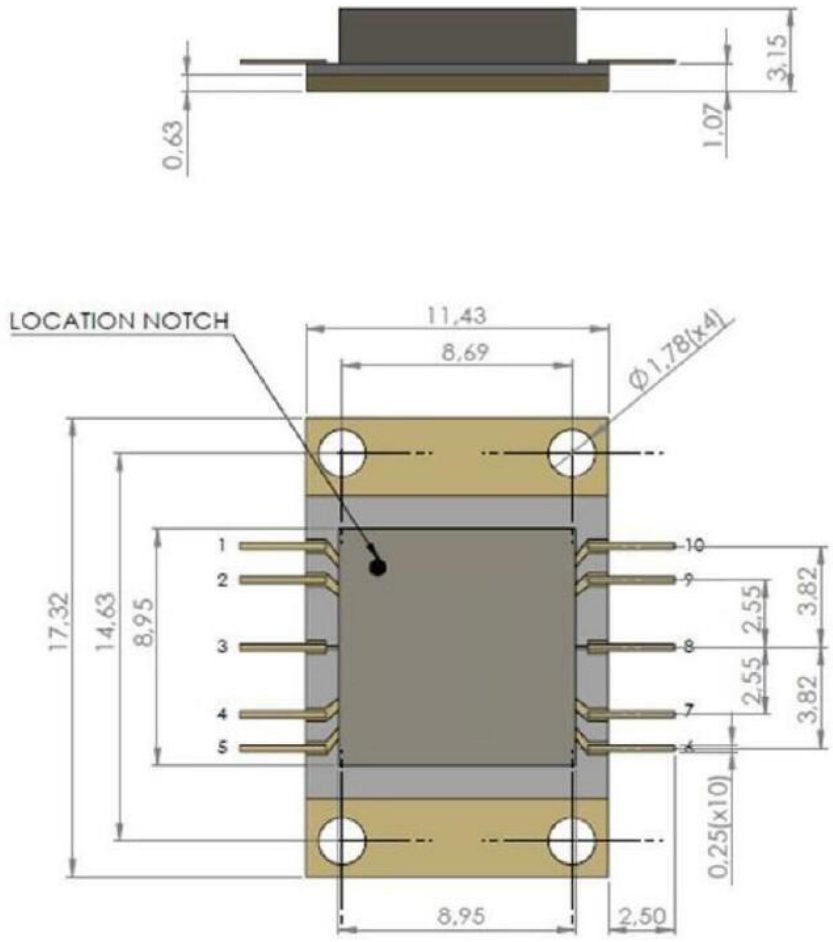
Parameters	Symbols	Min	Max	Unit
Storage temperature	Tstg	-55	+125	°C
Operating temperature (Flange)	Top	-40	+60	°C

Absolute Maximum Ratings

Parameters	Symbols	Min	Max	Units
Supply drain voltage	Vd		8.5	V
Supply gate voltage	Vg	-3.0	0.0	V
Rf input power	Pin max		+30	dBm
Supply quiescent current	Idq		4.8	A
Supply current at 4dB compression	Id_4dBc		6.0	A

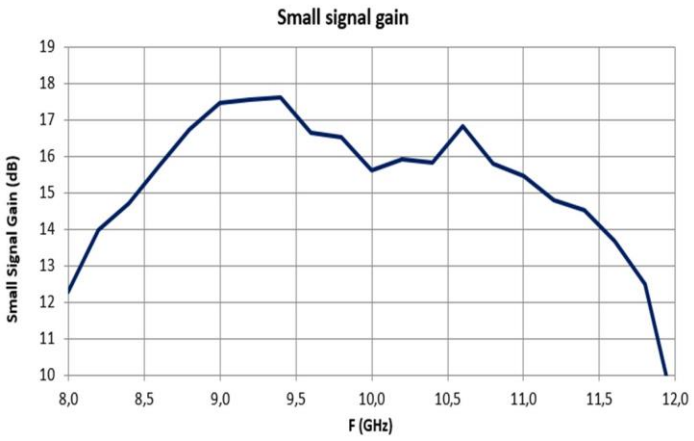
Operation of the device above any of these parameters may cause permanent damage.

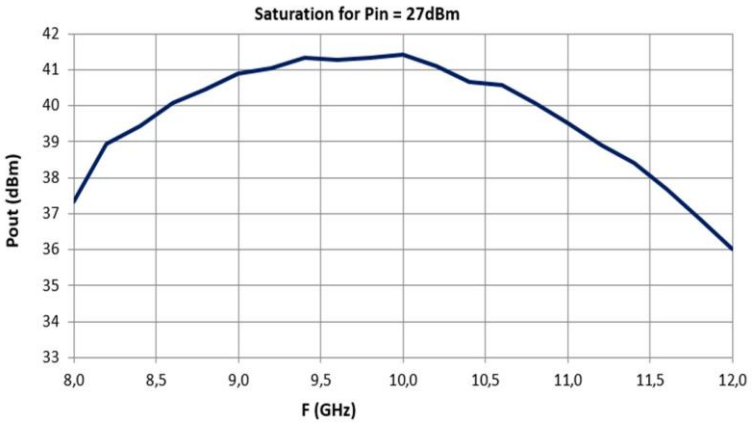
Pin-out And Mechanical Drawing

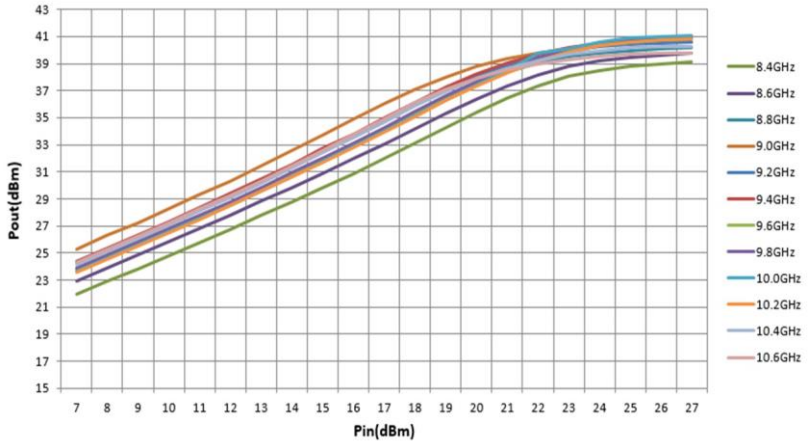


1	Vg_N	10	Vd_N
2	NC	9	NC
3	RF in	8	RF out
4	NC	7	NC
5	Vg_S	6	Vd_S

Typical Performance







Handling

This product is sensitive to electrostatic discharge and should not be handled except at a static free workstation. Take precautions to prevent ESD; use wrist straps, grounded work surfaces and recognized anti-static techniques when handling the CNP08101641VP device.