ICP1044

7.9 -11GHz 25W GaN PA MMIC

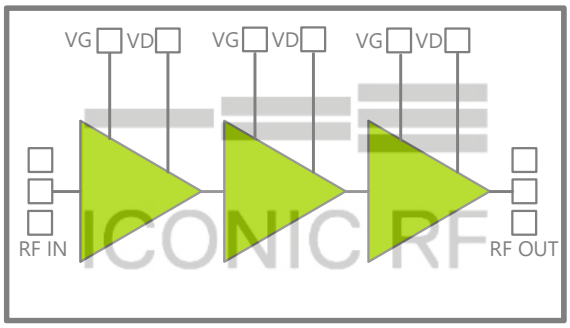
Features

- Frequency Range: 7.9-11GHz
- Pout: 44 dBm Pulsed (100uS,20%)
- PAE: 35%
- Small Signal Gain: 22 dB
- Bias: VD=28 V IDQ=220 mA
- Technology: GaN-on-SiC
- Lead-free and RoHS compliant
- Die Size: 3.2 mm x 1.8 mm

Applications

- Commercial Radar
- Satellite Communications
- Aerospace & Defense

Functional Diagram



Description

The ICP1044 is a three stage MMIC power amplifier in bare die form, fabricated using GaN-on-SiC technology. ICP1044 operates from 7.9 to 11GHz with 44 dBm output power, 35% typical PAE and 22 dB small signal gain. ICP1044 is well suited for both commercial and defense applications.

Electrical Specifications

Parameter	Conditions (1)	Min.	Typ.	Max.	Units
Frequency		7.9		11	GHz
Output Power @ P_{sat}	Pin=26 dBm		44		dBm
PAE @ P_{sat}	Pin=26 dBm		35		%
Small Signal Gain			22		dB
Input Return Loss			10		dB
Output Return Loss			7		dB

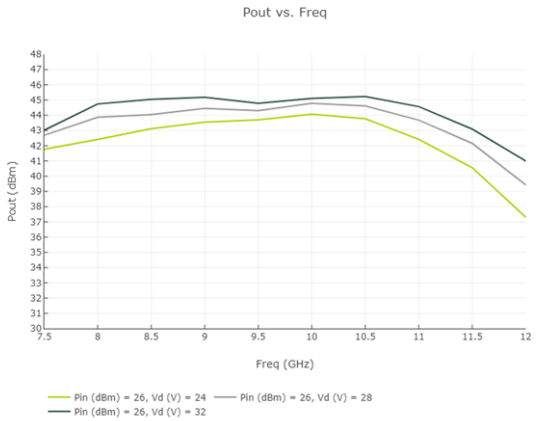
(1) Test conditions unless otherwise stated V_D=28V, I_{DQ}=220mA ,TA=25 ◦C, Pulsed 100uS 20%

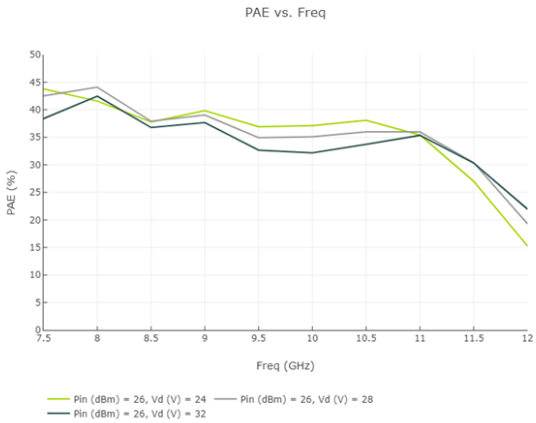
Absolute Maximum Ratings

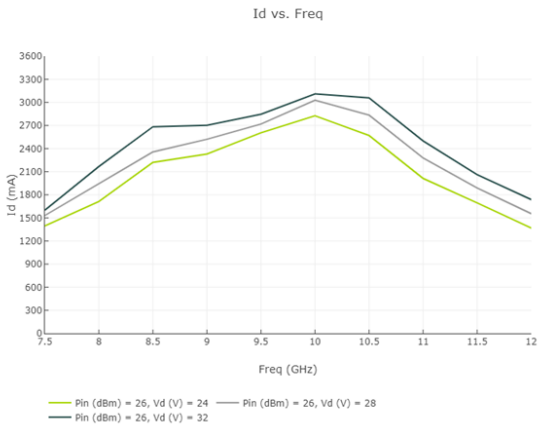
Parameter	Absolute Maximum
Drain Voltage (V_{DG})	40V
Power Dissipation (CW)	75W
CW Input Power	+30dBm
Channel Temperature	275°C
Storage Temperature	-65°C to +150°C

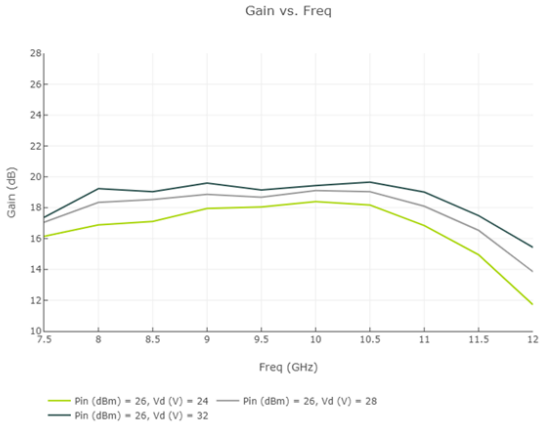
Exceeding any one or combination of these limits may cause permanent damage to this device.
Microchio Technology does not recommend sustained operation near these survivability limits.

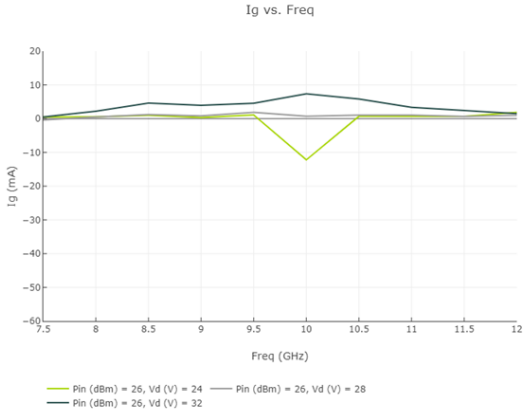
Typical Large Signal Data, Pulsed, By Vdd | Test conditions I_{DQ}=220mA , (pulse = 100us/20%)



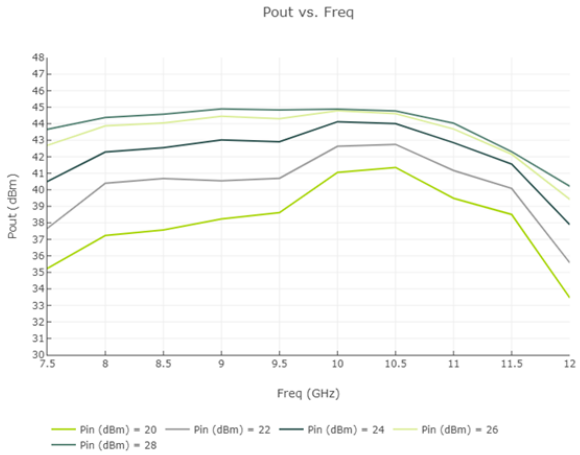


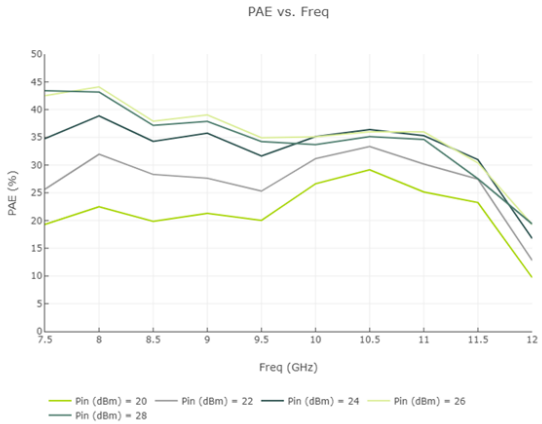


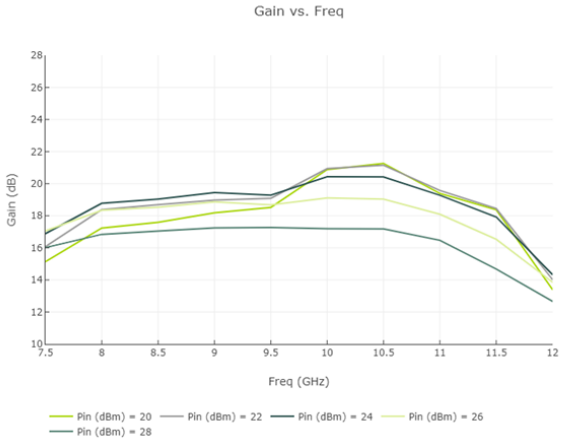


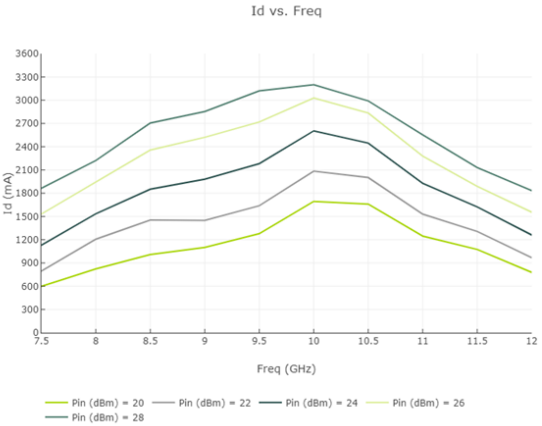


Typical Large Signal Data, Pulsed by Pin | Test conditions V_D=28V, I_{DQ}=220mA , (pulse = 100us/20%)









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