

Features

- Frequency Range 24-27.5GHz
- Doherty MMIC Power Amplifier
- 28.5dBm PSat
- 20% Efficiency @ 8dB OBO
- Bias Voltage 4V
- Technology: 0.15 μ m GaAs
- Chip Dimensions: 1.7x 1.65 x 0.10mm

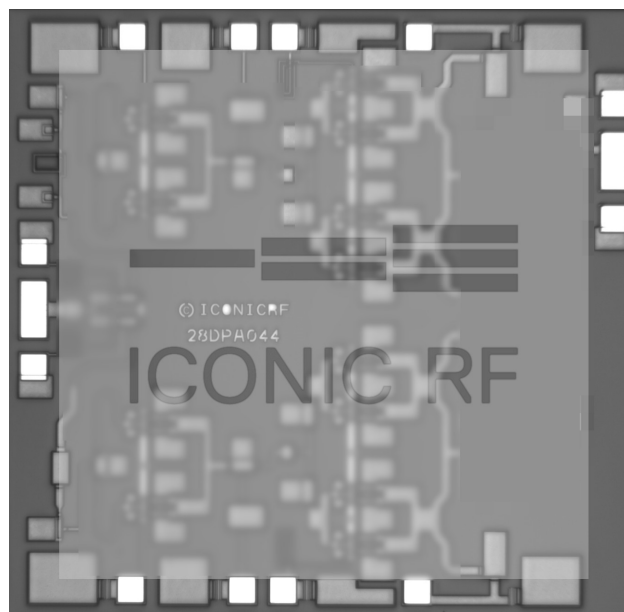
Applications

- 5G Phased array antenna systems

Description

The ICD2629 is a two stage Doherty Amplifier designed for 5G applications in the 24-27.5GHz Band. The chip is designed using an enhancement mode 0.15 μ m GaAs technology with integrated 50ohm matching circuits and DC blocking.

Image



Performance | Test Conditions unless otherwise stated | $T_A=25^{\circ}\text{C}$, $V_D=4\text{V}$, $V_{g\text{main}}=0.47\text{V}$, $V_{g\text{peak}}=0.1\text{V}$

Parameter	Units	Min.	Typ.	Max.
Frequency	GHz		25	
Gain	dB		13	
PSat	dBm		28.5	
PAE @ 6dB OBO	%		23.5	
PAE @ 8dB OBO	%		18	
Drain Bias Voltage	V		4	

Absolute Maximum Ratings

Parameter	Absolute Maximum
Drain to Gate Voltage (V_{DG})	4 V
Gate Voltage Range (V_G)	0V to 1V
Gate Current (I_G)	10 to 40mA
CW Input Power	+25dBm
Channel Temperature	175°C
Storage Temperature	-65°C to +150°C

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

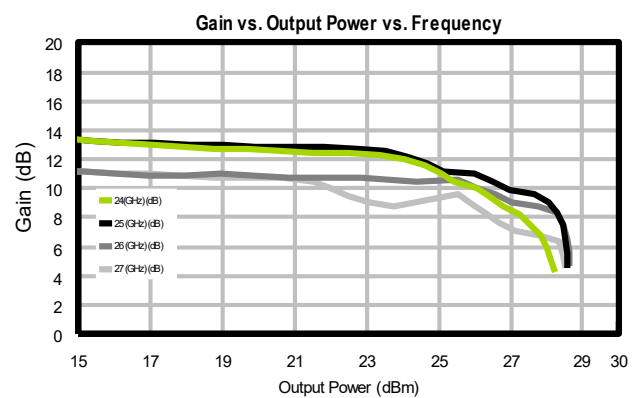
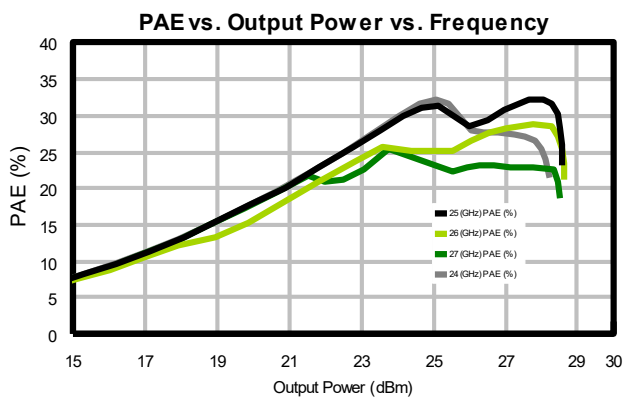
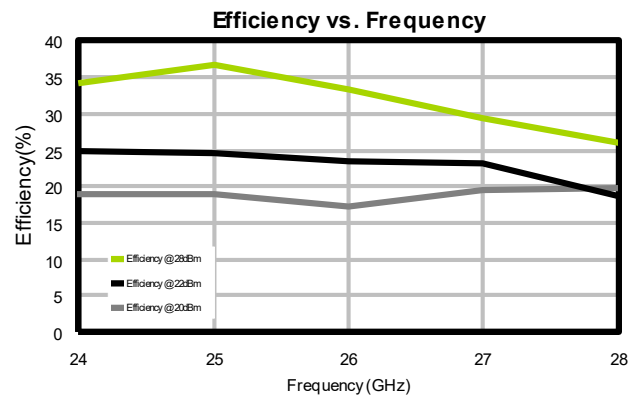
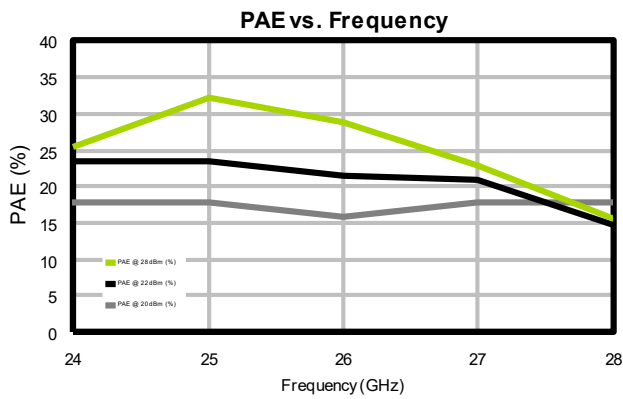
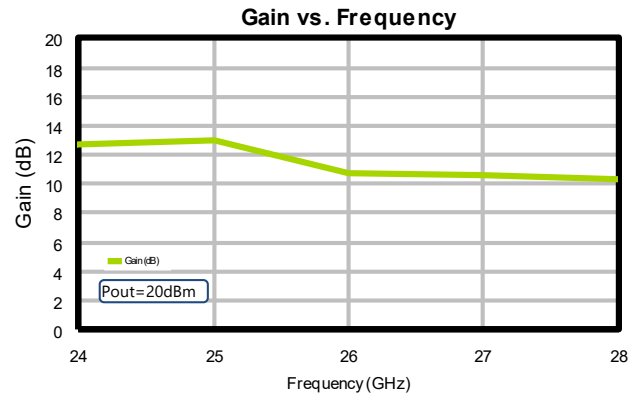
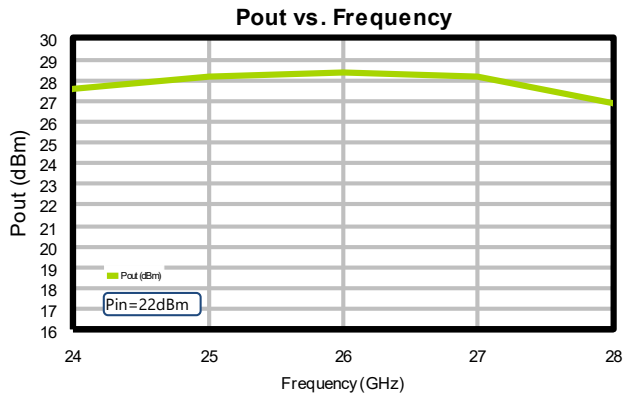
Handling Procedures

Please observe the following precautions to avoid damage:

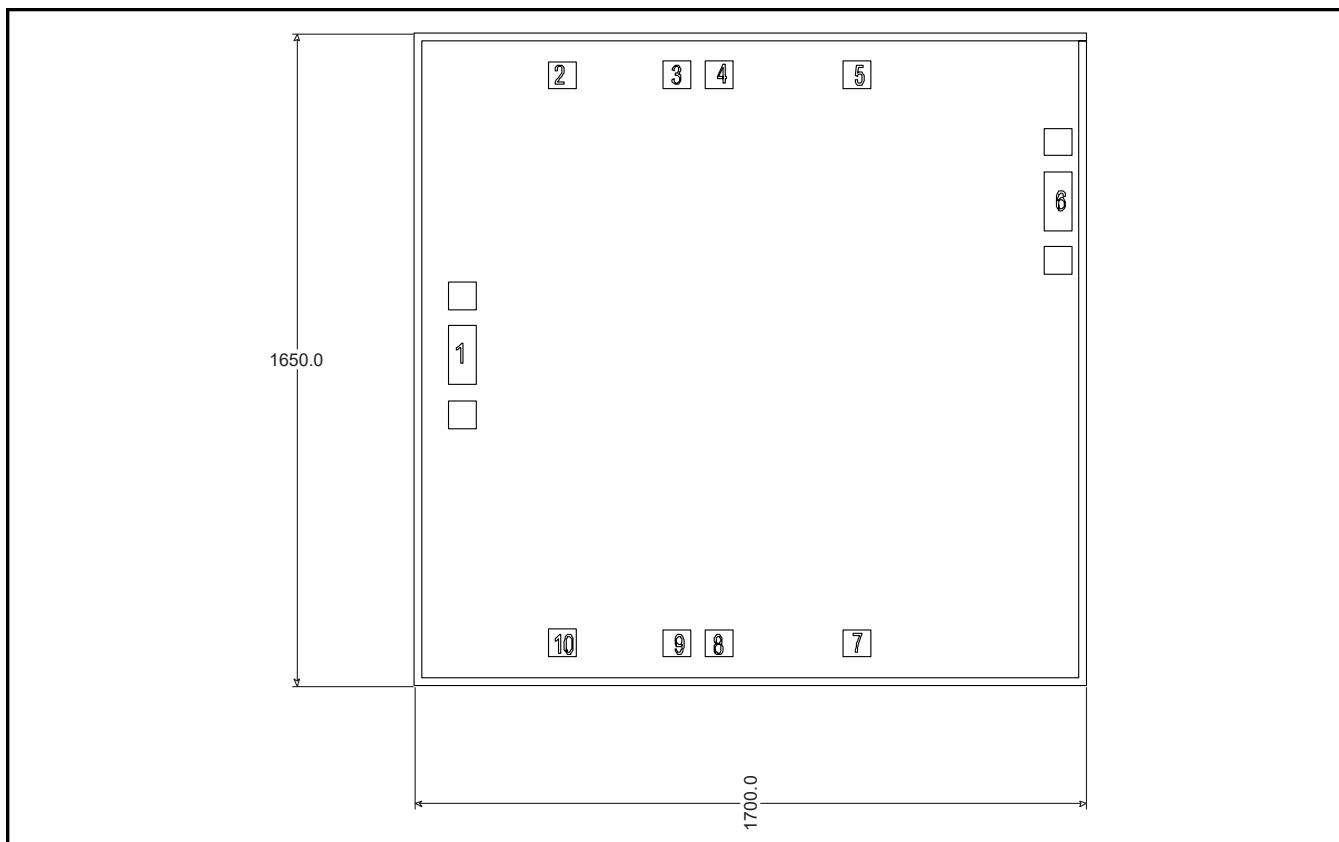
Static Sensitivity

Integrated Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

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Mechanical Drawing



Bond Pads

Pad No.	Dimensions (mm)	Function	Description
1	0.069 x 0.149	RFIN	RF Input Port DC Blocked
2	0.069 x 0.069	VG1_M	Gate Voltage Stage 1 for Main Doherty Amplifier
3	0.069 x 0.069	VD1_M	Drain Voltage Stage 1 for Main Doherty Amplifier
4	0.069 x 0.069	VG2_M	Gate Voltage Stage 2 for Main Doherty Amplifier
5	0.069 x 0.069	VD2_M	Drain Voltage Stage 2 for Main Doherty Amplifier
6	0.069 x 0.149	RFOUT	RF Output Port DC Blocked
7	0.069 x 0.069	VG1_P	Gate Voltage Stage 1 for Peaking Doherty Amplifier
8	0.069 x 0.069	VD1_P	Drain Voltage Stage 1 for Peaking Doherty Amplifier
9	0.069 x 0.069	VG2_P	Gate Voltage Stage 2 for Peaking Doherty Amplifier
10	0.069 x 0.069	VD2_P	Drain Voltage Stage 2 for Peaking Doherty Amplifier

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ICONIC RF Ltd, Innovation Factory, 385 Springfield Road, Belfast, BT12 7DG, United Kingdom

Web: WWW.ICONICRF.COM
Email: INFO@ICONICRF.COM