RFMA1213-1W

ISSUED 05/06/2005

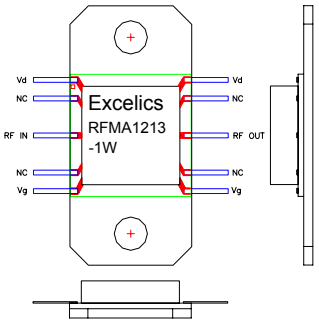
12.70 – 13.30 GHz Power Amplifier MMIC

FEATURES

- **12.70–13.30GHz Operating Frequency Range**
- **29.5dBm Output Power at 1dB Compression**
- **29.0 dB Typical Power Gain @ 1dB Gain Compression**
- **-41dBc Typical OIM3 @ each tone Pout 18.5dBm**

APPLICATIONS

- **Point-to-point and point-to-multipoint radio**
- **Military Radar Systems**



Different Packages Are Available

Caution! ESD sensitive device.

ELECTRICAL CHARACTERISTICS (T_a = 25 °C, 50 ohm, Vdd=7V, Vgg=-5V)

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
F	Operating Frequency Range	12.7		13.3	GHz
P1dB	Output Power at 1dB Gain Compression	28.5	29.5		dBm
G1dB	Gain @1dB gain compression	26	29		dB
OIMD3	Output 3rd Order Intermodulation Distortion @Δf=10MHz, Each Tone Pout 18.5dBm		-41	-38	dBc
Input RL	Input Return Loss		-12	-8	dB
Output RL	Output Return Loss		-15		dB
Idd	Drain Current		900	1050	mA
Vdd	Drain Supply Voltage		7	8	V
Vgg	Gate Supply Voltage		-5		V
Rth	Thermal Resistance (Au-Sn Eutectic Attach)		7	7.5	°C/W
Tb	Operating Base Plate Temperature	- 30		+ 80	°C

MAXIMUM RATINGS AT 25°C

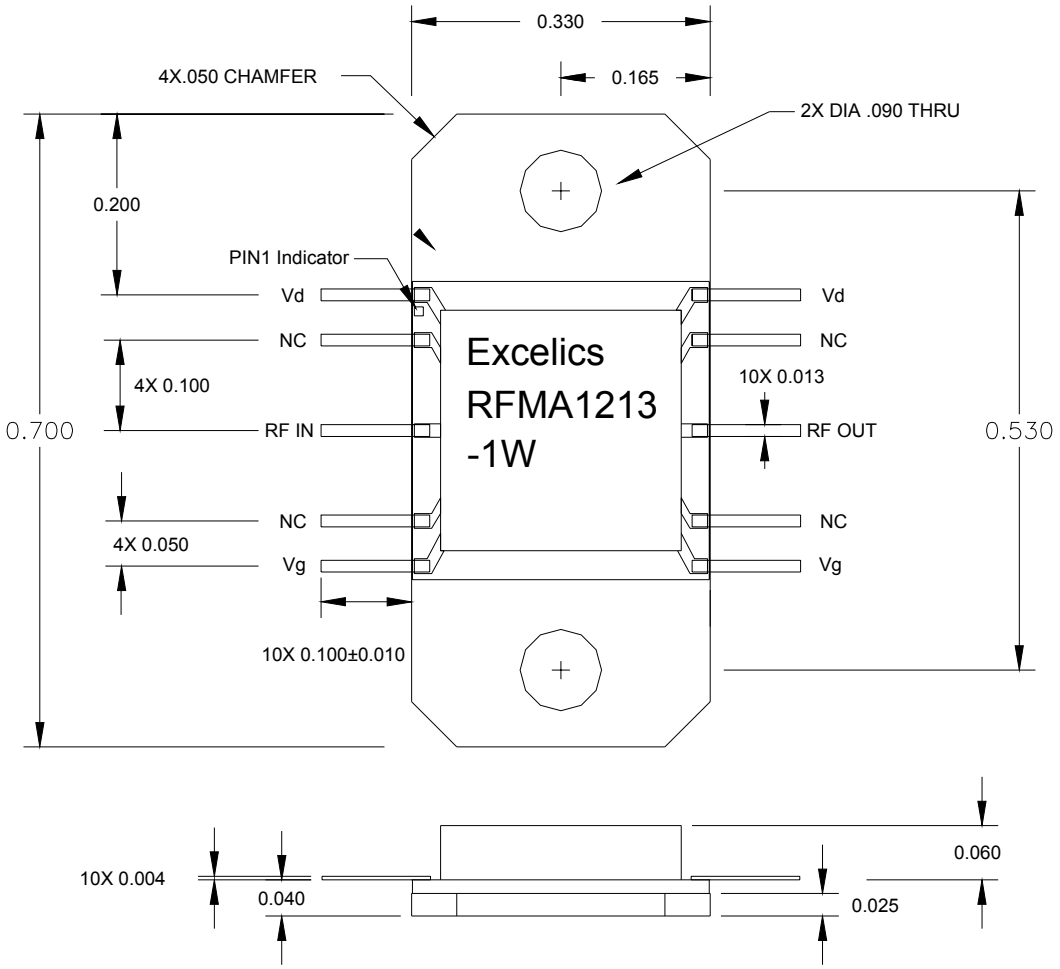
SYMBOL	CHARACTERISTIC	ABSOLUTE	CONTINUOUS[1,2]
Vdd	Drain Supply Voltage	12V	8V
Vgg	Gate Supply Voltage	-8V	-3 V
Idd	Drain Current	Idss	1.9A
Igg	Gate Current	132mA	22 mA
P_{IN}	Input Power	20dBm	@ 3dB compression
T_{CH}	Channel Temperature	175°C	150°C
T_{STG}	Storage Temperature	-65/175°C	-65/150°C
P_T	Total Power Dissipation	15.0W	12.6W

1. Operating the device beyond any of the above rating may result in permanent damage.
2. Bias conditions must also satisfy the following equation Vdd*Idd < (T_{CH} –T_{HS})/R_{TH}; where T_{HS} = Base Plate temperature

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01 Package Outline



All dimensions in inches

Ordering Information

Part Number	
RFMA1213-1W-01	Refer 01 Package Outline