



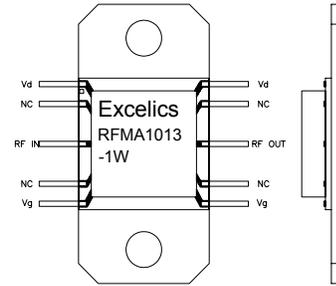
RFMA1013-1W

UPDATED 05/08/2008

10.30 – 13.30 GHz Power Amplifier MMIC

FEATURES

- 10.30 – 13.30GHz Operating Frequency Range
- 29.5dBm Output Power at 1dB Compression
- 31.0 dB Typical Power Gain @ 1dB Gain Compression
- -41dBc Typical OIM3 @ each tone Pout 19.0dBm



Different Packages Are Available

APPLICATIONS

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



Caution! ESD sensitive device.

ELECTRICAL CHARACTERISTICS (T_a = 25 °C, 50 ohm, V_{dd}=7V, V_{gg}=-5V)

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
F	Operating Frequency Range	10.3		13.3	GHz
P _{1dB}	Output Power at 1dB Gain Compression	29	29.5		dBm
G _{1dB}	Gain @1dB gain compression	28	31		dB
OIMD ₃	Output 3 rd Order Intermodulation Distortion @Δf=10MHz, Each Tone Pout 19dBm	-38	-41		dBc
Input RL	Input Return Loss		-10	-8	dB
Output RL	Output Return Loss		-6		dB
I _{dd}	Drain Current		900	1050	mA
V _{dd}	Drain Supply Voltage		7	8	V
V _{gg}	Gate Supply Voltage		-5		V
R _{th}	Thermal Resistance (Au-Sn Eutectic Attach)		7	7.5	°C/W
T _b	Operating Base Plate Temperature	-30		+80	°C

MAXIMUM RATINGS AT 25°C

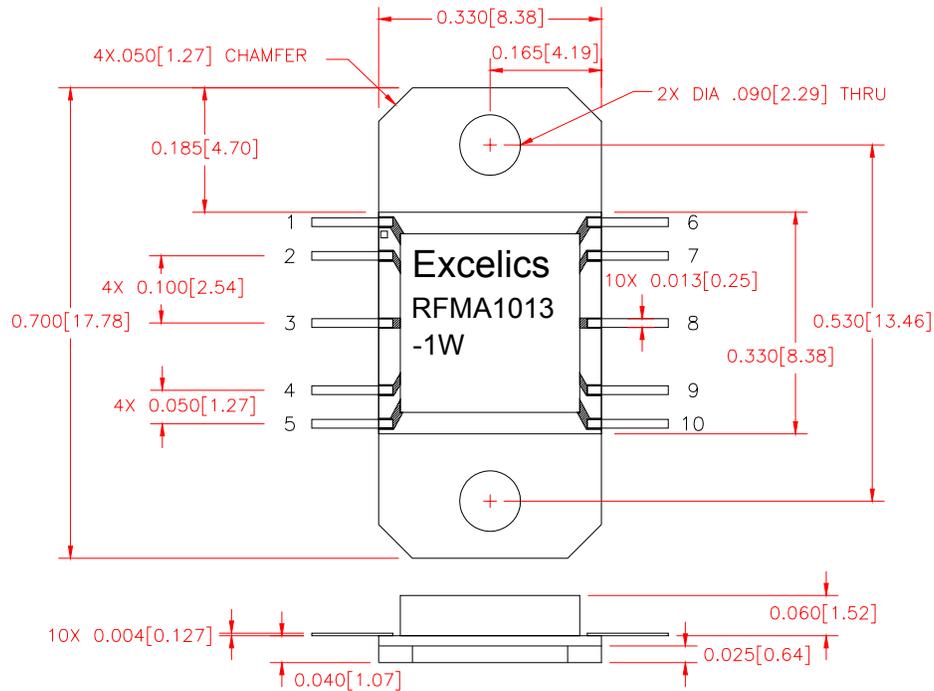
SYMBOL	CHARACTERISTIC	ABSOLUTE	CONTINUOUS ^{1,2}
V _{dd}	Drain Supply Voltage	12V	8V
V _{gg}	Gate Supply Voltage	-8V	-3 V
I _{dd}	Drain Current	I _{dss}	1.9A
I _{gg}	Gate Current	132mA	22 mA
P _{IN}	Input Power	20dBm	@ 3dB compression
T _{CH}	Channel Temperature	175°C	150°C
T _{STG}	Storage Temperature	-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 $V_{dd} \cdot I_{dd} < (T_{CH} - T_{HS})/R_{TH}$; where T_{HS} = Base Plate temperature

Specifications are subject to change without notice.

01 Package Outline



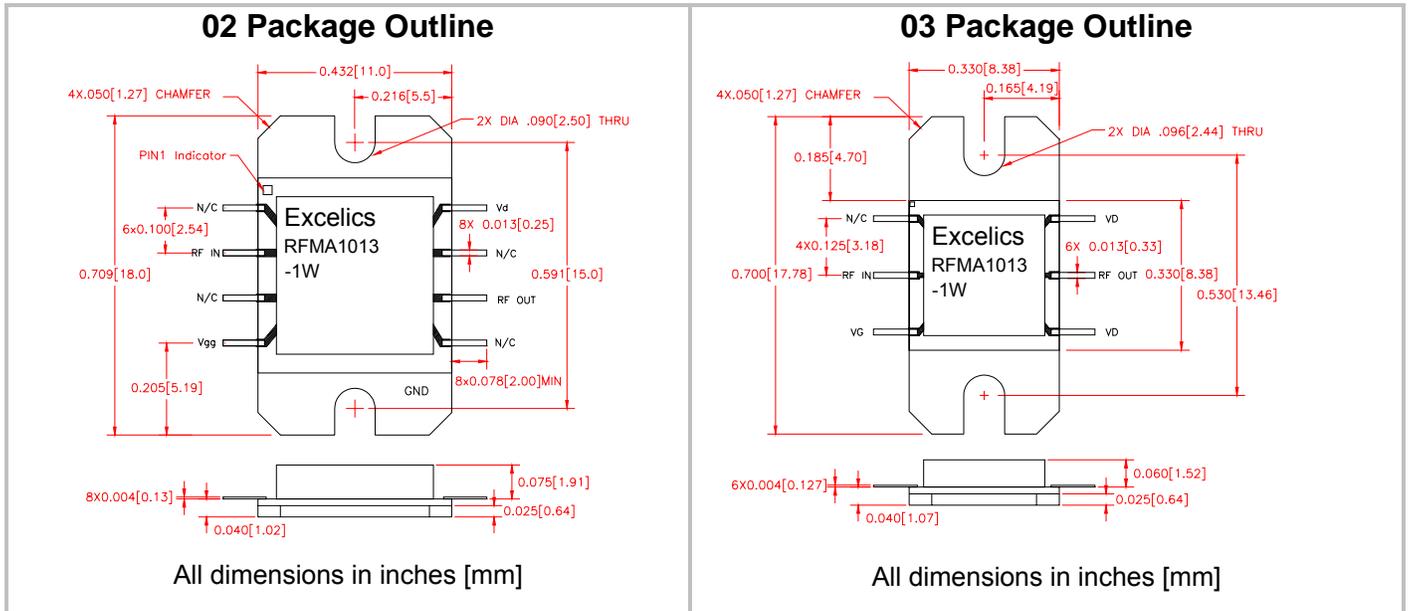
All dimensions in inches [mm]

01 Package Pin Assignment

	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10
RFMA1013-1W-01	Vd	NC	RF IN	NC	Vg	Vd	NC	RF OUT	NC	Vg
RFMA1013-1W-01A	NA	Vd	RF IN	Vg	NA	NA	Vd	RF OUT	Vg	NA
RFMA1013-1W-01B	Vd	NA	RF IN	NA	Vg	Vd	NA	RF OUT	NA	Vg

NOTE:

1. PACKAGE 01A: Recommend to Use
2. NC: Not Connected
3. NA: Not Available



ORDERING INFORMATION

Part Number	
RFMA1013-1W-01	Refer 01 Package Outline
RFMA1013-1W-01A	Refer 01 Package Outline
RFMA1013-1W-01B	Refer 01 Package Outline
RFMA1013-1W-02	Refer 02 Package Outline
RFMA1013-1W-03	Refer 03 Package Outline

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- A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.