



# RFMA1415-2W

UPDATED 12/03/2004

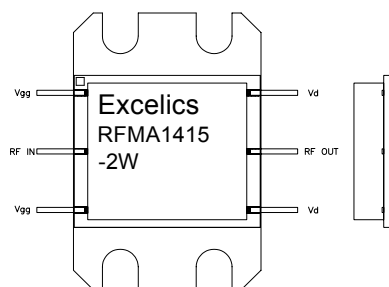
## 14.50 – 15.50 GHz Power Amplifier MMIC

### FEATURES

- 14.50– 15.50GHz Operating Frequency Range
- 32.5dBm Output Power at 1dB Compression
- 30.0 dB Typical Power Gain @ 1dB Gain Compression
- -41dBc Typical OIM3 @ each tone Pout 21.5dBm

### APPLICATIONS

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



Caution! ESD sensitive device.

### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ , 50 ohm, $V_{dd}=7\text{V}$ , $V_{gg}=-5\text{V}$ )

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
F	Operating Frequency Range	14.5		15.5	GHz
P1dB	Output Power at 1dB Gain Compression	31.5	32.5		dBm
G1dB	Gain @ 1dB gain compression	27.0	30.0		dB
OIMD3	Output 3 <sup>rd</sup> Order Intermodulation Distortion @ $\Delta f=10\text{MHz}$ , Each Tone Pout 21.5dBm		-41	-38	dBc
Input RL	Input Return Loss		-10	-8	dB
Output RL	Output Return Loss		-15	-8	dB
Idd	Drain Current		1900	2150	mA
Vdd	Drain Voltage		7	8	V
Vgg	Gate Voltage		-5		V
Rth	Thermal Resistance (Au-Sn Eutectic Attach)		4.0	4.5	$^\circ\text{C/W}$
Tb	Operating Base Plate Temperature	-30		+80	$^\circ\text{C}$

### MAXIMUM RATINGS @25°C

SYMBOL	CHARACTERISTIC	ABSOLUTE	CONTINUOUS <sup>1,2</sup>
V <sub>DD</sub>	Drain Supply Voltage	12V	8V
V <sub>GG</sub>	Gate Supply Voltage	-8V	-3V
I <sub>DD</sub>	Drain Current	I <sub>dss</sub>	3.6A
I <sub>GG</sub>	Gate Current	240mA	40mA
P <sub>IN</sub>	Input Power	20dBm	@ 3dB compression
T <sub>CH</sub>	Channel Temperature	175°C	150°C
T <sub>STG</sub>	Storage Temperature	-65/175°C	-65/150°C
P <sub>T</sub>	Total Power Dissipation	30.0W	25.2W

1. Operating the device beyond any of the above rating may result in permanent damage.

2. Bias conditions must also satisfy the following equation  $V_{dd} \cdot I_{dd} < (T_{CH} - T_b) / R_{TH}$ , where  $T_b$  = operating base plate temperature

Specifications are subject to change without notice.

Excelics Semiconductor, Inc. 310 De Guigne Drive, Sunnyvale, CA 94085

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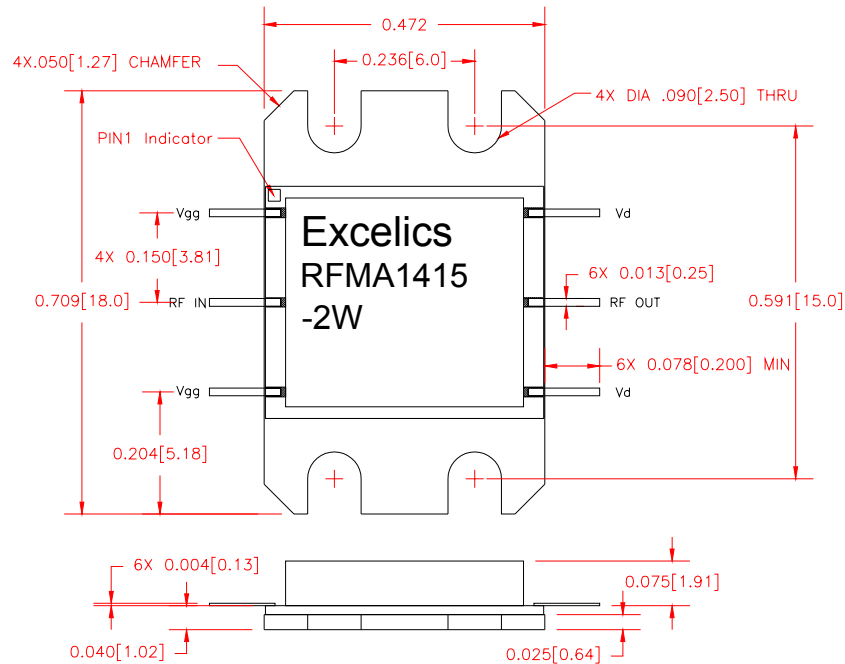


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## Package Outline



All dimensions in inches [mm]

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