



RFMA1415-1W

UPDATED 12/16/2004

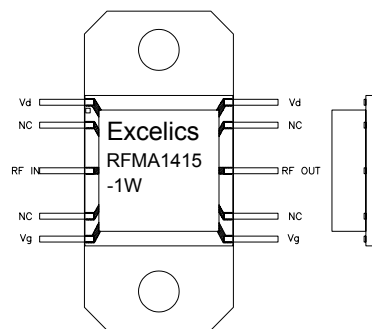
14.40 – 15.40 GHz Power Amplifier MMIC

FEATURES

- 14.40– 15.40GHz Operating Frequency Range
- 29.5dBm Output Power at 1dB Compression
- 30.0 dB Typical Small Signal Gain
- -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 ($T_a = 25^\circ\text{C}$, 50 ohm, $V_{dd}=7\text{V}$, $V_{gg}=-5\text{V}$)

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
F	Operating Frequency Range	14.4		15.4	GHz
P1dB	Output Power at 1dB Gain Compression	28.5	29.5		dBm
G _{SS}	Small Signal Gain	27.0	30.0		dB
OIMD3	Output 3 rd Order Intermodulation Distortion @ $\Delta f=10\text{MHz}$, Each Tone Pout 18.5dBm		-41	-38	dBc
Input RL	Input Return Loss		-10	-7	dB
Output RL	Output Return Loss		-12	-10	dB
I _{dd}	Drain Current		900	1050	mA
V _{dd}	Drain Supply Voltage		7	8	V
R _{th}	Thermal Resistance (Au-Sn Eutectic Attach)		7		$^\circ\text{C/W}$
T _b	Operating Base Plate Temperature	-30		+80	$^\circ\text{C}$

MAXIMUM RATINGS @25°C

SYMBOL	CHARACTERISTIC	ABSOLUTE	CONTINUOUS ^{1,2}
V _{DD}	Drain Supply Voltage	12V	8V
V _{GG}	Gate Supply Voltage	-8V	-3V
I _{DD}	Drain Current	I _{dss}	1.1A
I _{GG}	Gate Current	60mA	10 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 $V_{dd} \cdot I_{dd} < (T_{CH} - T_b) / R_{TH}$; 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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Revised January 2005

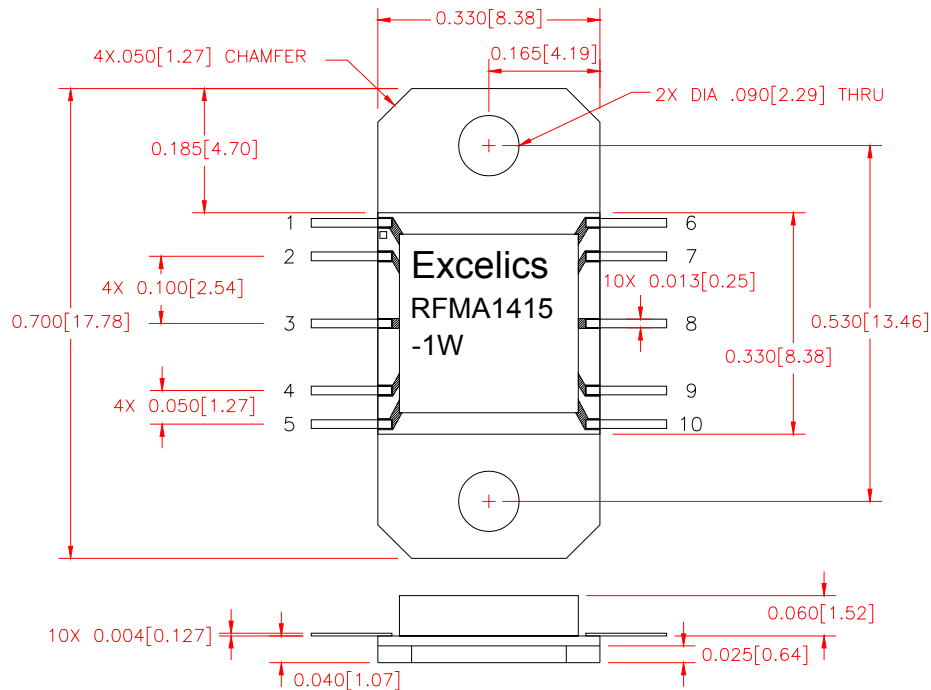


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01 Package Outline



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
RFMA1415-1W-01	Vd	NC	RF IN	NC	Vg	Vd	NC	RF OUT	NC	Vg
RFMA1415-1W-01A	NA	Vd	RF IN	Vg	NA	NA	Vd	RF OUT	Vg	NA
RFMA1415-1W-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

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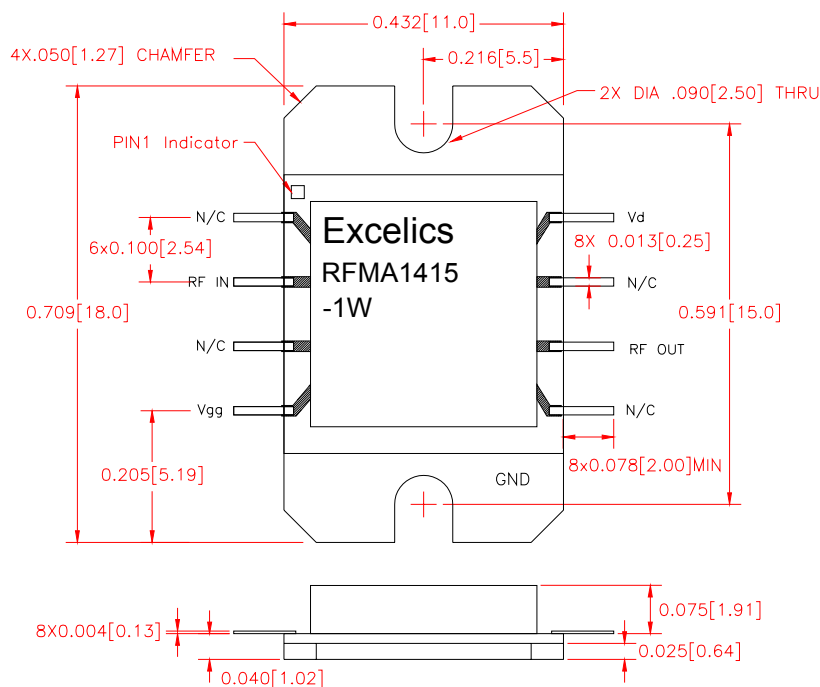
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02 Package Outline



All dimensions in inches [mm]

ORDERING INFORMATION

Part Number	
RFMA1415-1W-01	Refer 01 Package Outline
RFMA1415-1W-01A	Refer 01 Package Outline
RFMA1415-1W-01B	Refer 01 Package Outline
RFMA1415-1W-02	Refer 02 Package Outline