



RFMA1415A-2W

UPDATED 02/16/2005

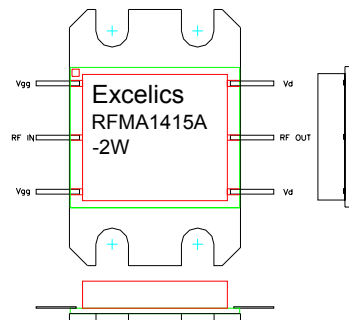
14.20 – 14.60 GHz Power Amplifier MMIC

FEATURES

- 14.20– 14.60GHz 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 ($T_a = 25\text{ }^\circ\text{C}$, 50 ohm, Vdd=7V, Vgg=-5V)

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
F	Operating Frequency Range	14.2		14.6	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 rd 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
I _{DD}	Drain Current		1900	2150	mA
V _{DD}	Drain Voltage		7	8	V
V _{GG}	Gate Voltage		-5		V
R _{th}	Thermal Resistance (Au-Sn Eutectic Attach)		4.0	4.5	$^\circ\text{C}/\text{W}$
T _b	Operating Base Plate Temperature	-30		+80	$^\circ\text{C}$

MAXIMUM RATINGS @25 $^\circ\text{C}$

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}	3.6A
I _{GG}	Gate Current	240mA	40mA
P _{IN}	Input Power	20dBm	@ 3dB compression
T _{CH}	Channel Temperature	175 $^\circ\text{C}$	150 $^\circ\text{C}$
T _{STG}	Storage Temperature	-65/175 $^\circ\text{C}$	-65/150 $^\circ\text{C}$
P _T	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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Revised February 2005

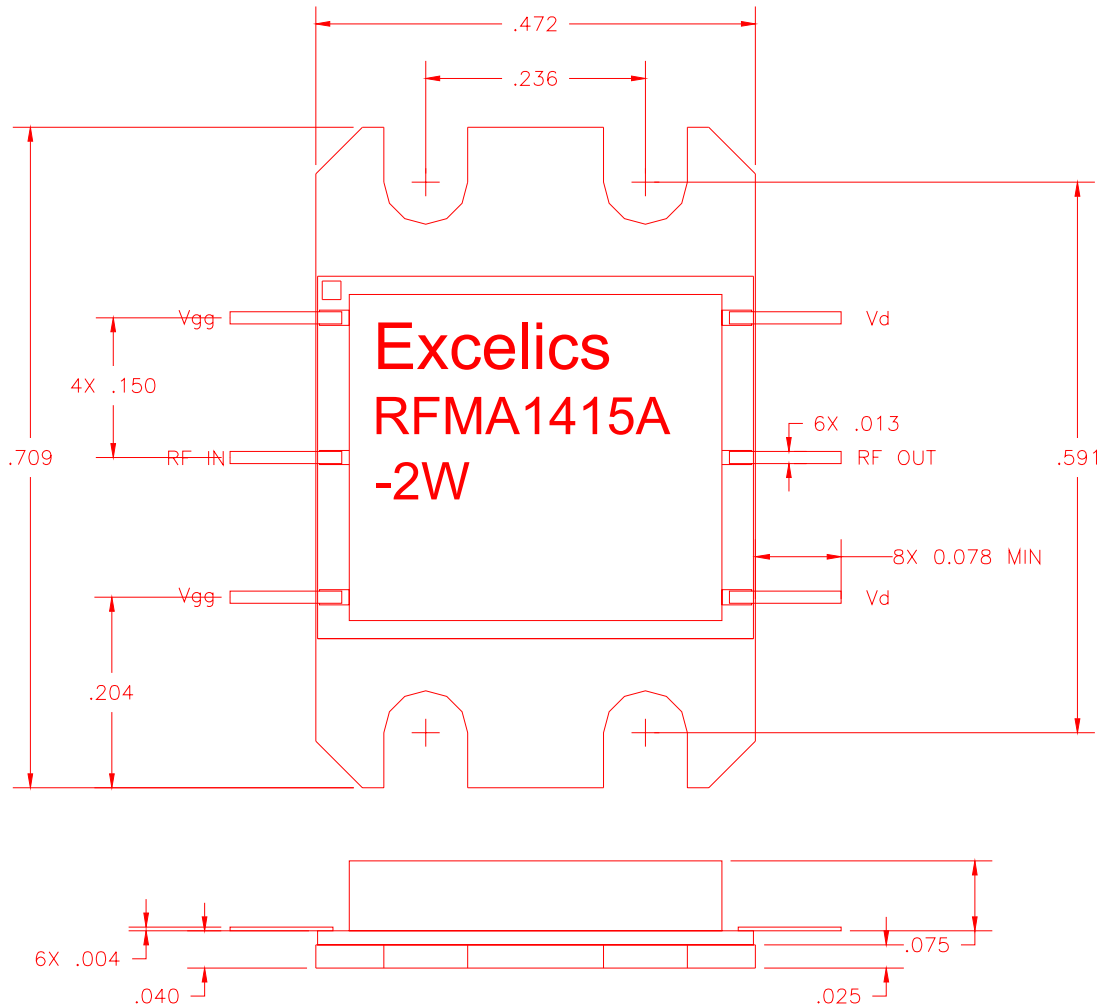


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14.20 – 14.60 GHz Power Amplifier MMIC

P3 Package Outline



All dimensions in inches

Ordering Information

Part Number	
RFMA1415A-2W-P3	Refer P3 Package Outline

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