



# RFMA2124-2W-P3

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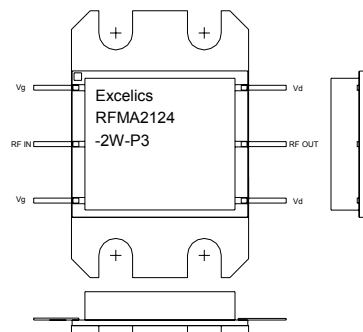
## 21.2 – 23.6 GHz Power Amplifier MMIC

### FEATURES

- 21.2– 23.6GHz Operating Frequency Range
- 31.0dBm Output Power at 1dB Compression
- 22dB Typical Power Gain @ 1dB Gain Compression
- -39dBc Typical OIM3 @ each tone Pout 20dBm

### 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
<b>F</b>	Operating Frequency Range	21.2		23.6	GHz
<b>P<sub>1dB</sub></b>	Output Power at 1dB Gain Compression	30.0	31.0		dBm
<b>G<sub>1dB</sub></b>	Gain @ 1dB gain compression	18.0	22.0		dB
<b>OIMD3</b>	Output 3 <sup>rd</sup> Order Intermodulation Distortion @ $\Delta f=10\text{MHz}$ , Each Tone Pout 20dBm		-39	-36	dBc
<b>Input RL</b>	Input Return Loss		-10		dB
<b>Output RL</b>	Output Return Loss		-15	-10	dB
<b>I<sub>dd</sub></b>	Drain Current		1700	2300	mA
<b>V<sub>dd</sub></b>	Drain Voltage		7	8	V
<b>V<sub>gg</sub></b>	Gate Voltage		-5		V
<b>R<sub>th</sub></b>	Thermal Resistance (Au-Sn Eutectic Attach)		4.0	4.5	$^\circ\text{C/W}$
<b>T<sub>b</sub></b>	Operating Base Plate Temperature	-30		+80	$^\circ\text{C}$

### MAXIMUM RATINGS @25°C

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

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