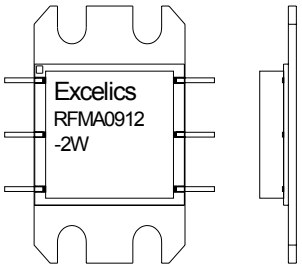
RFMA0912-2W

UPDATED 10/05/2007

9.50 – 11.70 GHz Power Amplifier MMIC

FEATURES

- **9.50– 11.70GHz 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 °C, 50 ohm, Vdd=7V, Vgg=-5V)

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
F	Operating Frequency Range	9.50		11.70	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 3rd Order Intermodulation Distortion @Δf=10MHz, Each Tone Pout 21.5dBm		-41	-38	dBc
Input RL	Input Return Loss		-12	-8	dB
Output RL	Output Return Loss		-15	-10	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	°C/W
Tb	Operating Base Plate Temperature	-30		+80	°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	Idss	3.6A
I_{GG}	Gate Current	240mA	40mA
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	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 Vdd*Idd < (T_{CH} –Tb)/R_{TH}; where T_b = operating base plate temperature

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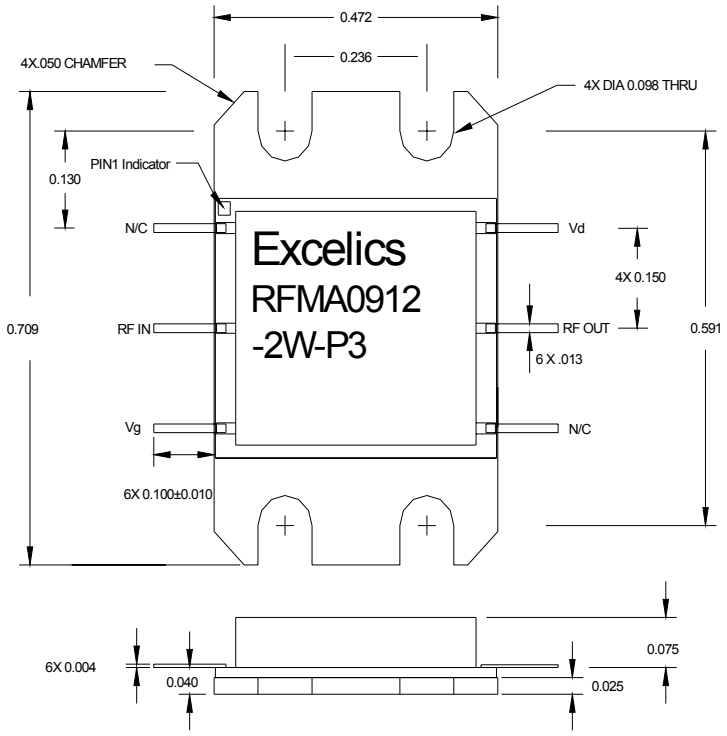
P3 Package Outline



All dimensions in inches

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2. 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.