



EMP112-P10

UPDATED 11/10/2005

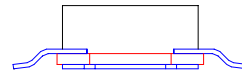
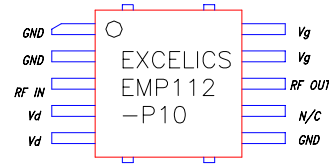
5.0 – 7.2 GHz Power Amplifier MMIC

FEATURES

- 5.0 – 7.2 GHz Operating Frequency Range
- 30.0dBm Output Power at 1dB Compression
- 19.0 dB Typical Small Signal Gain
- -41dBc OIMD3 @Each Tone Pout 20 dBm
- Low Cost Ceramic Package

APPLICATIONS

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



Caution! ESD sensitive device.

ELECTRICAL CHARACTERISTICS

(Tb = 25 °C, 50 ohm, Vds = 7 V, Idsq = 800 mA, Unless Otherwise Specified)

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
F	Operating Frequency Range	5.0		7.2	GHz
P1dB	Output Power at 1dB Gain Compression	28.5	30.0		dBm
Gss	Small Signal Gain	17.0	20.0		dB
OIMD3	Output 3 rd Order Intermodulation Distortion @Δf=10MHz, Each Tone Pout 20dBm, 7V, 60%+10%Idss		-41	-38	dBc
Input RL	Input Return Loss		-12	-8	dB
Output RL	Output Return Loss		-5		dB
Idss	Saturated Drain Current Vds =3V, VGS =0V	980	1140	1350	mA
Vds	Drain to Source Voltage		7	8	V
NF	Noise Figure @6GHz		10		dB
Tb	Operating Base Plate Temperature	- 35		+ 85	°C

MAXIMUM RATINGS AT 25°C^{1,2}

SYMBOL	CHARACTERISTIC	ABSOLUTE	CONTINUOUS
Vds	Drain to Source Voltage	12V	8 V
VGS	Gate to Source Voltage	-8V	- 4 V
Ids	Drain Current	Idss	1300mA
IGSF	Forward Gate Current	114mA	19 mA
PIN	Input Power	27dBm	@ 3dB compression
TCH	Channel Temperature	175°C	150°C
TSTG	Storage Temperature	-65/175°C	-65/150°C
PT	Total Power Dissipation	12.4W	10.4W

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

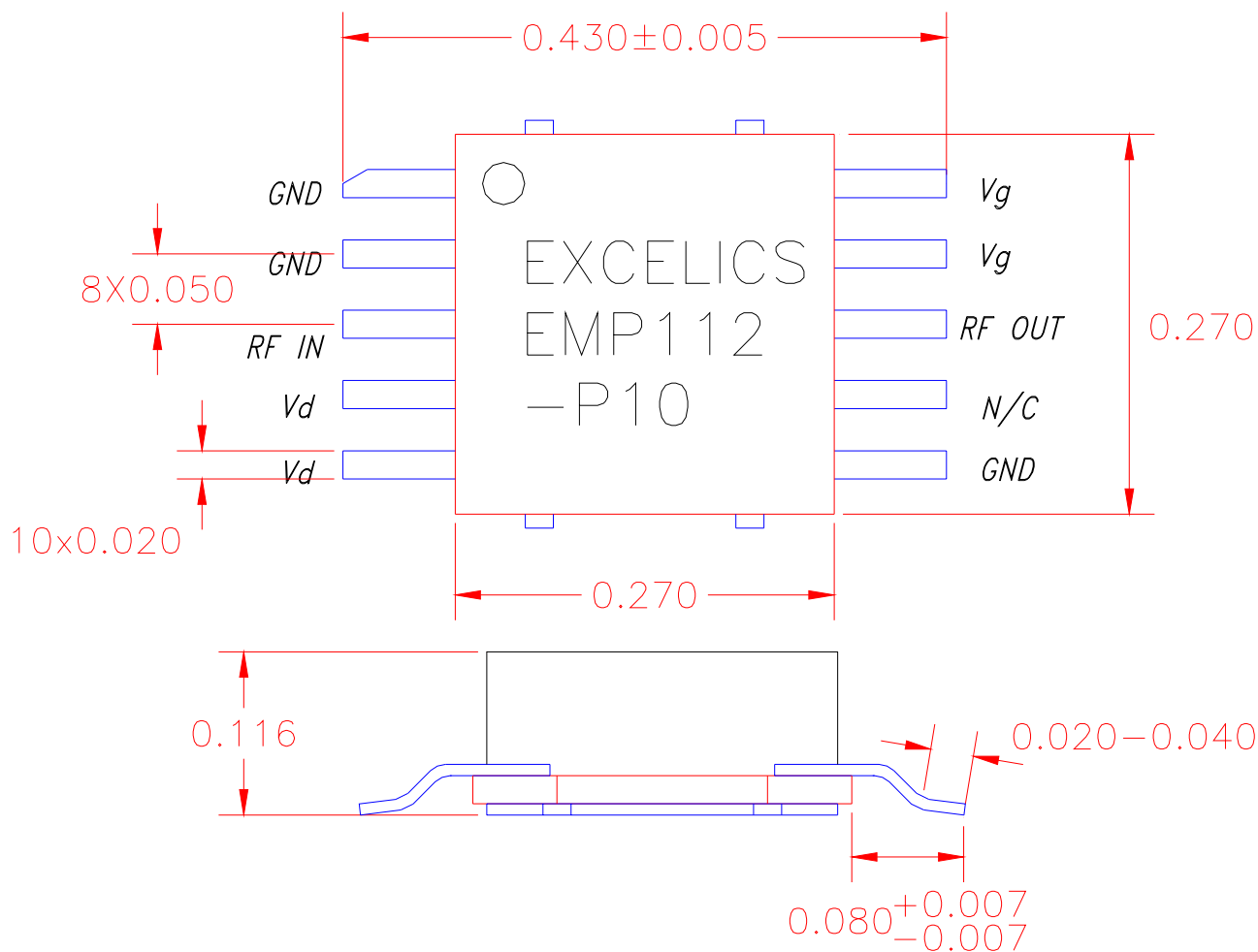
2. Bias conditions must also satisfy the following equation $V_{ds} \cdot I_{ds} < (T_{CH} - T_b) / R_{TH}$

Specifications are subject to change without notice.

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Package Outline and Dimension:



Tolerance ± 0.003
All Dimensions in inches

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