



RFMA1720-0.5W

17.5 – 20.0 GHz Power Amplifier MMIC

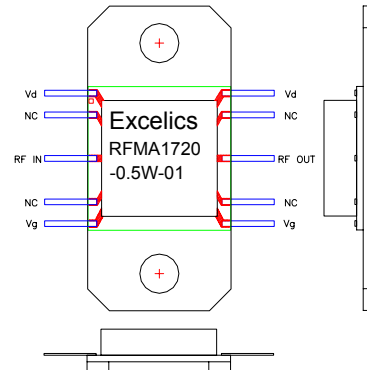
ISSUED 05/08/2008

FEATURES

- 17.5– 20.0GHz Operating Frequency Range
- 26.5dBm Output Power at 1dB Compression
- 30.0 dB Typical Small Signal Gain
- -41dBc Typical OIM3 @ each tone Pout 15dBm

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, $V_{dd}=7\text{V}$, $V_{gg}=-5\text{V}$)

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
F	Operating Frequency Range	17.5		20	GHz
P1dB	Output Power at 1dB Gain Compression	25.5	26.5		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 15.0 dBm		-41	-38	dBc
Input RL	Input Return Loss		-10	-7	dB
Output RL	Output Return Loss		-8		dB
I _{dd}	Drain Current		500	570	mA
V _{dd}	Drain Supply Voltage		7	8	V
R _{th}	Thermal Resistance (Au-Sn Eutectic Attach)		13		$^\circ\text{C/W}$
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}	1.1A
I _{GG}	Gate Current	60mA	10 mA
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	8.8W	7.4W

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

2. Bias conditions must also satisfy the following equation $V_{dd} \cdot I_{dd} < (T_{CH} - T_b) / R_{TH}$; where T_b = operating base plate temperature

Specifications are subject to change without notice.

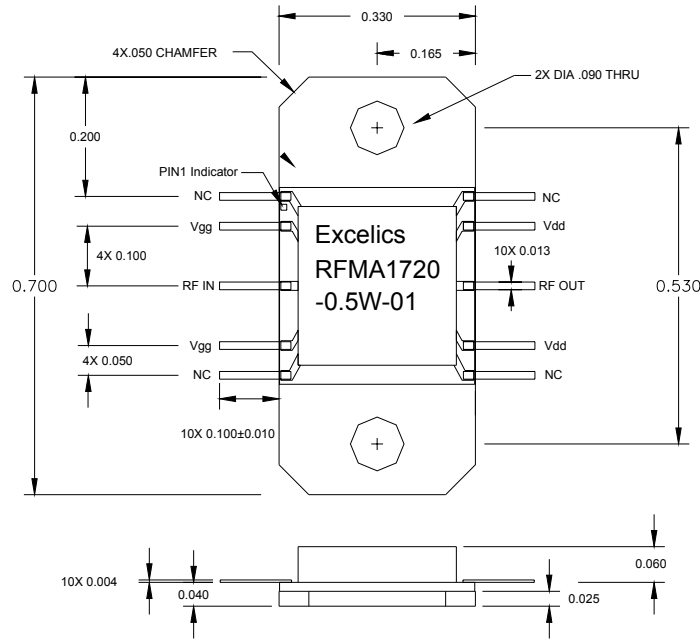
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01 Package Outline



All dimensions in inches

ORDERING INFORMATION

Part Number	
RFMA1720-0.5W-01	Refer 01 Package Outline

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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.

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