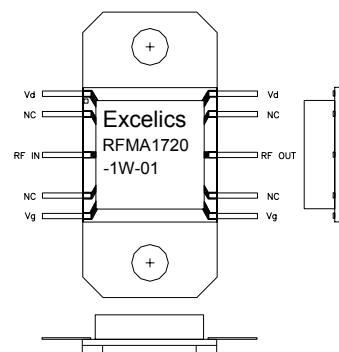


FEATURES

- 17.5 – 20 GHz Operating Frequency Range
- 29.0dBm Output Power at 1dB Compression
- 28 dB Typical Power Gain @1dB gain Compression
- -41dBc Typical OIM3 @ Each Tone Pout 18dBm

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
P_{1dB}	Output Power at 1dB Gain Compression	28.0	29.0		dBm
G_{1dB}	Gain @1dB gain compression	25	28		dB
OIMD₃	Output 3 rd Order Intermodulation Distortion @ $\Delta f=10\text{MHz}$, Each Tone Pout 18dBm	-38	-41		dBc
Input RL	Input Return Loss		-12	-8	dB
Output RL	Output Return Loss		-15	-10	dB
I_{dd}	Drain Current		900	1080	mA
V_{dd}	Drain Voltage		7	8	V
V_{gg}	Gate Voltage		-5		V
R_{th}	Thermal Resistance (Au-Sn Eutectic Attach)		7	7.5	$^\circ\text{C/W}$
T_b	Operating Base Plate Temperature	-30		+80	$^\circ\text{C}$

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

SYMBOL	CHARACTERISTIC	ABSOLUTE	CONTINUOUS
V _{dd}	Drain Supply Voltage	12V	8V
V _{gg}	Gate Supply Voltage	-8V	-3 V
I _{dd}	Drain Current	I _{dss}	1.9A
I _{gg}	Gate Current	132mA	22 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 $^\circ\text{C}$

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

Specifications are subject to change without notice.

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Phone: 408-737-1711 Fax: 408-737-1868 Web: www.excelics.com

page 1 of 2

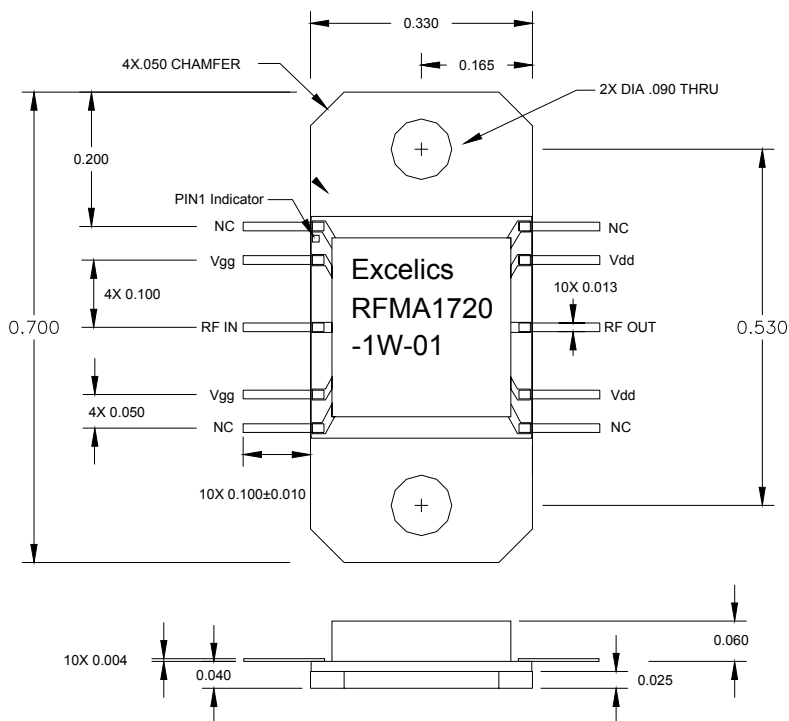
Revised June 2005

ISSUED 06/28/2005

17.5 – 20.0 GHz Power Amplifier MMIC

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

01 Package Dimension and Pin Assignment



ALL DIMENSIONS IN INCHES

Ordering Information

Part Number	
RFMA1720-1W-01	Refer 01 Package Outline

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page 2 of 2
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