



# RFMA5065-2W

UPDATED 09/01/2006

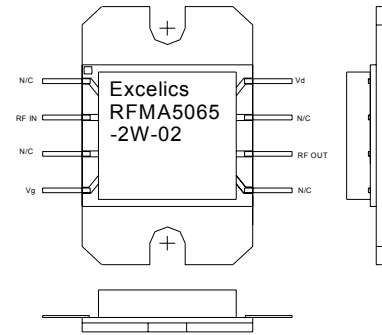
## 5.0 – 6.5 GHz Power Amplifier MMIC

### FEATURES

- 5.0 – 6.5 GHz Operating Frequency Range
- 33dBm Output Power at 1dB Compression
- 30.0 dB Typical Power Gain @1dB gain compression
- -44dBc Typical OIM3 @ each tone Pout 22dBm

### APPLICATIONS

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



Caution! ESD sensitive device.

### ELECTRICAL CHARACTERISTICS (Tb = 25 °C, 50 ohm, Vdd=10V, Vgg=-5V)

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
F	Operating Frequency Range	5.0		6.5	GHz
P1dB	Output Power at 1dB Gain Compression	32	33		dBm
G1dB	Gain @1dB gain compression	28.0	32.0		dB
OIMD3	Output 3 <sup>rd</sup> Order Intermodulation Distortion @Δf=10MHz, Each Tone Pout 22dBm	-40	-44		dBc
Input RL	Input Return Loss		-12	-6	dB
Output RL	Output Return Loss		-6		dB
Idd	Drain Current @small signal output power level		1260	1500	mA
Vdd	Drain Supply Voltage		10		V
Vgg	Gate Supply Voltage		-5		V
Rth	Thermal Resistance		4	4.5	°C/W
Tb	Operating Base Plate Temperature	- 30		+ 80	°C

### MAXIMUM RATINGS @25°C<sup>1,2</sup>

SYMBOL	CHARACTERISTIC	ABSOLUTE	CONTINUOUS
Vdd	Drain Supply Voltage	14V	10V
Vgg	Gate Supply Voltage	-10V	-5.5 V
Idq	Quiescent Drain Current	Idss	1.5A
Igg	Gate Current	150mA	50 mA
P <sub>IN</sub>	Input Power	8dBm	@ 3dB compression
T <sub>CH</sub>	Channel Temperature	175°C	150°C
T <sub>STG</sub>	Storage Temperature	-65/175°C	-65/150°C
Pt	Total Power Dissipation	30W	15W

1. Operating the device beyond any of the above rating may reduce MTTF and cause permanent damage.

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

Specifications are subject to change without notice.

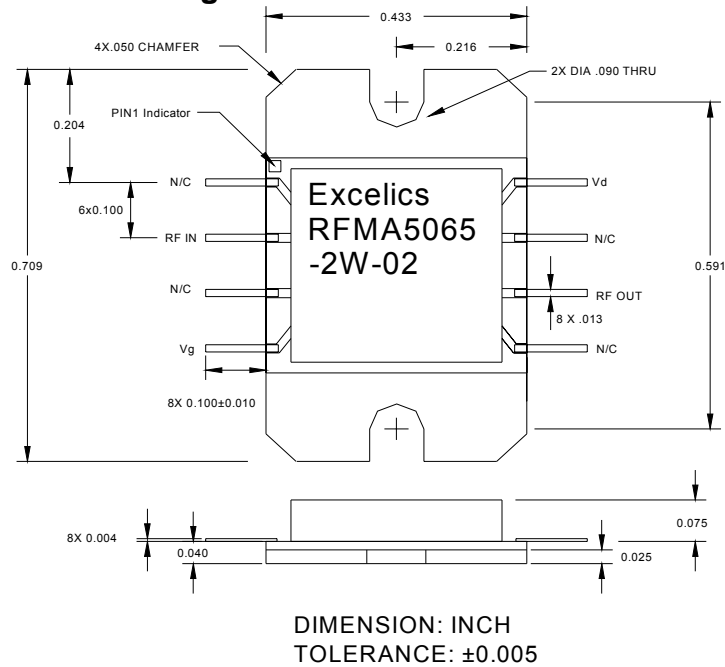
Excelics Semiconductor, Inc. 310 De Guigne Drive, Sunnyvale, CA 94085

Phone: 408-737-1711 Fax: 408-737-1868 Web: [www.excelics.com](http://www.excelics.com)

page 1 of 2

Revised September 2006

### Package Dimension and Pin Assignment

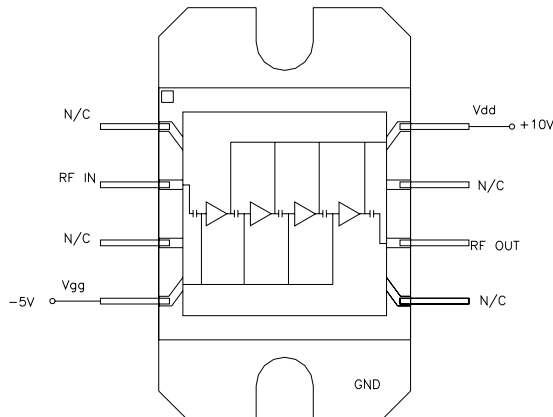


### Ordering Information

Part Number	
RFMA5065-2W-02	Refer 02 Package Outline

### Application Note

- The package should be screwed onto a good heat sink and ground
- Turn on/off sequence is required:
  - to turn on: apply -5V first, then +10V.
  - to turn off: turn +10V off first, then turn -5V off
- Recommended Bias Circuit and Internal Block Diagram



"N/C" pins on package can be either grounded or left open.  
(No connection inside of package)

Specifications are subject to change without notice.