



# PRELIMINARY

## EIM6775-4

ISSUED 12/22/2008

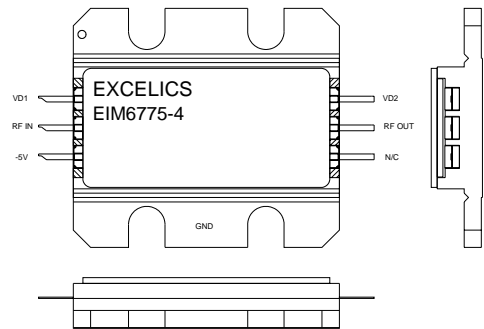
### 6.7 – 7.5 GHz Multi-Stage Power Amplifier

#### FEATURES

- 6.7– 7.5GHz Operating Frequency Range
- 36.0dBm Output Power at 2dB Compression
- 31.0 dB Typical Power Gain @2dB gain compression
- Non-Hermetic Metal Flange Package

#### APPLICATIONS

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



Caution! ESD sensitive device.

#### ELECTRICAL CHARACTERISTICS (Tb = 25 °C, 50 ohm, VD1=7V, VD2=10V, Vgg=-5V)

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
<b>F</b>	Operating Frequency Range	6.7		7.5	<b>GHz</b>
<b>P2dB</b>	Output Power at 2dB Gain Compression	35.0	36.0		<b>dBm</b>
<b>G2dB</b>	Gain @2dB gain compression	29	31		<b>dB</b>
<b>ΔGain</b>	Gain Flatness		±1.0		<b>dB</b>
<b>Input RL</b>	Input Return Loss		-12	-8	<b>dB</b>
<b>Output RL</b>	Output Return Loss		-15	-10	<b>dB</b>
<b>VD1</b>	Drain Supply Voltage 1		7		<b>V</b>
<b>VD2</b>	Drain Supply Voltage 2		10		<b>V</b>
<b>I<sub>DQ1</sub></b>	Quiescent Drain Current 1		380		<b>mA</b>
<b>I<sub>DQ2</sub></b>	Quiescent Drain Current 2		1800	2000	<b>mA</b>
<b>Vgg</b>	Gate Supply Voltage		-5		<b>V</b>
<b>Rth</b>	Thermal Resistance		2.4		<b>°C/W</b>
<b>Tb</b>	Operating Base Plate Temperature	- 30		+ 80	<b>°C</b>

Specifications are subject to change without notice.

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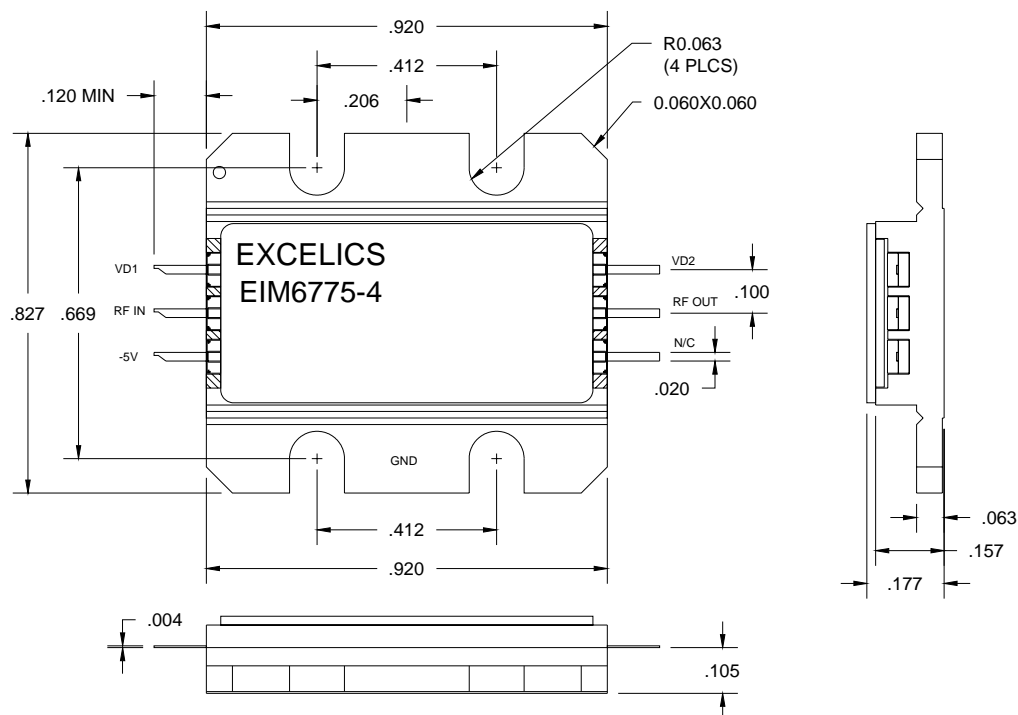
### MAXIMUM RATINGS @25°C<sup>1,2</sup>

SYMBOL	CHARACTERISTIC	ABSOLUTE	CONTINUOUS <sup>1,2</sup>
V <sub>D1</sub>	Drain Supply Voltage <sup>1</sup>	12V	8V
V <sub>D2</sub>	Drain Supply Voltage <sup>2</sup>	14V	10V
V <sub>gg</sub>	Gate Supply Voltage	-10V	-6 V
I <sub>gg</sub>	Gate Current	150mA	50 mA
P <sub>IN</sub>	Input Power	20dBm	@ Pout 2dB compression
T <sub>CH</sub>	Channel Temperature	175°C	175°C
T <sub>STG</sub>	Storage Temperature	-65/175°C	-65/175°C
P <sub>T</sub>	Total Power Dissipation	37.5W	37.5W

Notes: 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  $V_{dd} \cdot I_{dd} < (T_{CH} - T_b) / R_{TH}$

### Package Dimension and Pin Assignment

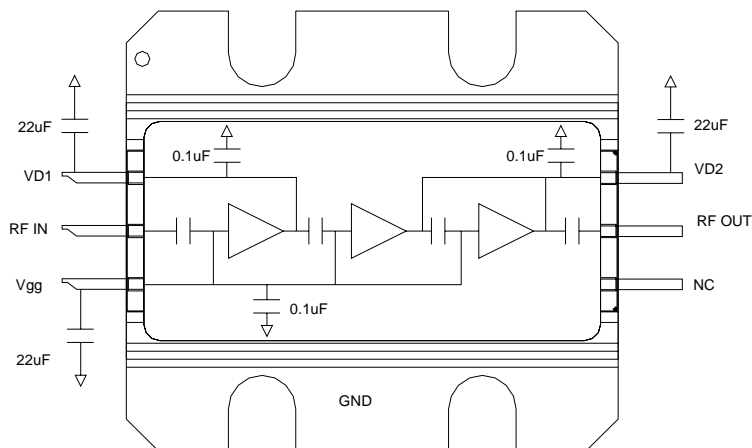


Dimensions are in inches  
 \* NC: No connection inside the package

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### Application Note

1. The package should be screwed onto a good heat sink and ground
2. Turn on/off sequence is required:
  - to turn on: apply -5V first, then +7V and +10V.
  - to turn off: turn +7V and +10V off first, then turn -5V off
3. Recommended External Bias Circuit and Internal Block Diagram



### Typical Performance:

TBD

### S-PARAMETERS

TBD

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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.