



# EIM5259-4

ISSUED: 10/17/2008

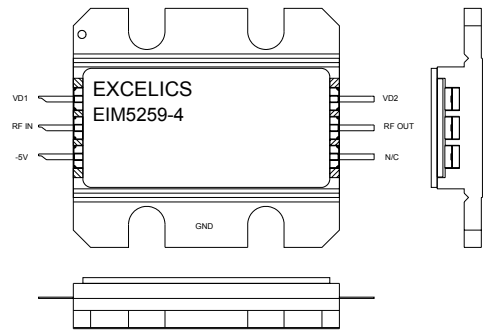
## 5.2-5.9 GHz Multi-Stage Power Amplifier

### FEATURES

- 5.2-5.9GHz Operating Frequency Range
- 35.5dBm Output Power at 1dB Compression
- 28.0 dB Typical Power Gain @1dB gain compression
- -45.0dBc Typical OIM3@ each tone Pout 23.0dBm
- 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   | 5.2  |      | 5.9 | GHz   |
| <b>P1dB</b>            | Output Power at 1dB Gain Compression  | 34.5 | 35.5 |     | dBm   |
| <b>G1dB</b>            | Gain @1dB gain compression  | 24   | 28   |     | dB    |
| <b>OIMD3</b>           | Output 3 <sup>rd</sup> Order Intermodulation Distortion @Δf=10MHz, Each Tone Pout 23.0dBm |      | -45  | -42 | dBc   |
| <b>Input RL</b>        | Input Return Loss   |      | -10  | -8  | dB    |
| <b>Output RL</b>       | Output Return Loss  |      | -15  | -10 | dB    |
| <b>VD1</b>             | Drain Supply Voltage 1  |      | 7    |     | V     |
| <b>VD2</b>             | Drain Supply Voltage 2  |      | 10   |     | V     |
| <b>I<sub>DQ1</sub></b> | Quiescent Drain Current 1   |      | 800  |     | mA    |
| <b>I<sub>DQ2</sub></b> | Quiescent Drain Current 2   |      | 1100 |     | mA    |
| <b>Vgg</b>             | Gate Supply Voltage   |      | -5   |     | V     |
| <b>Rth</b>             | Thermal Resistance  |      | 4.2  |     | °C/W  |
| <b>ΔTch</b>            | Channel Temperature Rise  |      |      | 80  | °C    |

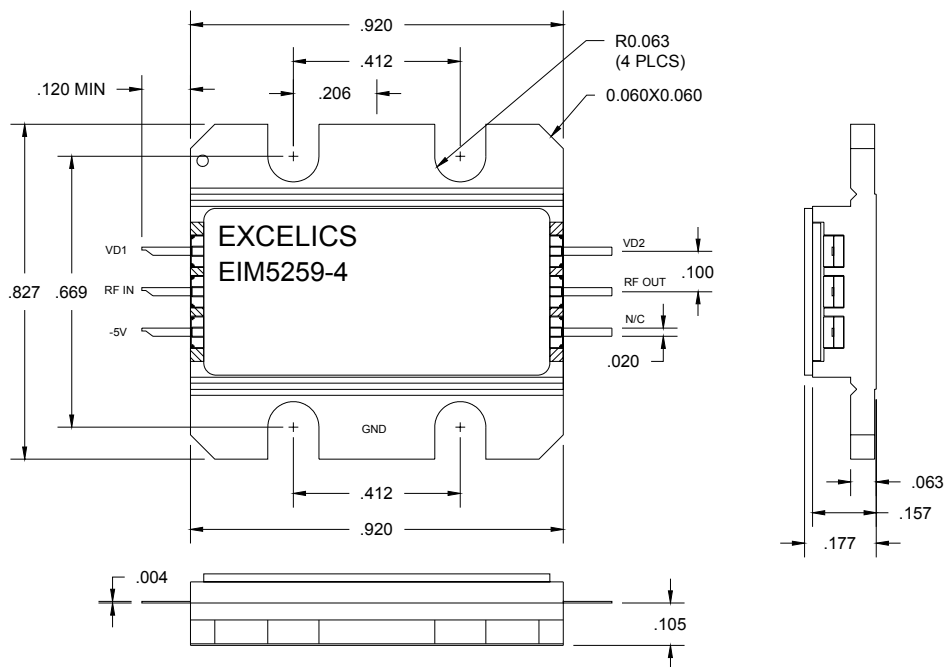
Note: Turn on/off sequence is required: ---to turn on: apply -5V on both Vgg first, then +7V and +10V.  
 ---to turn off: turn +7V and +10V off first, then turn -5V off

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

| SYMBOL           | CHARACTERISTIC          | ABSOLUTE  | CONTINUOUS <sup>1,2</sup> |
|------------------|-------------------------|-----------|---------------------------|
| V <sub>D1</sub>  | Drain Supply Voltage 1  | 10V       | 7V                        |
| V <sub>D2</sub>  | Drain Supply Voltage 2  | 14V       | 10V                       |
| V <sub>gg</sub>  | Gate Supply Voltage     | -7V       | -5 V                      |
| I <sub>gg</sub>  | Gate Current            | 150mA     | 50 mA                     |
| P <sub>IN</sub>  | Input Power             | 20dBm     | @ 3dB compression         |
| T <sub>CH</sub>  | Channel Temperature     | 175°C     | 165°C                     |
| T <sub>STG</sub> | Storage Temperature     | -65/175°C | -65/175°C                 |
| P <sub>T</sub>   | Total Power Dissipation | 26W       | 20W                       |

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

Specifications are subject to change without notice.



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