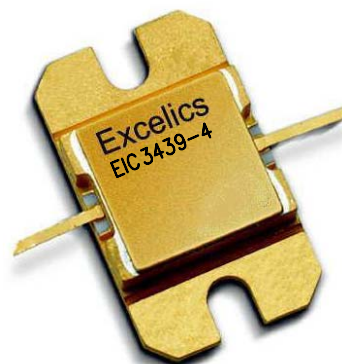


FEATURES

- 3.40–3.90GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +36.5 dBm Output Power at 1dB Compression
- 12.0 dB Power Gain at 1dB Compression
- 35% Power Added Efficiency
- -46 dBc IM3 at PO = 25.5 dBm SCL
- 100% Tested for DC, RF, and R_{TH}



ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)



Caution! ESD sensitive device.

| SYMBOL | PARAMETERS/TEST CONDITIONS ¹ | MIN | TYP | MAX | UNITS |
|------------|---|------|------|-----------|--------------------|
| P_{1dB} | Output Power at 1dB Compression $f = 3.40\text{-}3.90\text{GHz}$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 1100\text{mA}$ | 35.5 | 36.5 | | dBm |
| G_{1dB} | Gain at 1dB Compression $f = 3.40\text{-}3.90\text{GHz}$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 1100\text{mA}$ | 11.0 | 12.0 | | dB |
| ΔG | Gain Flatness $f = 3.40\text{-}3.90\text{GHz}$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 1100\text{mA}$ | | | ± 0.6 | dB |
| PAE | Power Added Efficiency at 1dB Compression $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 1100\text{mA}$ $f = 3.40\text{-}3.90\text{GHz}$ | | 35 | | % |
| I_{d1dB} | Drain Current at 1dB Compression $f = 3.40\text{-}3.90\text{GHz}$ | | 1200 | 1500 | mA |
| IM3 | Output 3rd Order Intermodulation Distortion $\Delta f = 10\text{ MHz}$ 2-Tone Test; $P_{out} = 25.5\text{ dBm S.C.L}^2$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 65\% IDSS$ $f = 3.90\text{GHz}$ | -43 | -46 | | dBc |
| I_{DSS} | Saturated Drain Current $V_{DS} = 3\text{ V}$, $V_{GS} = 0\text{ V}$ | | 2000 | 2500 | mA |
| V_P | Pinch-off Voltage $V_{DS} = 3\text{ V}$, $I_{DS} = 20\text{ mA}$ | | -2.5 | -4.0 | V |
| R_{TH} | Thermal Resistance ³ | | 5.5 | 6.0 | $^\circ\text{C/W}$ |

Note: 1. Tested with 100 Ohm gate resistor.
2. S.C.L. = Single Carrier Level.
3. Overall R_{th} depends on case mounting.

ABSOLUTE MAXIMUM RATING FOR EFE

| SYMBOLS | PARAMETERS | ABSOLUTE ¹ | CONTINUOUS ² |
|-----------|-------------------------|------------------------------|------------------------------|
| V_{DS} | Drain-Source Voltage | 15V | 10V |
| V_{GS} | Gate-Source Voltage | -5V | -4V |
| I_{gsf} | Forward Gate Current | 48.0 mA | 14.4 mA |
| I_{gsr} | Reverse Gate Current | -9.6 mA | -2.4 mA |
| P_{in} | Input Power | 35.5dBm | @ 3dB Compression |
| T_{ch} | Channel Temperature | 175 $^\circ\text{C}$ | 175 $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -65 to +175 $^\circ\text{C}$ | -65 to +175 $^\circ\text{C}$ |
| P_t | Total Power Dissipation | 25W | 25W |

Note: 1. Exceeding any of the above ratings may result in permanent damage.
2. Exceeding any of the above ratings may reduce MTTF below design goals.

Specifications are subject to change without notice.

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Revised November 2007

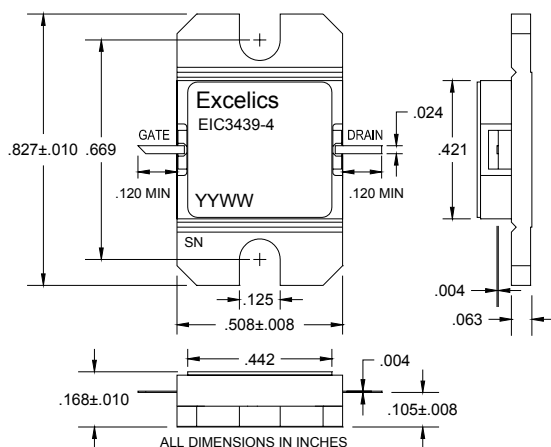
ISSUED DATED: 11/12/2007

3.40-3.90GHz 4-Watt Internally Matched Power FET

PACKAGES OUTLINE

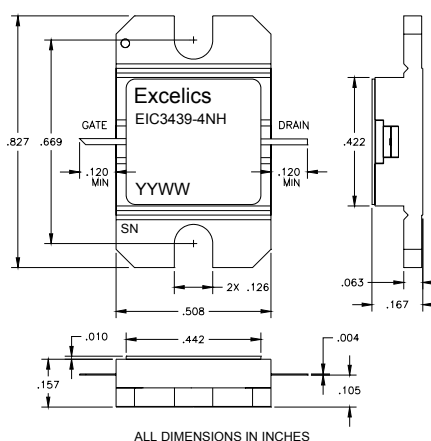
Dimensions in inches, Tolerance $\pm .005$ unless otherwise specified

EIC3439-4 (Hermetic)



Caution! ESD sensitive device.

EIC3439-4NH (Non-Hermetic)



Caution! ESD sensitive device.

ORDERING INFORMATION

| Part Number | Packages | Grade ¹ | f _{Test} (GHz) | P _{1dB} (min) | IM ₃ (min) ² |
|-------------|--------------|--------------------|-------------------------|------------------------|------------------------------------|
| EIC3439-4 | Hermetic | Industrial | 3.40-3.90GHz | 35.5 | -43 |
| EIC3439-4NH | Non-Hermetic | Industrial | 3.40-3.90GHz | 35.5 | -43 |

Notes: 1. Contact factory for military and hi-rel grades.
2. Exact test conditions are specified in "Electrical Characteristics" table.

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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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