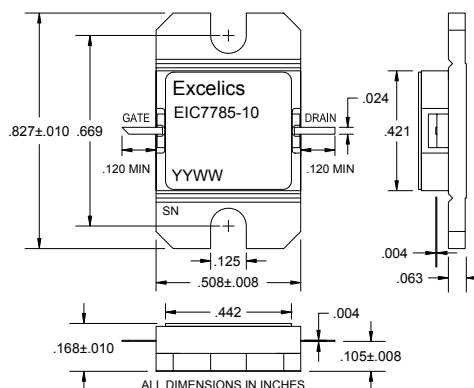


### FEATURES

- 7.70– 8.50GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +40.5 dBm Output Power at 1dB Compression
- 8.5 dB Power Gain at 1dB Compression
- 28% Power Added Efficiency
- -46 dBc IM3 at PO = 29.5 dBm SCL
- Hermetic Metal Flange Package
- 100% Tested for DC, RF, and R<sub>TH</sub>



### ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25°C)



Caution! ESD sensitive device.

| SYMBOL            | PARAMETERS/TEST CONDITIONS <sup>1</sup>   | MIN  | TYP  | MAX  | UNITS |
|-------------------|---|------|------|------|-------|
| P <sub>1dB</sub>  | Output Power at 1dB Compression<br>V <sub>DS</sub> = 10 V, I <sub>DSQ</sub> ≈ 3200mA<br>f = 7.70-8.50GHz  | 39.5 | 40.5 |      | dBm   |
| G <sub>1dB</sub>  | Gain at 1dB Compression<br>V <sub>DS</sub> = 10 V, I <sub>DSQ</sub> ≈ 3200mA<br>f = 7.70-8.50GHz  | 7.5  | 8.5  |      | dB    |
| ΔG                | Gain Flatness<br>V <sub>DS</sub> = 10 V, I <sub>DSQ</sub> ≈ 3200mA<br>f = 7.70-8.50GHz  |      |      | ±0.6 | dB    |
| PAE               | Power Added Efficiency at 1dB Compression<br>V <sub>DS</sub> = 10 V, I <sub>DSQ</sub> ≈ 3200mA<br>f = 7.70-8.50GHz  |      | 28   |      | %     |
| I <sub>d1dB</sub> | Drain Current at 1dB Compression<br>f = 7.70-8.50GHz  |      | 3300 | 3700 | mA    |
| IM3               | Output 3rd Order Intermodulation Distortion<br>Δf = 10 MHz 2-Tone Test; P <sub>out</sub> = 29.5 dBm S.C.L. <sup>2</sup><br>V <sub>DS</sub> = 10 V, I <sub>DSQ</sub> ≈ 65% IDSS<br>f = 8.50GHz | -43  | -46  |      | dBc   |
| I <sub>DSS</sub>  | Saturated Drain Current<br>V <sub>DS</sub> = 3 V, V <sub>GS</sub> = 0 V   |      | 5700 | 7100 | mA    |
| V <sub>P</sub>    | Pinch-off Voltage<br>V <sub>DS</sub> = 3 V, I <sub>DS</sub> = 57 mA   |      | -2.5 | -4.0 | V     |
| R <sub>TH</sub>   | Thermal Resistance <sup>3</sup>   |      | 2.5  | 3.0  | °C/W  |

Note: 1) Tested with 50 Ohm gate resistor.

2) S.C.L. = Single Carrier Level.

3) Overall R<sub>th</sub> depends on case mounting.

### ABSOLUTE MAXIMUM RATING<sup>1,2</sup>

| SYMBOLS          | PARAMETERS              | ABSOLUTE <sup>1</sup> | CONTINUOUS <sup>2</sup> |
|------------------|-------------------------|-----------------------|-------------------------|
| V <sub>ds</sub>  | Drain-Source Voltage    | 15                    | 10V                     |
| V <sub>gs</sub>  | Gate-Source Voltage     | -5                    | -4V                     |
| I <sub>gsf</sub> | Forward Gate Current    | 104.4mA               | 34.8mA                  |
| I <sub>gsr</sub> | Reserve Gate Current    | -17.4mA               | -5.8mA                  |
| P <sub>in</sub>  | Input Power             | 39.5dBm               | @ 3dB Compression       |
| T <sub>ch</sub>  | Channel Temperature     | 175 °C                | 175 °C                  |
| T <sub>stg</sub> | Storage Temperature     | -65 to +175 °C        | -65 to +175 °C          |
| P <sub>t</sub>   | Total Power Dissipation | 50W                   | 50W                     |

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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