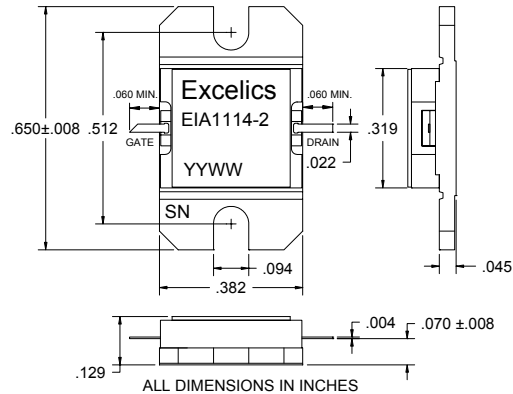


11.0-14.0GHz 2-Watt Internally Matched Power FET

FEATURES

- 11.0– 14.0GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +33.5 dBm Output Power at 1dB Compression
- 7.0 dB Power Gain at 1dB Compression
- 25% Power Added Efficiency
- -36 dBc IM3 at $P_o = 22.5$ dBm SCL
- Hermetic Metal Flange Package
- 100% Tested for DC, RF, and R_{TH}



Caution! ESD sensitive device.

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

| SYMBOL | PARAMETERS/TEST CONDITIONS ¹ | MIN | TYP | MAX | UNITS |
|------------|---|------|------|-----------|--------------------|
| P_{1dB} | Output Power at 1dB Compression $f = 11.0-14.0\text{GHz}$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 750\text{mA}$ | 32.5 | 33.5 | | dBm |
| G_{1dB} | Gain at 1dB Compression $f = 11.0-14.0\text{GHz}$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 750\text{mA}$ | 6.0 | 7.0 | | dB |
| ΔG | Gain Flatness $f = 11.0-14.0\text{GHz}$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 750\text{mA}$ | | | ± 0.8 | dB |
| PAE | Power Added Efficiency at 1dB Compression $V_{DS} = 8\text{ V}, I_{DSQ} \approx 750\text{mA}$ $f = 11.0-14.0\text{GHz}$ | | 25 | | % |
| I_{d1dB} | Drain Current at 1dB Compression $f = 11.0-14.0\text{GHz}$ | | 850 | 1000 | mA |
| IM3 | Output 3rd Order Intermodulation Distortion $\Delta f = 10\text{ MHz}$ 2-Tone Test; $P_{out} = 22.5\text{ dBm S.C.L}^2$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 65\% IDSS$ $f = 14.0\text{GHz}$ | | -36 | | dBc |
| I_{DSS} | Saturated Drain Current $V_{DS} = 3\text{ V}, V_{GS} = 0\text{ V}$ | | 1440 | 1800 | mA |
| V_P | Pinch-off Voltage $V_{DS} = 3\text{ V}, I_{DS} = 15\text{ mA}$ | | -1.0 | -2.5 | V |
| R_{TH} | Thermal Resistance ³ | | 11.0 | 12.0 | $^\circ\text{C/W}$ |

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^{1,2}

| SYMBOLS | PARAMETERS | ABSOLUTE ¹ | CONTINUOUS ² |
|-----------|-------------------------|------------------------------|------------------------------|
| V_{ds} | Drain-Source Voltage | 10 | 8V |
| V_{gs} | Gate-Source Voltage | -5 | -3V |
| I_{gsf} | Forward Gate Current | 21.6mA | 7.2mA |
| I_{gsr} | Reverse Gate Current | -3.6mA | -1.2mA |
| P_{in} | Input Power | 32.5dBm | @ 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 | 12W | 12W |

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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