

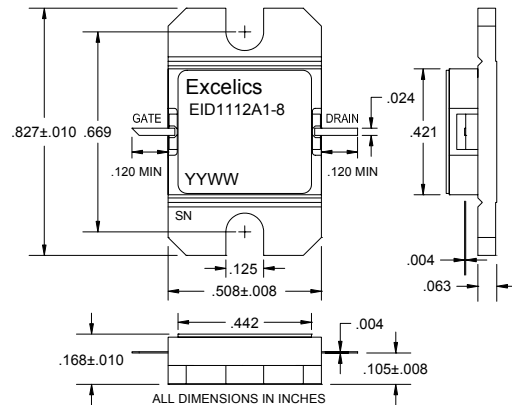
EID1112A1-8

UPDATED 07/12/2007

11.70-12.70 GHz 8-Watt Internally Matched Power FET

FEATURES

- 11.70-12.70 GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +39.5 dBm Output Power at 1dB Compression
- 8.0 dB Power Gain at 1dB Compression
- 35% Power Added Efficiency
- Hermetic Metal Flange Package
- 100% Tested for DC, RF, and R_{TH}



ELECTRICAL CHARACTERISTICS (T_a = 25°C)



Caution! ESD sensitive device.

| SYMBOL | PARAMETERS/TEST CONDITIONS ¹ | MIN | TYP | MAX | UNITS |
|-------------------|---|------|------|------|-------|
| P _{1dB} | Output Power at 1dB Compression f = 11.70-12.70GHz V _{DS} = 10 V, I _{DSQ} ≈ 2200mA | 38.5 | 39.5 | | dBm |
| G _{1dB} | Gain at 1dB Compression f = 11.70-12.70GHz V _{DS} = 10 V, I _{DSQ} ≈ 2200mA | 7.0 | 8.0 | | dB |
| ΔG | Gain Flatness f = 11.70-12.70GHz V _{DS} = 10 V, I _{DSQ} ≈ 2200mA | | | ±0.6 | dB |
| PAE | Power Added Efficiency at 1dB Compression V _{DS} = 10 V, I _{DSQ} ≈ 2200mA f = 11.70-12.70GHz | | 35 | | % |
| I _{d1dB} | Drain Current at 1dB Compression f = 11.70-12.70GHz | | 2800 | 3200 | mA |
| I _{DSS} | Saturated Drain Current V _{DS} = 3 V, V _{GS} = 0 V | | 4400 | 5200 | mA |
| V _P | Pinch-off Voltage V _{DS} = 3 V, I _{DS} = 40 mA | | -1.2 | -2.5 | V |
| R _{TH} | Thermal Resistance ³ | | 3.5 | 4.0 | °C/W |

Notes: 1. Tested with 100 Ohm gate resistor.
2. Overall R_{th} depends on case mounting.

ABSOLUTE MAXIMUM RATINGS FOR CONTINUOUS OPERATION^{1,2}

| SYMBOL | CHARACTERISTIC | VALUE |
|------------------|-------------------------|-------------------|
| V _{DS} | Drain to Source Voltage | 10 V |
| V _{GS} | Gate to Source Voltage | -3.0 V |
| I _{DS} | Drain Current | I _{DSS} |
| I _{GSF} | Forward Gate Current | 80 mA |
| P _{IN} | Input Power | @ 3dB compression |
| P _T | Total Power Dissipation | 32 W |
| T _{CH} | Channel Temperature | 150°C |
| T _{STG} | Storage Temperature | -65/+150°C |

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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page 1 of 2
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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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page 2 of 2
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