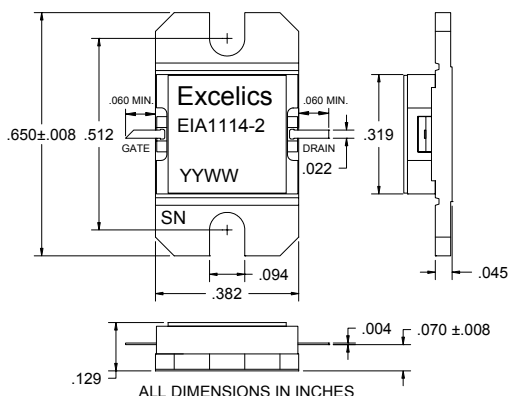


## 11.0-14.0GHz 2-Watt Internally Matched Power FET

### 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 <sup>1</sup>	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
$\Delta G$	Gain Flatness $f = 11.0-14.0\text{GHz}$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 750\text{mA}$			$\pm 0.8$	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; $P_{out} = 22.5\text{ dBm S.C.L}^2$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 65\% \text{ IDSS}$ $f = 14.0\text{GHz}$		-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 <sup>3</sup>		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<sup>1,2</sup>

SYMBOLS	PARAMETERS	ABSOLUTE <sup>1</sup>	CONTINUOUS <sup>2</sup>
$V_{ds}$	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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