



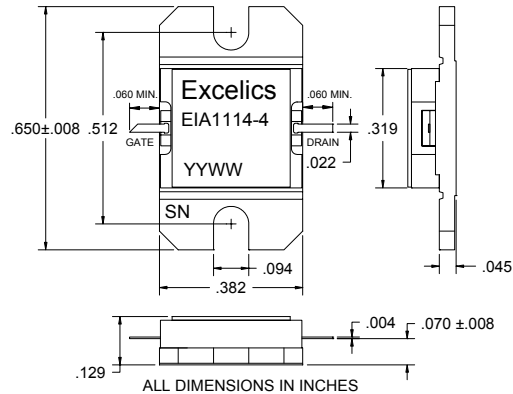
EIA1114-4

UPDATED 07/25/2006

11.0-14.0GHz 4-Watt Internally Matched Power FET

FEATURES

- 11.0– 14.0GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +36.5 dBm Output Power at 1dB Compression
- 7.0 dB Power Gain at 1dB Compression
- 25% Power Added Efficiency
- -36 dBc IM3 at $P_o = 25.5$ 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 $f = 11.0-14.0\text{GHz}$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 1500\text{mA}$	35.5	36.5		dBm
G_{1dB}	Gain at 1dB Compression $f = 11.0-14.0\text{GHz}$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 1500\text{mA}$	6.0	7.0		dB
ΔG	Gain Flatness $f = 11.0-14.0\text{GHz}$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 1500\text{mA}$			± 0.8	dB
PAE	Power Added Efficiency at 1dB Compression $V_{DS} = 8\text{ V}, I_{DSQ} \approx 1500\text{mA}$ $f = 11.0-14.0\text{GHz}$		25		%
I_{d1dB}	Drain Current at 1dB Compression $f = 11.0-14.0\text{GHz}$		1700	2000	mA
IM3	Output 3rd Order Intermodulation Distortion $\Delta f = 10\text{ MHz}$ 2-Tone Test; $P_{out} = 25.5\text{ dBm S.C.L}^2$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 65\% \text{ IDSS}$ $f = 14.0\text{GHz}$		-36		dBc
I_{DSS}	Saturated Drain Current $V_{DS} = 3\text{ V}, V_{GS} = 0\text{ V}$		2880	3600	mA
V_P	Pinch-off Voltage $V_{DS} = 3\text{ V}, I_{DS} = 29\text{ mA}$		-1.0	-2.5	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^{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	43.2mA	14.4mA
I_{gsr}	Reverse Gate Current	-7.2mA	-2.4mA
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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page 1 of 1
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