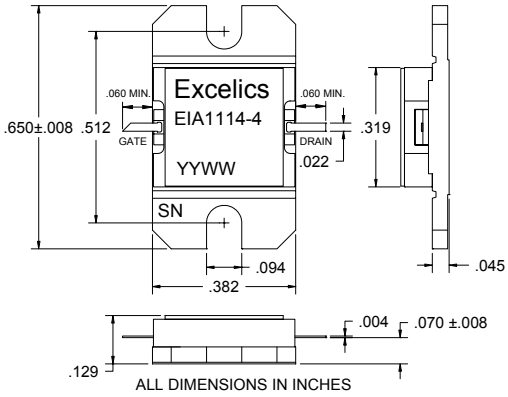
EIA1114-4

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 Po = 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°C)

SYMBOL	PARAMETERS/TEST CONDITIONS[1]	MIN	TYP	MAX	UNITS
P_{1dB}	Output Power at 1dB Compression f = 11.0-14.0GHz V_{DS} = 8 V, I_{DSQ} ≈ 1500mA	35.5	36.5		dBm
G_{1dB}	Gain at 1dB Compression f = 11.0-14.0GHz V_{DS} = 8 V, I_{DSQ} ≈ 1500mA	6.0	7.0		dB
ΔG	Gain Flatness f = 11.0-14.0GHz V_{DS} = 8 V, I_{DSQ} ≈ 1500mA			±0.8	dB
PAE	Power Added Efficiency at 1dB Compression V_{DS} = 8 V, I_{DSQ} ≈ 1500mA f = 11.0-14.0GHz		25		%
Id_{1dB}	Drain Current at 1dB Compression f = 11.0-14.0GHz		1700	2000	mA
IM3	Output 3rd Order Intermodulation Distortion Δf = 10 MHz 2-Tone Test; Pout = 25.5 dBm S.C.L[2] V_{DS} = 8 V, I_{DSQ} ≈ 65% IDSS f = 14.0GHz		-36		dBc
I_{DSS}	Saturated Drain Current V_{DS} = 3 V, V_{GS} = 0 V		2880	3600	mA
V_P	Pinch-off Voltage V_{DS} = 3 V, I_{DS} = 29 mA		-1.0	-2.5	V
R_{TH}	Thermal Resistance[3]		5.5	6.0	°C/W

Note: 1) Tested with 100 Ohm gate resistor. 2) S.C.L. = Single Carrier Level. 3) Overall Rth depends on case mounting.

ABSOLUTE MAXIMUM RATING[1,2]

SYMBOLS	PARAMETERS	ABSOLUTE[1]	CONTINUOUS[2]
Vds	Drain-Source Voltage	10	8V
Vgs	Gate-Source Voltage	-5	-3V
Igsf	Forward Gate Current	43.2mA	14.4mA
Igsr	Reverse Gate Current	-7.2mA	-2.4mA
Pin	Input Power	35.5dBm	@ 3dB Compression
Tch	Channel Temperature	175 °C	175 °C
Tstg	Storage Temperature	-65 to +175 °C	-65 to +175 °C
Pt	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.