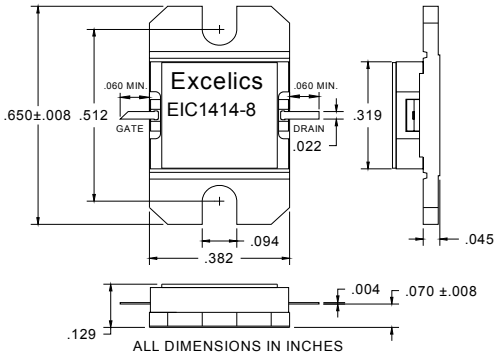
EIC1414-8

ISSUED 6/30/2006

14.0-14.5 GHz 8-Watt Internally Matched Power FET

FEATURES

- **14.0– 14.5GHz Bandwidth**
- **Input/Output Impedance Matched to 50 Ohms**
- **+39.0 dBm Output Power at 1dB Compression**
- **5.0 dB Power Gain at 1dB Compression**
- **24% Power Added Efficiency**
- **Hermetic Metal Flange Package**



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 = 14.0-14.5GHz V_{DS} = 10 V, I_{DSQ} ≈ 2200mA	38.5	39.0		dBm
G_{1dB}	Gain at 1dB Compression f = 14.0-14.5GHz V_{DS} = 10 V, I_{DSQ} ≈ 2200mA	4.0	5.0		dB
ΔG	Gain Flatness f = 14.0-14.5GHz 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 = 14.0-14.5GHz		24		%
Id_{1dB}	Drain Current at 1dB Compression f = 14.0-14.5GHz		2300	2600	mA
I_{DSS}	Saturated Drain Current V_{DS} = 3 V, V_{GS} = 0 V		4000	5000	mA
V_P	Pinch-off Voltage V_{DS} = 3 V, I_{DS} = 40 mA		-2.5	-4.0	V
R_{TH}	Thermal Resistance[3]		3.5	4.0	°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	15	10V
Vgs	Gate-Source Voltage	-5	-4V
Igsf	Forward Gate Current	86.4mA	28.8mA
Igsr	Reverse Gate Current	-14.4mA	-4.8mA
Pin	Input Power	38.5dBm	@ 3dB Compression
Tch	Channel Temperature	175 °C	175 °C
Tstg	Storage Temperature	-65 to +175 °C	-65 to +175 °C
Pt	Total Power Dissipation	38W	38W

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.