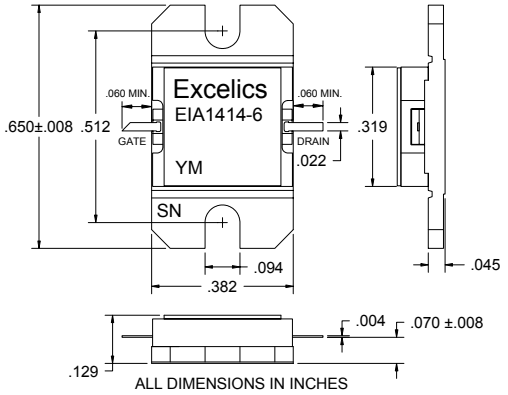
EIA1414-6

UPDATED 12/5/2005

14.00-14.50 GHz 6-Watt Internally Matched Power FET

FEATURES

- **14.00– 14.50GHz Bandwidth**
- **Input/Output Impedance Matched to 50 Ohms**
- **+37.5 dBm Output Power at 1dB Compression**
- **8.0 dB Power Gain at 1dB Compression**
- **33% 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 = 14.00-14.50GHz V_{DS} = 8 V, I_{DSQ} ≈ 1600mA	36.5	37.5		dBm
G_{1dB}	Gain at 1dB Compression f = 14.00-14.50GHz V_{DS} = 8 V, I_{DSQ} ≈ 1600mA	7.0	8.0		dB
ΔG	Gain Flatness f = 14.00-14.50GHz V_{DS} = 8 V, I_{DSQ} ≈ 1600mA			±0.6	dB
PAE	Power Added Efficiency at 1dB Compression V_{DS} = 8 V, I_{DSQ} ≈ 1600mA f = 14.00-14.50GHz		33		%
Id_{1dB}	Drain Current at 1dB Compression f = 14.00-14.50GHz		1800	2100	mA
I_{DSS}	Saturated Drain Current V_{DS} = 3 V, V_{GS} = 0 V		2800	3500	mA
V_P	Pinch-off Voltage V_{DS} = 3 V, I_{DS} = 28mA		-1.0	-2.5	V
R_{TH}	Thermal Resistance[3]		4.5	5.0	°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	12	8V
Vgs	Gate-Source Voltage	-5	-3V
Ids	Drain Current	I_{DSS}	3.5A
Igsf	Forward Gate Current	43.2mA	14.4mA
Igsr	Reserve Gate Current	-7.2mA	-2.4mA
Pin	Input Power	36.5dBm	@ 3dB Compression
Tch	Channel Temperature	175 °C	175 °C
Tstg	Storage Temperature	-65 to +175 °C	-65 to +175 °C
Pt	Total Power Dissipation	30W	30W

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.