



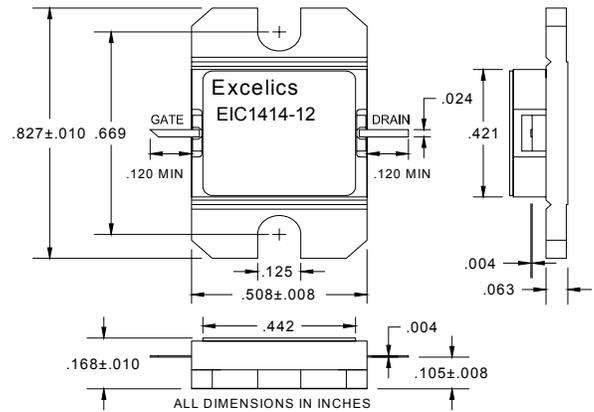
EIC1414-12

ISSUED 6/30/2006

14.0-14.5 GHz 12-Watt Internally Matched Power FET

FEATURES

- 14.0– 14.5GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +40.5 dBm Output Power at 1dB Compression
- 5.0 dB Power Gain at 1dB Compression
- 20% 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 V _{DS} = 10 V, I _{DSQ} ≈ 3500mA f = 14.0-14.5GHz	39.5	40.5		dBm
G_{1dB}	Gain at 1dB Compression V _{DS} = 10 V, I _{DSQ} ≈ 3500mA f = 14.0-14.5GHz	4.0	5.0		dB
ΔG	Gain Flatness V _{DS} = 10 V, I _{DSQ} ≈ 3500mA f = 14.0-14.5GHz			±0.6	dB
PAE	Power Added Efficiency at 1dB Compression V _{DS} = 10 V, I _{DSQ} ≈ 3500mA f = 14.0-14.5GHz		20		%
I_{d1dB}	Drain Current at 1dB Compression f = 14.0-14.5GHz		3600	4200	mA
I_{DSS}	Saturated Drain Current V _{DS} = 3 V, V _{GS} = 0 V		6000	7500	mA
V_P	Pinch-off Voltage V _{DS} = 3 V, I _{DS} = 60 mA		-2.5	-4.0	V
R_{TH}	Thermal Resistance ³		2.3	2.6	°C/W

Note: 1) Tested with 50 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	15	10V
V_{gs}	Gate-Source Voltage	-5	-4V
I_{gsf}	Forward Gate Current	136mA	45mA
I_{gsr}	Reverse Gate Current	-23mA	-8mA
P_{in}	Input Power	39.5dBm	@ 3dB Compression
T_{ch}	Channel Temperature	175 °C	175 °C
T_{stg}	Storage Temperature	-65 to +175 °C	-65 to +175 °C
P_t	Total Power Dissipation	58W	58W

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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Revised June 2006