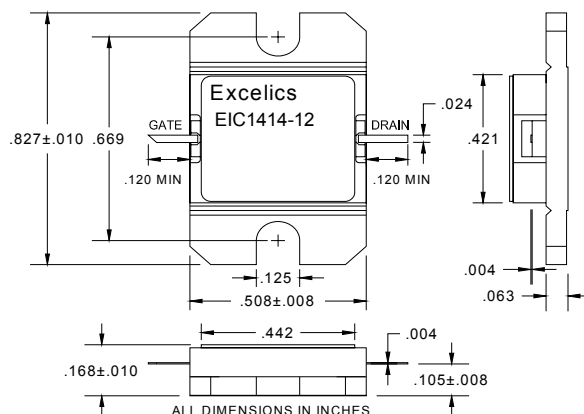![Excelics SEMICONDUCTOR logo]

EIC1414-12

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**

ALL DIMENSIONS IN INCHES

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		%
Id_{1dB}	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 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	136mA	45mA
Igsr	Reverse Gate Current	-23mA	-8mA
Pin	Input Power	39.5dBm	@ 3dB Compression
Tch	Channel Temperature	175 °C	175 °C
Tstg	Storage Temperature	-65 to +175 °C	-65 to +175 °C
Pt	Total Power Dissipation	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.
Excelics Semiconductor, Inc. 310 De Guigne Drive, Sunnyvale, CA 94085
Phone: 408-737-1711 Fax: 408-737-1868 Web: www.excelics.com

page 1 of 1
Revised June 2006