



EIC4450-10

UPDATED 07/25/2007

4.40-5.00 GHz 10-Watt Internally Matched Power FET

FEATURES

- 4.40–5.00GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +40.5 dBm Output Power at 1dB Compression
- 10.0 dB Power Gain at 1dB Compression
- 35% Power Added Efficiency
- -46 dBc IM3 at PO = 29.5 dBm SCL
- 100% Tested for DC, RF, and R_{TH}

ELECTRICAL CHARACTERISTICS (T_a = 25°C)

SYMBOL	PARAMETERS/TEST CONDITIONS ¹	MIN	TYP	MAX	UNITS
P_{1dB}	Output Power at 1dB Compression V _{DS} = 10 V, I _{DSQ} ≈ 3200mA f = 4.40-5.00GHz	39.5	40.5		dBm
G_{1dB}	Gain at 1dB Compression V _{DS} = 10 V, I _{DSQ} ≈ 3200mA f = 4.40-5.00GHz	9.0	10.0		dB
ΔG	Gain Flatness V _{DS} = 10 V, I _{DSQ} ≈ 3200mA f = 4.40-5.00GHz			±0.6	dB
PAE	Power Added Efficiency at 1dB Compression V _{DS} = 10 V, I _{DSQ} ≈ 3200mA f = 4.40-5.00GHz		35		%
I_{d1dB}	Drain Current at 1dB Compression f = 4.40-5.00GHz		3300	3800	mA
IM3	Output 3rd Order Intermodulation Distortion Δf = 10 MHz 2-Tone Test; P _{out} = 29.5 dBm S.C.L. ² V _{DS} = 10 V, I _{DSQ} ≈ 65% I _{DSS} f = 5.00GHz	-43	-46		dBc
I_{DSS}	Saturated Drain Current V _{DS} = 3 V, V _{GS} = 0 V		5800	6400	mA
V_P	Pinch-off Voltage V _{DS} = 3 V, I _{DS} = 60 mA		-2.5	-4.0	V
R_{TH}	Thermal Resistance ³		2.5	3.0	°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	CONTINUOUS ²
V_{ds}	Drain-Source Voltage	10V
V_{gs}	Gate-Source Voltage	-4.5V
I_{ds}	Drain Current	I _{DSS}
I_{gsf}	Forward Gate Current	120mA
P_{in}	Input Power	@ 3dB Compression
T_{ch}	Channel Temperature	150 °C
T_{stg}	Storage Temperature	-65 to +150 °C
P_t	Total Power Dissipation	42W

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.

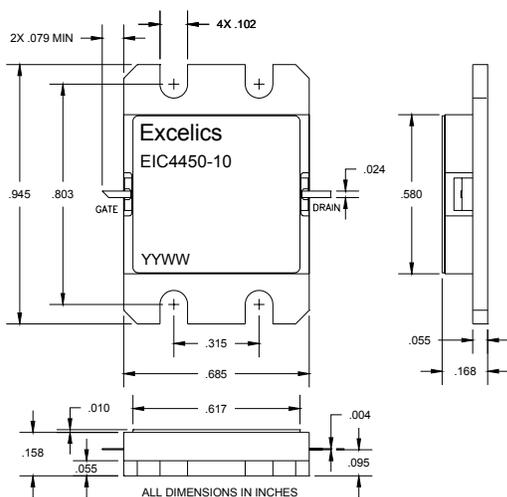
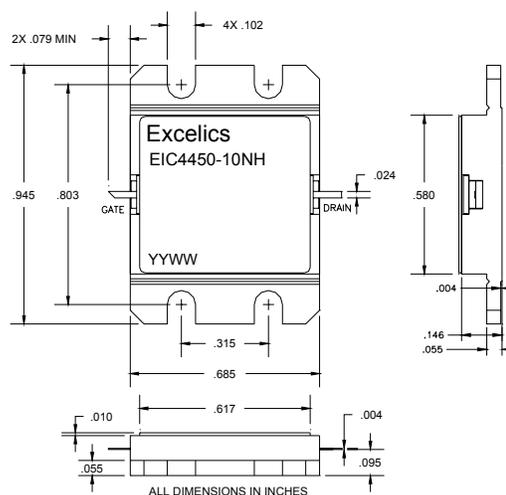
Specifications are subject to change without notice.

Excelics Semiconductor, Inc. 310 De Guigne Drive, Sunnyvale, CA 94085
Phone: 408-737-1711 Fax: 408-737-1868 Web: www.excelics.com

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Revised July 2007

PACKAGES OUTLINE

 Dimensions in inches, Tolerance $\pm .005$ unless otherwise specified

EIC4450-10 (Hermetic)

EIC4450-10NH (Non-Hermetic)

Caution! ESD sensitive device.

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ORDERING INFORMATION

Part Number	Packages	Grade ¹	f _{Test} (GHz)	P _{1dB} (min)	IM ₃ (min) ²
EIC4450-10	Hermetic	Industrial	4.40-5.00GHz	39.5	-43
EIC4450-10NH	Non-Hermetic	Industrial	4.40-5.00GHz	39.5	-43

Notes: 1. Contact factory for military and hi-rel grades.
 2. Exact test conditions are specified in "Electrical Characteristics" table.

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