EIC1011-8

UPDATED 08/21/2007

10.70-11.70GHz 8-Watt Internally Matched Power FET

FEATURES

- **10.70–11.70GHz Bandwidth**
- **Input/Output Impedance Matched to 50 Ohms**
- **+39.0 dBm Output Power at 1dB Compression**
- **6.0 dB Power Gain at 1dB Compression**
- **30% Power Added Efficiency**
- **-46 dBc IM3 at PO = 28.5 dBm SCL**
- **100% Tested for DC, RF, and R_{TH}**

Caution! ESD sensitive device.

ELECTRICAL CHARACTERISTICS (T_a = 25°C)

SYMBOL	PARAMETERS/TEST CONDITIONS[1]	MIN	TYP	MAX	UNITS
P_{1dB}	Output Power at 1dB Compression f = 10.7-11.7GHz V_{DS} = 10 V, I_{DSQ} ≈ 2200mA	38.5	39.0		dBm
G_{1dB}	Gain at 1dB Compression f = 10.7-11.7GHz V_{DS} = 10 V, I_{DSQ} ≈ 2200mA	5.0	6.0		dB
ΔG	Gain Flatness f = 10.7-11.7GHz 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 = 10.7-11.7GHz		30		%
Id_{1dB}	Drain Current at 1dB Compression f = 10.7-11.7GHz		2200	2600	mA
IM3	Output 3rd Order Intermodulation Distortion Δf = 10 MHz 2-Tone Test; Pout = 28.5 dBm S.C.L[2] V_{DS} = 10 V, I_{DSQ} ≈ 65% IDSS f =11.7GHz	-43	-46		dBc
I_{DSS}	Saturated Drain Current V_{DS} = 3 V, V_{GS} = 0 V		4000	4500	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 FOR EFE

SYMBOLS	PARAMETERS	ABSOLUTE[1]	CONTINUOUS[2]
Vds	Drain-Source Voltage	15V	10V
Vgs	Gate-Source Voltage	-5V	-4V
Igf	Forward Gate Current	96mA	28.8mA
Igr	Reverse Gate Current	-19.2mA	-4.8mA
Pin	Input Power	38.5dBm	@ 3dB Compression
Tch	Channel Temperature	175C	175C
Tstg	Storage Temperature	-65C to +175C	-65C to +175C
Pt	Total Power Dissipation	37.5W	37.5W

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.

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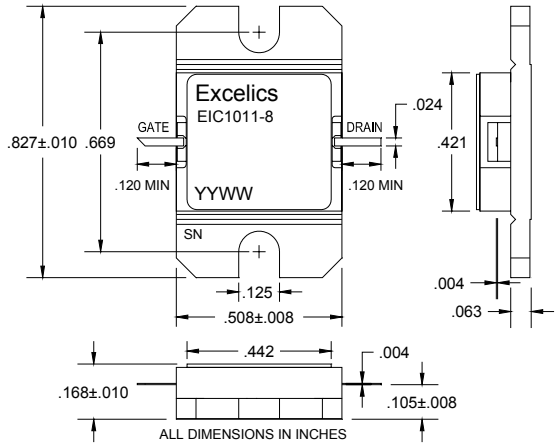
PACKAGES OUTLINE

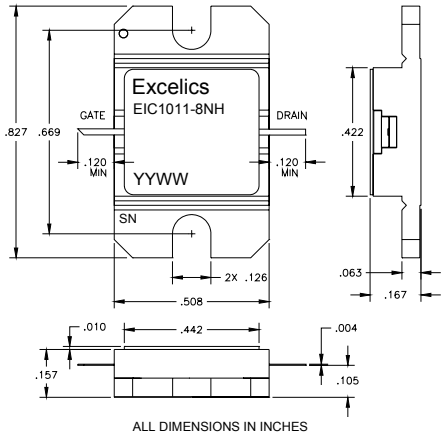
Dimensions in inches, Tolerance ± .005 unless otherwise specified

EIC1011-8 (Hermetic)



Caution! ESD sensitive device.

EIC1011-8NH (Non-Hermetic)



Caution! ESD sensitive device.

ORDERING INFORMATION

Part Number	Packages	Grade[1]	f_{Test} (GHz)	P_{1dB} (min)	IM_3 (min)[2]
EIC1011-8	Hermetic	Industrial	10.70-11.70GHz	38.5	-43
EIC1011-8NH	Non-Hermetic	Industrial	10.70-11.70GHz	38.5	-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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