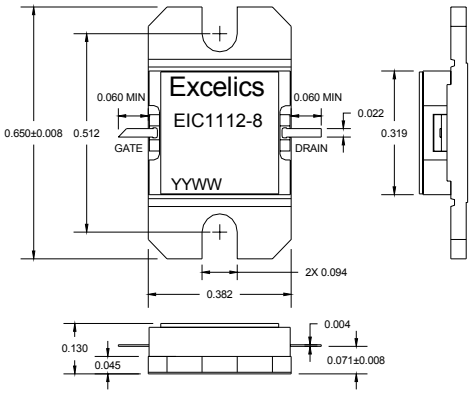
EIC1112-8

ISSUED 07/03/2007

11.7-12.7 GHz 8-Watt Internally Matched Power FET

FEATURES

- **11.7– 12.7GHz Bandwidth**
- **Input/Output Impedance Matched to 50 Ohms**
- **+39.5 dBm Output Power at 1dB Compression**
- **6.0dB Power Gain at 1dB Compression**
- **30% Power Added Efficiency**
- **Hermetic Metal Flange Package**



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 = 11.7-12.7GHz V_{DS} = 10 V, I_{DSQ} ≈ 2200mA	38.5	39.5		dBm
G_{1dB}	Gain at 1dB Compression f = 11.7-12.7GHz V_{DS} = 10 V, I_{DSQ} ≈ 2200mA	5	6		dB
ΔG	Gain Flatness f = 11.7-12.7GHz 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 = 11.7-12.7GHz		30		%
Id_{1dB}	Drain Current at 1dB Compression f = 11.7-12.7GHz		2300	2800	mA
IM3	Output 3rd Order Intermodulation Distortion Δf=10MHz 2-Tone Test. Pout=28.5 dBm S.C.L Vds = 10 V, I_{DSQ} ≈ 65% I_{DSS} f = 12.7GHz	-40	-43		dBc
I_{DSS}	Saturated Drain Current V_{DS} = 3 V, V_{GS} = 0 V		4000	5000	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	°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	15	10V
Vgs	Gate-Source Voltage	-5	-4.5V
Igsf	Forward Gate Current	86.4mA	28.8mA
Igsr	Reserve Gate Current	-14.4mA	-4.8mA
Pin	Input Power	38.5dBm	@ 3dB Compression
Tch	Channel Temperature	175 °C	175 °C
Tstg	Storage Temperature	-65 to +175 °C	-65 to +175 °C
Pt	Total Power Dissipation	38W	38W

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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