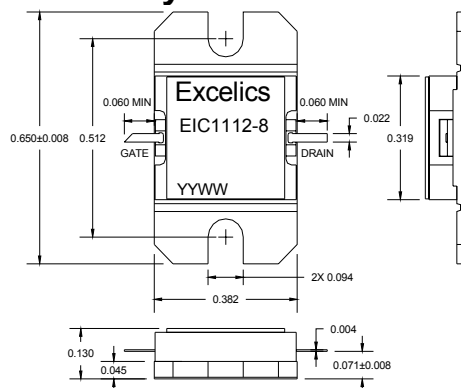


ISSUED 07/03/2007

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 ($T_a = 25^\circ\text{C}$)

SYMBOL	PARAMETERS/TEST CONDITIONS ¹	MIN	TYP	MAX	UNITS
P_{1dB}	Output Power at 1dB Compression $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 2200\text{mA}$ $f = 11.7\text{-}12.7\text{GHz}$	38.5	39.5		dBm
G_{1dB}	Gain at 1dB Compression $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 2200\text{mA}$ $f = 11.7\text{-}12.7\text{GHz}$	5	6		dB
ΔG	Gain Flatness $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 2200\text{mA}$ $f = 11.7\text{-}12.7\text{GHz}$			± 0.6	dB
PAE	Power Added Efficiency at 1dB Compression $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 2200\text{mA}$ $f = 11.7\text{-}12.7\text{GHz}$		30		%
I_{d1dB}	Drain Current at 1dB Compression $f = 11.7\text{-}12.7\text{GHz}$		2300	2800	mA
IM3	Output 3rd Order Intermodulation Distortion $\Delta f = 10\text{MHz}$ 2-Tone Test. $P_{out} = 28.5\text{ dBm S.C.L}$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 65\% I_{DSS}$ $f = 12.7\text{GHz}$	-40	-43		dBc
I_{DSS}	Saturated Drain Current $V_{DS} = 3\text{ V}$, $V_{GS} = 0\text{ V}$		4000	5000	mA
V_P	Pinch-off Voltage $V_{DS} = 3\text{ V}$, $I_{DS} = 40\text{ mA}$		-2.5	-4.0	V
R_{TH}	Thermal Resistance ³		3.5	4	$^\circ\text{C/W}$

 Note: 1) Tested with 100 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	-4.5V
I_{gsf}	Forward Gate Current	86.4mA	28.8mA
I_{gsr}	Reserve Gate Current	-14.4mA	-4.8mA
P_{in}	Input Power	38.5dBm	@ 3dB Compression
T_{ch}	Channel Temperature	175 $^\circ\text{C}$	175 $^\circ\text{C}$
T_{stg}	Storage Temperature	-65 to +175 $^\circ\text{C}$	-65 to +175 $^\circ\text{C}$
P_t	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.

Specifications are subject to change without notice.

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page 1 of 2

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness

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page 2 of 2
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