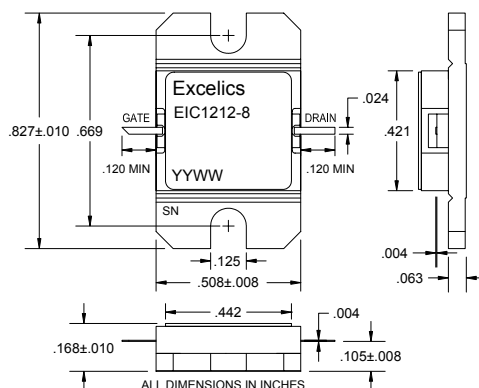


FEATURES

- 12.20– 12.70GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +39.0 dBm Output Power at 1dB Compression
- 6.5 dB Power Gain at 1dB Compression
- 27% Power Added Efficiency
- -46 dBc IM3 at PO = 28.5 dBm SCL
- Hermetic Metal Flange Package
- 100% Tested for DC, RF, and R_{TH}



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} ≈ 2200mA f = 12.20-12.70GHz	38.5	39.0		dBm
G _{1dB}	Gain at 1dB Compression V _{DS} = 10 V, I _{DSQ} ≈ 2200mA f = 12.20-12.70GHz	5.5	6.5		dB
ΔG	Gain Flatness V _{DS} = 10 V, I _{DSQ} ≈ 2200mA f = 12.20-12.70GHz			±0.6	dB
PAE	Power Added Efficiency at 1dB Compression V _{DS} = 10 V, I _{DSQ} ≈ 2200mA f = 12.20-12.70GHz		27		%
I _{d1dB}	Drain Current at 1dB Compression f = 12.20-12.70GHz		2300	2600	mA
IM3	Output 3rd Order Intermodulation Distortion Δf = 10 MHz 2-Tone Test; P _{out} = 28.5 dBm S.C.L. ² V _{DS} = 10 V, I _{DSQ} ≈ 65% IDSS f = 12.70GHz	-43	-46		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	4.0	°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}

SYMBOL	CHARACTERISTIC	VALUE
V _{DS}	Drain to Source Voltage	10 V
V _{GS}	Gate to Source Voltage	-4.5 V
I _{DS}	Drain Current	IDSS
I _{GSF}	Forward Gate Current	80 mA
P _{IN}	Input Power	@ 3dB compression
P _T	Total Power Dissipation	38 W
T _{CH}	Channel Temperature	175°C
T _{STG}	Storage Temperature	-65/+175°C

Notes:

1. Operating the device beyond any of the above ratings may result in permanent damage or reduction of MTTF.

2. Bias conditions must also satisfy the following equation $P_T < (T_{CH} - T_{PKG})/R_{TH}$; where T_{PKG} = temperature of package, and $P_T = (V_{DS} * I_{DS}) - (P_{OUT} - P_{IN})$.

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 January 2006