



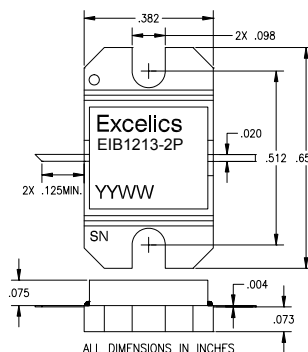
# EIB1213-2P

UPDATED 06/14/06

## 12.75-13.25GHz 2W Internally Matched Power FET

### FEATURES

- 12.75-13.25 GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +33.0 dBm Output Power at 1dB Compression
- 8.5 dB Power Gain at 1dB Compression
- 25% Power Added Efficiency
- -46 dBc IM3 at PO = 22.0 dBm SCL
- Non-Hermetic Metal Flange Package



### ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25°C)



Caution! ESD sensitive device.

SYMBOL	PARAMETERS/TEST CONDITIONS <sup>1</sup>	MIN	TYP	MAX	UNITS
P <sub>1dB</sub>	Output Power at 1dB Compression f = 12.75-13.25GHz V <sub>DS</sub> = 8 V, I <sub>DSQ</sub> ≈ 800mA	32.0	33.0		dBm
G <sub>1dB</sub>	Gain at 1dB Compression f = 12.75-13.25GHz V <sub>DS</sub> = 8 V, I <sub>DSQ</sub> ≈ 800mA	7.50	8.50		dB
ΔG	Gain Flatness f = 12.75-13.25GHz V <sub>DS</sub> = 8 V, I <sub>DSQ</sub> ≈ 800mA			±0.6	dB
PAE	Power Added Efficiency at 1dB Compression V <sub>DS</sub> = 8 V, I <sub>DSQ</sub> ≈ 800mA f = 12.75-13.25GHz		25		%
I <sub>d1dB</sub>	Drain Current at 1dB Compression f = 12.75-13.25GHz		850	960	mA
IM3	Output 3rd Order Intermodulation Distortion Δf = 10 MHz 2-Tone Test; P <sub>out</sub> = 22.0 dBm S.C.L. <sup>2</sup> V <sub>DS</sub> = 8 V, I <sub>DSQ</sub> ≈ 65% IDSS f = 13.25GHz	-43	-46		dBc
I <sub>DSS</sub>	Saturated Drain Current V <sub>DS</sub> = 3 V, V <sub>GS</sub> = 0 V		1360	1700	mA
V <sub>P</sub>	Pinch-off Voltage V <sub>DS</sub> = 3 V, I <sub>DS</sub> = 12 mA		-2.5	-3.5	V
R <sub>TH</sub>	Thermal Resistance <sup>3</sup>		8.0	9.0	°C/W

Note: 1) Tested with 100 Ohm gate resistor.

2) S.C.L. = Single Carrier Level.

3) Overall R<sub>th</sub> depends on case mounting.

### MAXIMUM RATINGS AT 25°C

SYMBOLS	PARAMETERS	ABSOLUTE <sup>1</sup>	CONTINUOUS <sup>2</sup>
V <sub>ds</sub>	Drain-Source Voltage	10V	8V
V <sub>gs</sub>	Gate-Source Voltage	-5	-4V
I <sub>gsf</sub>	Forward Gate Current	21.6mA	7.2mA
I <sub>gsr</sub>	Reverse Gate Current	-3.6mA	-1.2mA
P <sub>in</sub>	Input Power	32.0dBm	@ 3dB Compression
T <sub>ch</sub>	Channel Temperature	175 °C	175 °C
T <sub>stg</sub>	Storage Temperature	-65 to +175 °C	-65 to +175 °C
P <sub>t</sub>	Total Power Dissipation	16W	16W

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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