

EIB1213-4P

UPDATED 06/14/06

12.75-13.25GHz 4W Internally Matched Power FET

FEATURES

- 12.75-13.25 GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +36.0 dBm Output Power at 1dB Compression
- 8.5 dB Power Gain at 1dB Compression
- 25% Power Added Efficiency
- -46 dBc IM3 at PO = 25.0 dBm SCL
- Non-Hermetic Metal Flange Package

2X .125MN YYWW 5N 10CHS 10 10CHS



ELECTRICAL CHARACTERISTICS (T_a = 25°C)

Caution! ESD sensitive device.

SYMBOL	PARAMETERS/TEST CONDITIONS ¹		TYP	MAX	UNITS
P _{1dB}	Output Power at 1dB Compression $f = 12.75-13.25GHz$ $V_{DS} = 8 \text{ V}, I_{DSQ} \approx 1600\text{mA}$	35.0	36.0		dBm
G _{1dB}	Gain at 1dB Compression $f = 12.75-13.25GHz$ $V_{DS} = 8 \text{ V}, I_{DSQ} \approx 1600\text{mA}$	7.50	8.50		dB
ΔG	Gain Flatness $f = 12.75-13.25GHz$ $V_{DS} = 8 \text{ V}, I_{DSQ} \approx 1600\text{mA}$			±0.6	dB
PAE	Power Added Efficiency at 1dB Compression V_{DS} = 8 V, $I_{DSQ} \approx 1600$ mA f = 12.75-13.25GHz		25		%
Id_{1dB}	Drain Current at 1dB Compression f = 12.75-13.25GHz		1700	1900	mA
IM3	Output 3rd Order Intermodulation Distortion Δf = 10 MHz 2-Tone Test; Pout = 25.0 dBm S.C.L ² V_{DS} = 8 V, I_{DSQ} \approx 65% IDSS f = 13.25GHz	-43	-46		dBc
I _{DSS}	Saturated Drain Current $V_{DS} = 3 \text{ V}, V_{GS} = 0 \text{ V}$		2720	3400	mA
V_P	Pinch-off Voltage $V_{DS} = 3 \text{ V}, I_{DS} = 24 \text{ mA}$		-2.0	-3.5	V
R _{TH}	Thermal Resistance ³		4.5	5.0	°C/W

Note: 1) Tested with 100 Ohm gate resistor.

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

3) Overall Rth depends on case mounting.

MAXIMUM RATINGS AT 25°C

SYMBOLS	PARAMETERS	ABSOLUTE ¹	CONTINUOUS ²
Vds	Drain-Source Voltage	10V	8V
Vgs	Gate-Source Voltage	-5	-4V
lgsf	Forward Gate Current	43.2mA	14.4mA
lgsr	Reverse Gate Current	-7.2mA	-2.4mA
Pin	Input Power	35.0dBm	@ 3dB Compression
Tch	Channel Temperature	175 °C	175°C
Tstg	Storage Temperature	-65 to +175 °C	-65 to +175 °C
Pt	Total Power Dissipation	30W	30W

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.