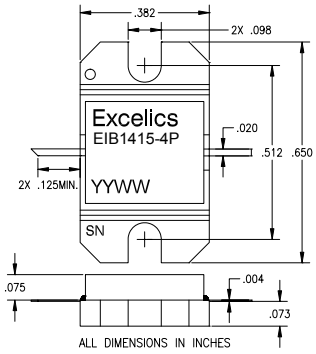
EIB1415-4P

UPDATED 06/14/06

14.40-15.35GHz 4W Internally Matched Power FET



FEATURES

- **14.40-15.35 GHz Bandwidth**
- **Input/Output Impedance Matched to 50 Ohms**
- **+36.0 dBm Output Power at 1dB Compression**
- **7.0 dB Power Gain at 1dB Compression**
- **23% Power Added Efficiency**
- **-46 dBc IM3 at PO = 25.0 dBm SCL**
- **Non-Hermetic Metal Flange Package**

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 f = 14.40-15.35GHz V_{DS} = 8 V, I_{DSQ} ≈ 1600mA	35.0	36.0		dBm
G_{1dB}	Gain at 1dB Compression f = 14.40-15.35GHz V_{DS} = 8 V, I_{DSQ} ≈ 1600mA	6.0	7.0		dB
ΔG	Gain Flatness f = 14.40-15.35GHz V_{DS} = 8 V, I_{DSQ} ≈ 1600mA			±0.6	dB
PAE	Power Added Efficiency at 1dB Compression V_{DS} = 8 V, I_{DSQ} ≈ 1600mA f = 14.40-15.35GHz		23		%
Id_{1dB}	Drain Current at 1dB Compression f = 14.40-15.35GHz		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} ≈ 65% IDSS f = 15.35GHz	-43	-46		dBc
I_{DSS}	Saturated Drain Current V_{DS} = 3 V, V_{GS} = 0 V		2720	3400	mA
V_P	Pinch-off Voltage V_{DS} = 3 V, I_{DS} = 24 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
Igsf	Forward Gate Current	43.2mA	14.4mA
Igsr	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.