



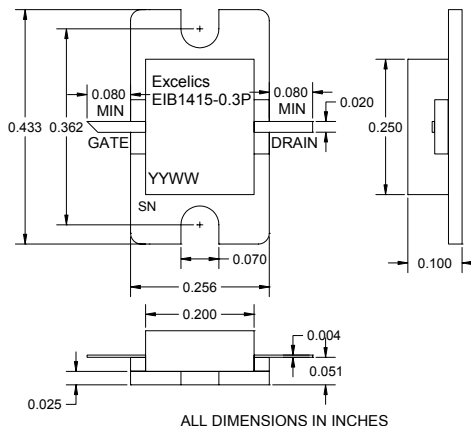
EIB1415-0.3P

UPDATED 8/31/2006

14.0-14.5 GHz 0.3-Watt Internally Matched Power FET

FEATURES

- 14.0– 14.5GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +26.0 dBm Output Power at 1dB Compression
- 8.0 dB Power Gain at 1dB Compression
- 32% Power Added Efficiency
- Non - Hermetic Metal Flange Package



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



Caution! ESD sensitive device.

SYMBOL	PARAMETERS/TEST CONDITIONS ¹	MIN	TYP	MAX	UNITS
P_{1dB}	Output Power at 1dB Compression $f = 14.0-14.5\text{GHz}$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 120\text{mA}$	24.0	26.0		dBm
G_{1dB}	Gain at 1dB Compression $f = 14.0-14.5\text{GHz}$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 120\text{mA}$	7.0	8.0		dB
ΔG	Gain Flatness $f = 14.0-14.5\text{GHz}$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 120\text{mA}$			± 0.6	dB
PAE	Power Added Efficiency at 1dB Compression $f = 14.0-14.5\text{GHz}$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 120\text{mA}$		32		%
I_{d1dB}	Drain Current at 1dB Compression $f = 14.0-14.5\text{GHz}$		130	150	mA
IM3	Output 3rd Order Intermodulation Distortion $\Delta f = 10\text{MHz}$ 2-Tone Test. $P_{out} = 14.0\text{ dBm}$ S.C.L $V_{ds} = 8\text{ V}, I_{DSQ} \approx 65\% I_{DSS}$ $f = 14.5\text{GHz}$	-43	-46		dBc
I_{DSS}	Saturated Drain Current $V_{DS} = 3\text{ V}, V_{GS} = 0\text{ V}$		210	300	mA
V_p	Pinch-off Voltage $V_{DS} = 3\text{ V}, I_{DS} = 2.0\text{ mA}$		-2.0	-3.5	V
R_{TH}	Thermal Resistance ³		55	60	$^\circ\text{C/W}$

Note: 1) Tested with 200 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
Vds	Drain-Source Voltage	12	8V
Vgs	Gate-Source Voltage	-5	-4V
Igsf	Forward Gate Current	3.6mA	1.2mA
Igsr	Reverse Gate Current	-0.6mA	-0.2mA
Pin	Input Power	24.0dBm	@ 3dB Compression
Tch	Channel Temperature	175 $^\circ\text{C}$	175 $^\circ\text{C}$
Tstg	Storage Temperature	-65 to +175 $^\circ\text{C}$	-65 to +175 $^\circ\text{C}$
Pt	Total Power Dissipation	2.5W	2.5W

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.

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

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