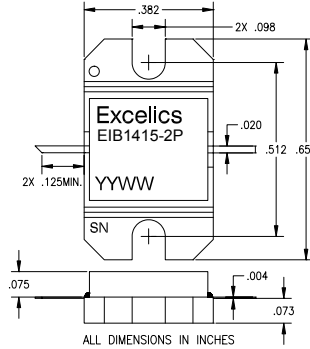


### FEATURES

- 14.40-15.35 GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +33.0 dBm Output Power at 1dB Compression
- 7.5 dB Power Gain at 1dB Compression
- 24% Power Added Efficiency
- -46 dBc IM3 at PO = 22.0 dBm SCL
- Non-Hermetic Metal Flange Package



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



Caution! ESD sensitive device.

SYMBOL	PARAMETERS/TEST CONDITIONS <sup>1</sup>	MIN	TYP	MAX	UNITS
<b>P<sub>1dB</sub></b>	Output Power at 1dB Compression $f = 14.40\text{-}15.35\text{GHz}$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 800\text{mA}$	32.0	33.0		dBm
<b>G<sub>1dB</sub></b>	Gain at 1dB Compression $f = 14.40\text{-}15.35\text{GHz}$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 800\text{mA}$	6.50	7.50		dB
<b><math>\Delta\text{G}</math></b>	Gain Flatness $f = 14.40\text{-}15.35\text{GHz}$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 800\text{mA}$			$\pm 0.6$	dB
<b>PAE</b>	Power Added Efficiency at 1dB Compression $V_{DS} = 8\text{ V}, I_{DSQ} \approx 800\text{mA}$ $f = 14.40\text{-}15.35\text{GHz}$		24		%
<b>I<sub>d1dB</sub></b>	Drain Current at 1dB Compression $f = 14.40\text{-}15.35\text{GHz}$		850	960	mA
<b>IM3</b>	Output 3rd Order Intermodulation Distortion $\Delta f = 10\text{ MHz}$ 2-Tone Test; $P_{out} = 22.0\text{ dBm S.C.L.}^2$ $V_{DS} = 8\text{ V}, I_{DSQ} \approx 65\% \text{ IDSS}$ $f = 15.35\text{GHz}$	-43	-46		dBc
<b>I<sub>DSS</sub></b>	Saturated Drain Current $V_{DS} = 3\text{ V}, V_{GS} = 0\text{ V}$		1360	1700	mA
<b>V<sub>P</sub></b>	Pinch-off Voltage $V_{DS} = 3\text{ V}, I_{DS} = 12\text{ mA}$		-2.5	-3.5	V
<b>R<sub>TH</sub></b>	Thermal Resistance <sup>3</sup>		8.0	9.0	$^\circ\text{C/W}$

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<sup>o</sup>C

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

Excelics Semiconductor, Inc. 310 De Guigne Drive, Sunnyvale, CA 94085

Phone: 408-737-1711 Fax: 408-737-1868 Web: [www.excelics.com](http://www.excelics.com)

page 1 of 1

Revised June 2006