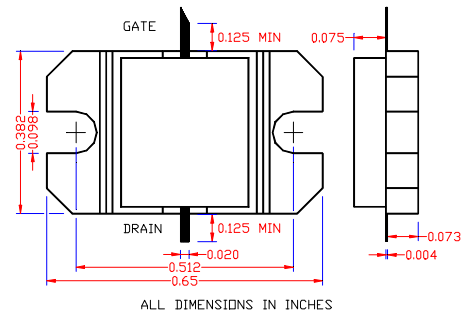


**Not recommended for new designs. Contact factory. Effective 03/2003**  
**14.0-14.5GHz, 2W Internally Matched Power FET**

- **14.0-14.5GHz BANDWIDTH AND INPUT/OUTPUT IMPEDANCE MATCHED TO 50 OHM**
- **EIA FEATURES HIGH PAE( 30% TYPICAL)**
- **EIB FEATURES HIGH IP3(46dBm TYPICAL)**
- **+33.5/+33.0dBm TYPICAL P<sub>1dB</sub> OUTPUT POWER FOR EIA/EIB**
- **9.0/8.0dB TYPICAL G<sub>1dB</sub> POWER GAIN FOR EIA/EIB**
- **NON-HERMETIC METAL FLANGE PACKAGE**


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

SYMBOLS	PARAMETERS/TEST CONDITIONS	EIA1414-2P			EIB1414-2P			UNIT
		MIN	TYP	MAX	MIN	TYP	MAX	
<b>P<sub>1dB</sub></b>	Output Power at 1dB Compression f=14.0-14.5GHz V <sub>ds</sub> =8V, I <sub>d</sub> sq=0.5 I <sub>dss</sub> (EIA), 0.6I <sub>dss</sub> (EIB)	33	33.5		32	33.0		dBm
<b>G<sub>1dB</sub></b>	Gain at 1dB Compression f=14.0-14.5GHz V <sub>ds</sub> =8V, I <sub>d</sub> sq=0.5 I <sub>dss</sub> (EIA), 0.6I <sub>dss</sub> (EIB)	8	9		7	8		dB
<b>PAE</b>	Power Added Efficiency at 1dB compression f=14.0-14.5GHz V <sub>ds</sub> =8V, I <sub>d</sub> sq=0.5 I <sub>dss</sub> (EIA), 0.6I <sub>dss</sub> (EIB)		30			25		%
<b>I<sub>d</sub>1dB</b>	Drain Current at 1dB Compression		880			850		mA
<b>IP3</b>	Output 3 <sup>rd</sup> Order Intercept Point f=14.0-14.5GHz V <sub>ds</sub> =8V, I <sub>d</sub> sq=0.5 I <sub>dss</sub> (EIA), 0.6I <sub>dss</sub> (EIB)		40			46*		dBm
<b>I<sub>dss</sub></b>	Saturated Drain Current V <sub>ds</sub> =3V, V <sub>gs</sub> =0V	1100	1440	1700	1100	1360	1700	mA
<b>G<sub>m</sub></b>	Transconductance V <sub>ds</sub> =3V, V <sub>gs</sub> =0V		1500			700		mS
<b>V<sub>p</sub></b>	Pinch-off Voltage V <sub>ds</sub> =3V, I <sub>d</sub> s=12mA		-1.0	-2.5		-2.0	-3.5	V
<b>BV<sub>gd</sub></b>	Drain Breakdown Voltage I <sub>gd</sub> =4.8mA	-13	-15			-15		V
<b>R<sub>th</sub></b>	Thermal Resistance (Au-Sn Eutectic Attach)		8			8		°C/W

\*Typical -45dBc IM3 at P<sub>out</sub>=23dBm/Tone

**MAXIMUM RATINGS AT 25°C**

SYMBOLS	PARAMETERS	ABSOLUTE <sup>1</sup>	CONTINUOUS <sup>2</sup>
<b>V<sub>ds</sub></b>	Drain-Source Voltage	12V	8V
<b>V<sub>gs</sub></b>	Gate-Source Voltage	-8V	-3V
<b>I<sub>ds</sub></b>	Drain Current	I <sub>dss</sub>	I <sub>dss</sub>
<b>I<sub>gsf</sub></b>	Forward Gate Current	180mA	30mA
<b>P<sub>in</sub></b>	Input Power	32dBm	@ 3dB Compression
<b>T<sub>ch</sub></b>	Channel Temperature	175°C	150°C
<b>T<sub>stg</sub></b>	Storage Temperature	-65/175°C	-65/150°C
<b>P<sub>t</sub></b>	Total Power Dissipation	17W	14.2W

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.

**Excelics Semiconductor, Inc., 310 De Guine Drive, Sunnyvale, CA 94085**

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