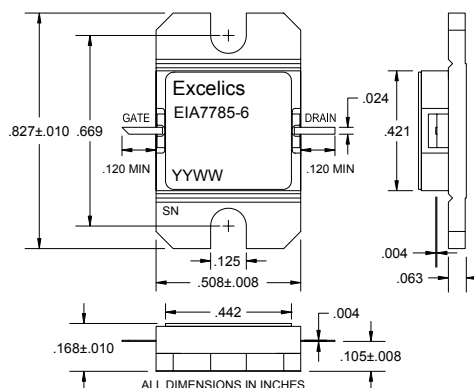


## 7.70-8.50 GHz 6-Watt Internally Matched Power FET

### FEATURES

- 7.70– 8.50GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +38.5 dBm Output Power at 1dB Compression
- 10 dB Power Gain at 1dB Compression
- 36% Power Added Efficiency
- Hermetic Metal Flange Package



### ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25°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 V <sub>DS</sub> = 8 V, I <sub>DSQ</sub> ≈ 2000mA f = 7.70-8.50GHz	37.5	38.5		dBm
<b>G<sub>1dB</sub></b>	Gain at 1dB Compression V <sub>DS</sub> = 8 V, I <sub>DSQ</sub> ≈ 2000mA f = 7.70-8.50GHz	9	10		dB
<b>ΔG</b>	Gain Flatness V <sub>DS</sub> = 8 V, I <sub>DSQ</sub> ≈ 2000mA f = 7.70-8.50GHz			±0.6	dB
<b>PAE</b>	Power Added Efficiency at 1dB Compression V <sub>DS</sub> = 8 V, I <sub>DSQ</sub> ≈ 2000mA f = 7.70-8.50GHz		36		%
<b>I<sub>d1dB</sub></b>	Drain Current at 1dB Compression f = 7.70-8.50GHz		2200	2500	mA
<b>I<sub>DSS</sub></b>	Saturated Drain Current V <sub>DS</sub> = 3 V, V <sub>GS</sub> = 0 V		3900	4800	mA
<b>V<sub>P</sub></b>	Pinch-off Voltage V <sub>DS</sub> = 3 V, I <sub>DS</sub> = 39mA		-1.0	-2.5	V
<b>R<sub>TH</sub></b>	Thermal Resistance <sup>3</sup>		4.0	4.5	°C/W

Note: 1) Tested with 100 Ohm gate resistor.

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

3) Overall R<sub>th</sub> depends on case mounting.

### ABSOLUTE MAXIMUM RATING<sup>1,2</sup>

SYMBOLS	PARAMETERS	ABSOLUTE <sup>1</sup>	CONTINUOUS <sup>2</sup>
<b>V<sub>ds</sub></b>	Drain-Source Voltage	12	8V
<b>V<sub>gs</sub></b>	Gate-Source Voltage	-5	-3V
<b>I<sub>ds</sub></b>	Drain Current	I <sub>DSS</sub>	4.1A
<b>I<sub>gsf</sub></b>	Forward Gate Current	61.2mA	20.4mA
<b>I<sub>gsr</sub></b>	Reserve Gate Current	-10.2mA	-3.4mA
<b>P<sub>in</sub></b>	Input Power	37.5dBm	@ 3dB Compression
<b>T<sub>ch</sub></b>	Channel Temperature	175 °C	175 °C
<b>T<sub>stg</sub></b>	Storage Temperature	-65 to +175 °C	-65 to +175 °C
<b>P<sub>t</sub></b>	Total Power Dissipation	33W	33W

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)

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