



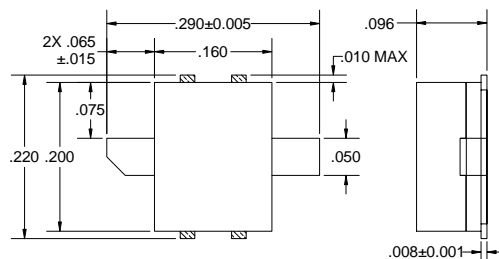
# EPA240D-CP083

UPDATED 07/19/2006

## High Efficiency Heterojunction Power FET

### FEATURES

- NON-HERMETIC SURFACE MOUNT
- 160MIL METAL CERAMIC PACKAGE
- +32.5 dBm OUTPUT POWER AT 1dB COMPRESSION
- 18.5 dB GAIN AT 2 GHz
- 0.5x2400 MICRON RECESSED "MUSHROOM" GATE
- Si<sub>3</sub>N<sub>4</sub> PASSIVATION
- ADVANCED EPITAXIAL HETEROJUNCTION PROFILE PROVIDES EXTRA HIGH POWER EFFICIENCY, AND HIGH RELIABILITY



All Dimensions in Inches



Caution! ESD sensitive device.

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

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
P <sub>1dB</sub>	Output Power at 1dB Compression f = 2.0 GHz V <sub>ds</sub> = 8 V, I <sub>ds</sub> =50% I <sub>dss</sub> f = 4.0 GHz	31.0	32.5 32.5		dBm
G <sub>1dB</sub>	Gain at 1dB Compression f = 2.0 GHz V <sub>ds</sub> = 8 V, I <sub>ds</sub> =50% I <sub>dss</sub> f = 4.0 GHz	16.0	18.5 13.5		dB
PAE	Power Added Efficiency at 1dB Compression V <sub>ds</sub> = 8 V, I <sub>ds</sub> =50% I <sub>dss</sub> f = 2.0 GHz		50		%
I <sub>DSS</sub>	Saturated Drain Current V <sub>DS</sub> = 3 V, V <sub>GS</sub> = 0 V	440	720	940	mA
G <sub>M</sub>	Transconductance V <sub>DS</sub> = 3 V, V <sub>GS</sub> = 0 V	480	760		mS
V <sub>P</sub>	Pinch-off Voltage V <sub>DS</sub> = 3 V, I <sub>DS</sub> = 6 mA		-1.0	-2.5	V
BV <sub>GD</sub>	Drain Breakdown Voltage I <sub>GD</sub> = 2.4 mA	-13	-15		V
BV <sub>GS</sub>	Source Breakdown Voltage I <sub>GS</sub> = 2.4 mA	-7	-14		V
R <sub>TH</sub> *	Thermal Resistance		25	30	°C/W

Notes: \* Overall R<sub>th</sub> depends on case mounting.

### MAXIMUM RATINGS AT 25°C

SYMBOLS	PARAMETERS	ABSOLUTE <sup>1</sup>	CONTINUOUS <sup>2</sup>
V <sub>ds</sub>	Drain-Source Voltage	10V	8V
V <sub>gs</sub>	Gate-Source Voltage	-5V	-3V
I <sub>gsf</sub>	Forward Gate Current	10.8 mA	3.6 mA
I <sub>gsr</sub>	Reverse Gate Current	-1.8 mA	-0.6 mA
P <sub>in</sub>	Input Power	29 dBm	@ 3dB Compression
T <sub>ch</sub>	Channel Temperature	175°C	175°C
T <sub>stg</sub>	Storage Temperature	-65/175°C	-65/175°C
P <sub>t</sub>	Total Power Dissipation	5.0 W	5.0 W

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.

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