



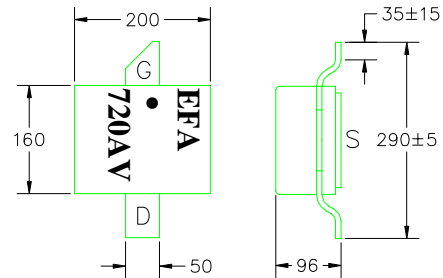
# EFA720AV-CP083

UPDATED 01/30/2006

## Low Distortion GaAs Power FET

### FEATURES

- NON-HERMETIC SURFACE MOUNT
- 160MIL METAL CERAMIC PACKAGE
- +33.5dBm OUTPUT POWER
- 17.0 dB TYPICAL POWER GAIN AT 2 GHz
- 0.5x4800 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 mil  
Tolerance: ± 3 mil



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	33.5	35.5 35.5		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	15.5	17.0 12.0		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		36		%
I <sub>DSS</sub>	Saturated Drain Current V <sub>DS</sub> = 3 V, V <sub>GS</sub> = 0 V	1200	2040	2640	mA
G <sub>M</sub>	Transconductance V <sub>DS</sub> = 3 V, V <sub>GS</sub> = 0 V	840	1100		mS
V <sub>P</sub>	Pinch-off Voltage V <sub>DS</sub> = 3 V, I <sub>DS</sub> = 10 mA		-2.0	-3.5	V
BV <sub>GD</sub>	Drain Breakdown Voltage I <sub>GD</sub> = 7.2 mA	-13	-15		V
BV <sub>GS</sub>	Source Breakdown Voltage I <sub>GS</sub> = 7.2 mA	-7	-14		V
R <sub>TH</sub> *	Thermal Resistance		6*		°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	12V	8V
V <sub>gs</sub>	Gate-Source Voltage	-5V	-3V
I <sub>gsf</sub>	Forward Gate Current	32.4 mA	10.8 mA
I <sub>gsr</sub>	Reverse Gate Current	5.4 mA	1.8 mA
P <sub>in</sub>	Input Power	32.5 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	20 W	20 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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