

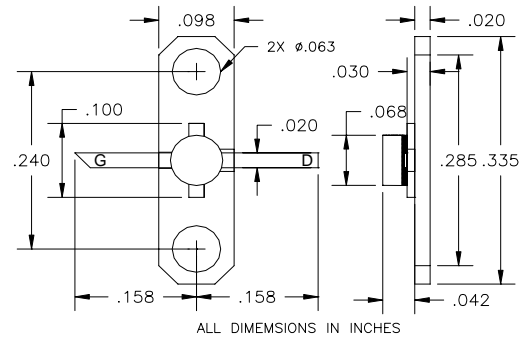


# EFA240BV-100P

ISSUED 09/28/2007

## Low Distortion GaAs Power FET

- NON-HERMETIC 100MIL METAL FLANGE PACKAGE
- +31.0dBm TYPICAL OUTPUT POWER
- 8.5dB TYPICAL POWER GAIN AT 12GHz
- 0.3 X 2400 MICRON RECESSED "MUSHROOM" GATE
- Si<sub>3</sub>N<sub>4</sub> PASSIVATION
- ADVANCED EPITAXIAL DOPING PROFILE PROVIDES HIGH POWER EFFICIENCY, LINEARITY AND RELIABILITY



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

SYMBOLS	PARAMETERS/TEST CONDITIONS	MIN	TYP	MAX	UNIT
<b>P<sub>1dB</sub></b>	Output Power at 1dB Compression V <sub>DS</sub> =8V, I <sub>DS</sub> =50% I <sub>DSS</sub> f= 12GHz f= 18GHz	29.0	31.0 31.0		dBm
<b>G<sub>1dB</sub></b>	Gain at 1dB Compression V <sub>DS</sub> =8V, I <sub>DS</sub> =50% I <sub>DSS</sub> f= 12GHz f= 18GHz	7	8.5 6.0		dB
<b>PAE</b>	Power Added Efficiency at 1dB Compression V <sub>DS</sub> =8V, I <sub>DS</sub> =50% I <sub>DSS</sub> f=12GHz		33		%
<b>I<sub>DSS</sub></b>	Saturated Drain Current V <sub>DS</sub> =3V, V <sub>GS</sub> =0V	400	680	880	mA
<b>G<sub>m</sub></b>	Transconductance V <sub>DS</sub> =3V, V <sub>GS</sub> =0V	280	360		mS
<b>V<sub>p</sub></b>	Pinch-off Voltage V <sub>DS</sub> =3V, I <sub>DS</sub> =6mA		-2.0	-3.5	V
<b>BV<sub>GD</sub></b>	Drain Breakdown Voltage I <sub>GD</sub> =2.4mA	-13	-15		V
<b>BV<sub>GS</sub></b>	Source Breakdown Voltage I <sub>GS</sub> =2.4mA	-7	-14		V
<b>R<sub>th</sub></b>	Thermal Resistance (Au-Sn Eutectic Attach)		15		°C/W

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

### 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	-4V
<b>I<sub>gf</sub></b>	Forward Gate Current	60 mA	10 mA
<b>I<sub>gr</sub></b>	Reverse Gate Current	-1.8 mA	-0.6 mA
<b>P<sub>in</sub></b>	Input Power	29 dBm	@ 3dB Compression
<b>T<sub>ch</sub></b>	Channel Temperature	175°C	175°C
<b>T<sub>stg</sub></b>	Storage Temperature	-65/175°C	-65/175°C
<b>P<sub>t</sub></b>	Total Power Dissipation	9.1 W	7.6 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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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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