

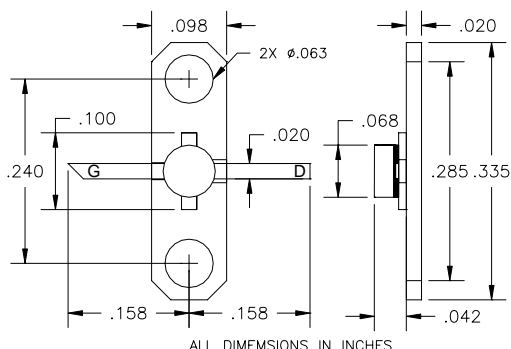


EPA160B-100P

UPDATED 05/05/2006

High Efficiency Heterojunction Power FET

- NON-HERMETIC 100MIL METAL FLANGE PACKAGE
- +31.0dBm TYPICAL OUTPUT POWER
- 10dB TYPICAL POWER GAIN AT 12GHz
- 0.3 X 1600 MICRON RECESSED “MUSHROOM” GATE
- Si₃N₄ PASSIVATION
- ADVANCED EPITAXIAL HETEROJUNCTION PROFILE PROVIDES EXTRA HIGH POWER EFFICIENCY AND HIGH RELIABILITY



ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

SYMBOLS	PARAMETERS/TEST CONDITIONS	MIN	TYP	MAX	UNIT
P_{1dB}	Output Power at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{ds}	29.0	31.0 31.0		dBm
G_{1dB}	Gain at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{ds}	8.5	10.0 5.0		dB
PAE	Power Added Efficiency at 1dB Compression V _{ds} =8 V, I _{ds} =50% I _{ds}		41		%
I_{ds}	Saturated Drain Current V _{ds} =3V, V _{gs} =0V	290	480	660	mA
G_m	Transconductance V _{ds} =3V, V _{gs} =0V	320	500		mS
V_p	Pinch-off Voltage V _{ds} =3V, I _{ds} =4.5mA		-1.0	-2.5	V
BV_{gd}	Drain Breakdown Voltage I _{gd} =1.6mA	-13	-15		V
BV_{gs}	Source Breakdown Voltage I _{gs} =1.6mA	-7	-14		V
R_{th}	Thermal Resistance (Au-Sn Eutectic Attach)		35*		°C/W

Note: * Overall R_{th} depends on case mounting.

MAXIMUM RATINGS AT 25°C

SYMBOLS	PARAMETERS	ABSOLUTE ¹	CONTINUOUS ²
V_{ds}	Drain-Source Voltage	12V	8V
V_{gs}	Gate-Source Voltage	-5V	-3V
I_{gsf}	Forward Gate Current	7.2 mA	2.4 mA
I_{gsr}	Reserve Gate Current	-1.2 mA	-0.4 mA
P_{in}	Input Power	28 dBm	@ 3dB Compression
T_{ch}	Channel Temperature	175°C	175°C
T_{stg}	Storage Temperature	-65/175°C	-65/175°C
P_t	Total Power Dissipation	4.0 W	4.0 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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