



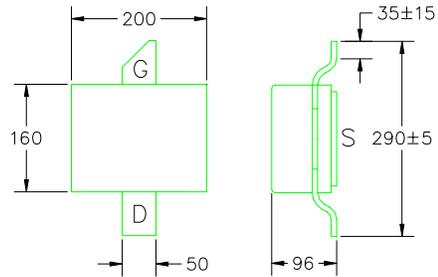
EPA120E-CP083

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High Efficiency Heterojunction Power FET

FEATURES

- NON-HERMETIC SURFACE MOUNT
- 160MIL METAL CERAMIC PACKAGE
- +29 dBm OUTPUT POWER AT 1dB COMPRESSION
- 19.5 dB GAIN AT 2 GHz
- 0.3x1200 MICRON RECESSED "MUSHROOM" GATE
- Si₃N₄ PASSIVATION
- ADVANCED EPITAXIAL DOPING PROFILE PROVIDES HIGH POWER EFFICIENCY, LINEARITY AND RELIABILITY



All Dimensions in mil
Tolerance: ± 3 mil



Caution! ESD sensitive device.

ELECTRICAL CHARACTERISTICS (T_a = 25°C)

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
P _{1dB}	Output Power at 1dB Compression f = 2.0 GHz V _{ds} = 8 V, I _{ds} =50% I _{dss} f = 12.0 GHz	27.5	29.0 29.0		dBm
G _{1dB}	Gain at 1dB Compression f = 2.0 GHz V _{ds} = 8 V, I _{ds} =50% I _{dss} f = 12.0 GHz	18.0	19.5 7.0		dB
PAE	Power Added Efficiency at 1dB Compression V _{ds} = 8 V, I _{ds} =50% I _{dss} f = 2.0 GHz		43		%
I _{DSS}	Saturated Drain Current V _{DS} = 3 V, V _{GS} = 0 V	210	360	510	mA
G _M	Transconductance V _{DS} = 3 V, V _{GS} = 0 V	240	380		mS
V _P	Pinch-off Voltage V _{DS} = 3 V, I _{DS} = 3.5 mA		-1.0	-2.5	V
BV _{GD}	Drain Breakdown Voltage I _{GD} = 1.2 mA	-13	-15		V
BV _{GS}	Source Breakdown Voltage I _{GS} = 1.2 mA	-7	-14		V
R _{TH} *	Thermal Resistance		40		°C/W

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

ABSOLUTE MAXIMUM RATINGS FOR CONTINUOUS OPERATION^{1,2}

SYMBOL	CHARACTERISTIC	VALUE
V _{DS}	Drain to Source Voltage	8 V
V _{GS}	Gate to Source Voltage	-3 V
I _{DS}	Drain Current	405 mA
I _{GSF}	Forward Gate Current	10 mA
P _{IN}	Input Power	@ 3dB compression
P _T	Total Power Dissipation	3.8 W
T _{CH}	Channel Temperature	150°C
T _{STG}	Storage Temperature	-65/+150°C

Note: 1. Exceeding any of the above ratings may result in permanent damage.
2. Exceeding any of the above ratings may reduce MTF below design goals.

Specifications are subject to change without notice.

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