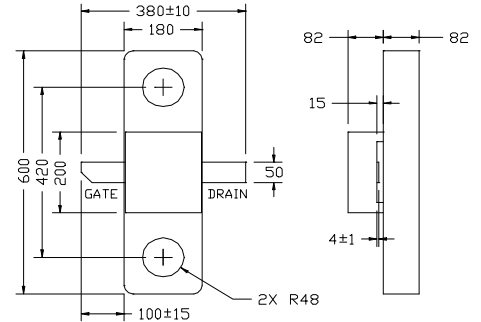


PRELIMINARY DATA SHEET
High Efficiency Heterojunction Power FET

- **NON-HERMETIC 180MIL METAL FLANGE PACKAGE**
- **+36.0dBm TYPICAL OUTPUT POWER**
- **18.0dB TYPICAL POWER GAIN AT 2GHz**
- **0.4 X 4800 MICRON RECESSED “MUSHROOM” GATE**
- **Si₃N₄ PASSIVATION**
- **ADVANCED EPITAXIAL HETEROJUNCTION PROFILE PROVIDES EXTRA HIGH POWER EFFICIENCY, AND HIGH RELIABILITY**


ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

All Dimensions In Mils

SYMBOLS	PARAMETERS/TEST CONDITIONS	MIN	TYP	MAX	UNIT
P_{1dB}	Output Power at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{dss} f= 2GHz f= 4GHz	34.0	36.0 36.0		dBm
G_{1dB}	Gain at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{dss} f= 2GHz f= 4GHz	16.5	18.0 13.0		dB
PAE	Power Added Efficiency at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{dss} f=2GHz		52		%
I_{dss}	Saturated Drain Current V _{ds} =3V, V _{gs} =0V	880	1440	1880	mA
G_m	Transconductance V _{ds} =3V, V _{gs} =0V	960	1560		mS
V_p	Pinch-off Voltage V _{ds} =3V, I _{ds} =14mA		-1.0	-2.5	V
BV_{gd}	Drain Breakdown Voltage I _{gd} =4.8mA	-11	-15		V
BV_{gs}	Source Breakdown Voltage I _{gs} =4.8mA	-7	-14		V
R_{th}	Thermal Resistance (Au-Sn Eutectic Attach)		12*		°C/W

 * 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	-8V	-3V
I_{ds}	Drain Current	I _{dss}	1.2A
I_{gsf}	Forward Gate Current	240mA	40mA
P_{in}	Input Power	33dBm	@ 3dB Compression
T_{ch}	Channel Temperature	175°C	150°C
T_{stg}	Storage Temperature	-65/175°C	-65/150°C
P_t	Total Power Dissipation	11.4 W	9.5 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.

EPA480C-180F

PRELIMINARY DATA SHEET

High Efficiency Heterojunction Power FET

S-PARAMETERS

8V, 1/2 Idss

Freq	S11	S11	S21	S21	S12	S12	S22	S22
GHz	Mag	Ang	Mag	Ang	Mag	Ang	Mag	Ang
0.5	0.950	-153.2	13.774	90.9	0.012	22.2	0.631	-176.0
1.0	0.940	-174.6	7.167	72.0	0.014	20.5	0.619	177.3
1.5	0.875	172.8	6.169	60.5	0.021	23.9	0.515	170.2
2.0	0.861	163.1	4.932	47.8	0.026	21.2	0.485	166.0
2.5	0.832	154.4	4.353	34.5	0.032	16.3	0.441	162.1
3.0	0.783	143.2	4.129	19.7	0.039	8.4	0.383	159.6
3.5	0.733	125.6	4.075	1.3	0.049	-4.2	0.314	158.7
4.0	0.685	100.8	3.990	-20.3	0.060	-20.8	0.249	154.5
4.5	0.676	70.4	3.802	-44.0	0.067	-38.9	0.179	139.8
5.0	0.704	39.1	3.494	-69.2	0.072	-59.2	0.131	100.2
5.5	0.753	8.6	3.102	-94.5	0.073	-78.4	0.148	46.3
6.0	0.808	-19.2	2.647	-119.7	0.069	-100.1	0.202	6.8
6.5	0.870	-45.1	2.231	-143.6	0.060	-119.6	0.291	-30.6
7.0	0.921	-65.6	1.718	-168.3	0.046	-137.8	0.380	-59.4
7.5	0.950	-79.0	1.285	170.5	0.033	-149.3	0.486	-84.7
8.0	0.957	-89.6	0.961	153.4	0.024	-148.4	0.589	-102.3
8.5	0.963	-101.4	0.757	138.6	0.018	-135.7	0.690	-110.3
9.0	0.939	-115.8	0.595	126.1	0.035	-132.3	0.727	-113.0
9.5	0.943	-127.5	0.526	114.8	0.035	-175.9	0.738	-117.6
10.0	0.960	-138.4	0.461	97.1	0.024	157.9	0.756	-134.2