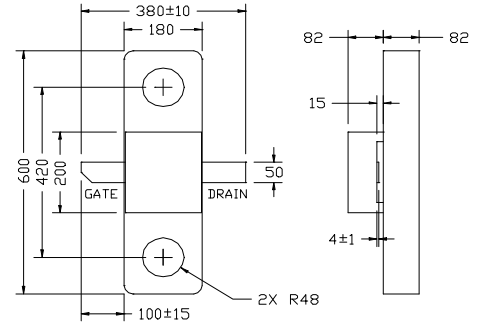


PRELIMINARY DATA SHEET
Low Distortion GaAs Power FET

- **NON-HERMETIC 180MIL METAL FLANGE PACKAGE**
- **+36.5dBm TYPICAL OUTPUT POWER**
- **16.5dB TYPICAL POWER GAIN AT 2GHz**
- **0.5 X 9600 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 35.0	f= 2GHz 36.5		dBm
G_{1dB}	Gain at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{dss}	f= 2GHz 14.5	f= 2GHz 16.0		dB
PAE	Power Added Efficiency at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{dss}	f=2GHz	34		%
I_{dss}	Saturated Drain Current V _{ds} =3V, V _{gs} =0V	1600	2720	3520	mA
G_m	Transconductance V _{ds} =3V, V _{gs} =0V	1100	1450		mS
V_p	Pinch-off Voltage V _{ds} =3V, I _{ds} =25mA		-2.0	-3.5	V
BV_{gd}	Drain Breakdown Voltage I _{gd} =9.6mA	-12	-15		V
BV_{gs}	Source Breakdown Voltage I _{gs} =9.6mA	-7	-14		V
R_{th}	Thermal Resistance (Au-Sn Eutectic Attach)		6*		°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	-4V
I_{ds}	Drain Current	2.9A	2.4A
I_{gsf}	Forward Gate Current	240mA	20mA
P_{in}	Input Power	35dBm	@ 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	23W	19W

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.

EFA960C-180F

PRELIMINARY DATA SHEET

Low Distortion GaAs 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	0.976	-158.7	5.862	93.1	0.010	22.1	0.822	179.7
1.0	0.971	-176.4	3.028	77.0	0.012	22.3	0.808	176.5
1.5	0.948	176.1	2.702	69.3	0.018	26.4	0.743	169.2
2.0	0.934	168.5	2.132	60.0	0.021	27.2	0.733	167.2
2.5	0.929	162.1	1.853	51.1	0.025	26.9	0.704	165.4
3.0	0.908	155.3	1.736	41.5	0.030	24.1	0.671	163.3
3.5	0.893	146.5	1.728	29.7	0.038	18.8	0.626	158.0
4.0	0.868	134.3	1.740	14.9	0.047	7.8	0.562	149.5
4.5	0.847	119.2	1.751	-2.0	0.056	-3.7	0.503	136.4
5.0	0.835	101.9	1.735	-20.3	0.065	-17.5	0.453	119.1
5.5	0.830	84.3	1.700	-38.6	0.074	-31.2	0.415	100.0
6.0	0.823	65.8	1.661	-57.7	0.083	-46.7	0.389	79.4
6.5	0.807	46.7	1.632	-77.4	0.089	-63.4	0.391	59.1
7.0	0.807	21.5	1.603	-100.2	0.096	-81.6	0.386	35.4
7.5	0.824	-7.2	1.473	-124.5	0.095	-101.8	0.420	7.6
8.0	0.851	-33.9	1.259	-147.7	0.087	-119.4	0.481	-17.7
8.5	0.882	-54.9	1.047	-167.0	0.078	-136.7	0.574	-36.3
9.0	0.901	-74.3	0.876	174.5	0.066	-146.5	0.660	-47.1
9.5	0.890	-88.9	0.733	160.0	0.072	-158.3	0.659	-54.7
10.0	0.893	-104.2	0.666	144.8	0.068	-177.5	0.673	-64.4