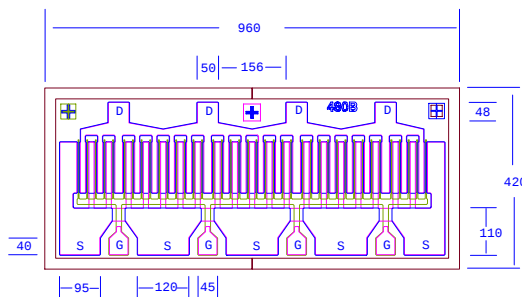


DATA SHEET
Low Distortion GaAs Power FET

- +34.0dBm TYPICAL OUTPUT POWER
- 10.0dB TYPICAL POWER GAIN AT 8GHz
- 0.5 X 4800 MICRON RECESSED “MUSHROOM” GATE
- Si₃N₄ PASSIVATION AND PLATED HEAT SINK
- ADVANCED EPITAXIAL DOPING PROFILE PROVIDES HIGH POWER EFFICIENCY, LINEARITY AND RELIABILITY
- Idss SORTED IN 80mA PER BIN RANGE



Chip Thickness: 50 ± 10 microns
(with > 20 microns Gold Plated Heat Sink (PHS))
All Dimensions In Microns

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 _{dss} f = 8GHz f = 12GHz	32.0	34.0 34.0		dBm
G_{1dB}	Gain at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{dss} f = 8GHz f = 12GHz	4.0	10.0 6.0		dB
PAE	Gain at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{dss} f = 8GHz		35		%
I_{dss}	Saturated Drain Current V _{ds} =3V, V _{gs} =0V	800	1360	1760	mA
G_m	Transconductance V _{ds} =3V, V _{gs} =0V	560	720		mS
V_p	Pinch-off Voltage V _{ds} =3V, I _{ds} =10mA		-2.0	-3.5	V
BV_{gd}	Drain Breakdown Voltage I _{gd} =4.8mA	-12	-15		V
BV_{gs}	Source Breakdown Voltage I _{gs} =4.8mA	-7	-14		V
R_{th}	Thermal Resistance (Au-Sn Eutectic Attach)		10		°C/W

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	I _{dss}	1.4A
I_{gsf}	Forward Gate Current	120mA	20mA
P_{in}	Input Power	32dBm	@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	14 W	11 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.

EFA480B

DATA SHEET

Low Distortion GaAs Power FET

S-PARAMETERS

8V, 1/2 Idss

FREQ (GHz)	--- S11 ---		--- S21 ---		--- S12 ---		--- S22 ---	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
0.500	0.944	-115.5	11.585	117.1	0.019	33.5	0.384	-159.9
1.000	0.929	-145.4	6.478	98.5	0.021	21.3	0.425	-165.4
1.500	0.926	-157.1	4.413	88.9	0.021	18.2	0.440	-166.5
2.000	0.925	-163.3	3.326	81.9	0.021	17.7	0.453	-166.2
2.500	0.925	-167.2	2.659	76.0	0.021	18.5	0.465	-165.6
3.000	0.925	-169.9	2.208	70.8	0.021	20.0	0.479	-164.8
3.500	0.925	-171.9	1.883	65.9	0.021	22.0	0.494	-164.1
4.000	0.926	-173.6	1.636	61.3	0.021	24.4	0.510	-163.6
4.500	0.927	-174.9	1.443	57.0	0.022	27.0	0.526	-163.2
5.000	0.928	-176.1	1.287	52.7	0.022	29.8	0.543	-162.9
5.500	0.928	-177.1	1.158	48.6	0.022	32.8	0.561	-162.9
6.000	0.929	-178.0	1.050	44.7	0.022	35.9	0.579	-162.9
6.500	0.930	-178.9	0.958	40.8	0.023	39.0	0.596	-163.1
7.000	0.931	-179.7	0.878	37.1	0.023	42.0	0.613	-163.5
7.500	0.932	-179.6	0.809	33.5	0.024	45.0	0.630	-163.9
8.000	0.933	-178.9	0.747	30.0	0.025	47.8	0.647	-164.5
8.500	0.934	-178.3	0.693	26.6	0.026	50.4	0.663	-165.1
9.000	0.935	-177.6	0.644	23.4	0.027	52.9	0.679	-165.7
9.500	0.936	-177.0	0.600	20.2	0.028	55.1	0.694	-166.5
10.000	0.937	-176.4	0.561	17.1	0.030	57.1	0.708	-167.3

Note: The data included 0.7 mils diameter Au bonding wires:
4 gate wires, 20 mils each; 4 drain wires, 12 mils each; 10 source wires, 7 mils each.