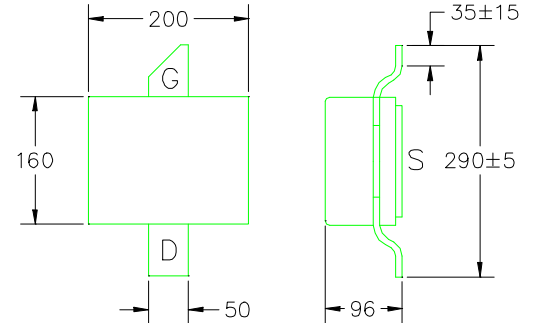


PRELIMINARY DATA SHEET
Low Distortion GaAs Power FET

- **NON-HERMETIC SURFACE MOUNT 160MIL METAL CERAMIC PACKAGE**
- **+36.0dBm TYPICAL OUTPUT POWER**
- **15.5dB 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**



All Dimensions In Mils
Tolerance ± 3

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

SYMBOLS	PARAMETERS/TEST CONDITIONS	MIN	TYP	MAX	UNIT
P_{1dB}	Output Power at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{ds} f= 2GHz f= 4GHz	34.5	36.0 36.0		dBm
G_{1dB}	Gain at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{ds} f= 2GHz f= 4GHz	14.0	15.5 10.5		dB
PAE	Power Added Efficiency at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{ds} f=2GHz		30		%
I_{ds}	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*		$^\circ\text{C/W}$

* Overall R_{th} depends on case mounting.

MAXIMUM RATINGS AT 25 $^\circ\text{C}$

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 $^\circ\text{C}$	150 $^\circ\text{C}$
T_{stg}	Storage Temperature	-65/175 $^\circ\text{C}$	-65/150 $^\circ\text{C}$
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-CP083

PRILIMINARY 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
0.5	0.983	-155.2	6.432	94.5	0.012	24.2	0.810	178.8
1.0	0.986	-175.0	3.285	76.9	0.013	25.8	0.779	175.0
1.5	0.936	174.1	2.855	68.2	0.020	29.5	0.739	168.6
2.0	0.929	166.2	2.194	58.4	0.023	29.4	0.736	164.9
2.5	0.923	160.3	1.835	49.4	0.026	29.6	0.725	161.7
3.0	0.920	154.5	1.643	40.4	0.031	28.3	0.703	158.0
3.5	0.912	147.2	1.532	30.1	0.038	24.5	0.679	152.7
4.0	0.898	138.0	1.466	18.3	0.045	17.6	0.656	145.7
4.5	0.888	126.1	1.402	5.2	0.052	9.6	0.634	136.8
5.0	0.879	113.1	1.339	-8.7	0.059	0.6	0.624	127.2
5.5	0.870	99.9	1.271	-22.4	0.066	-9.4	0.621	117.7
6.0	0.862	87.6	1.212	-35.9	0.073	-19.0	0.609	108.0
6.5	0.860	75.1	1.176	-46.6	0.081	-25.3	0.571	104.6
7.0	0.841	63.8	1.194	-59.9	0.095	-34.5	0.560	92.9
7.5	0.829	48.5	1.217	-77.1	0.110	-48.8	0.543	75.7
8.0	0.828	28.5	1.171	-96.3	0.118	-65.3	0.532	55.1
8.5	0.849	8.2	1.060	-115.1	0.122	-80.8	0.555	33.4
9.0	0.872	-8.9	0.921	-132.2	0.117	-97.3	0.606	15.9
9.5	0.884	-21.1	0.794	-145.7	0.111	-109.9	0.623	4.5
10.0	0.891	-31.7	0.734	-153.5	0.115	-118.2	0.679	0.5