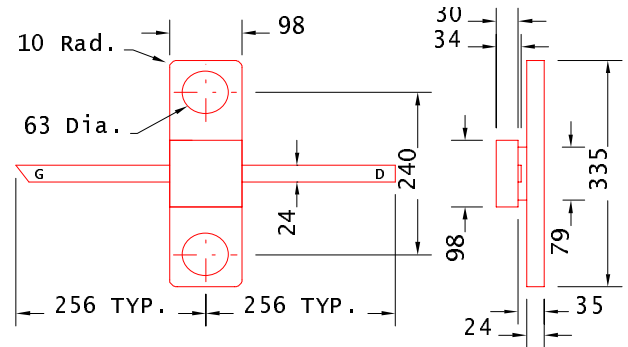


DATA SHEET
Low Distortion GaAs Power FET

- **HERMETIC 100mil CERAMIC FLANGE PACKAGE**
- **+28.0dBm TYPICAL OUTPUT POWER**
- **9.0dB TYPICAL POWER GAIN AT 8GHz**
- **0.3 X 1200 MICRON RECESSED “MUSHROOM” GATE**
- **Si₃N₄ PASSIVATION**
- **ADVANCED EPITAXIAL DOPING PROFILE PROVIDES HIGH POWER EFFICIENCY, LINEARITY AND 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 f = 8GHz V _{ds} =8V, I _{ds} =50% I _{ds} f = 12GHz	26.0	28.0		dBm
G_{1dB}	Gain at 1dB Compression f = 8GHz V _{ds} =8V, I _{ds} =50% I _{ds} f = 12GHz	4.0	9.0		dB
PAE	Gain at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{ds} f = 12GHz		30		%
I_{ds}	Saturated Drain Current V _{ds} =3V, V _{gs} =0V	200	340	440	mA
G_m	Transconductance V _{ds} =3V, V _{gs} =0V	140	180		mS
V_p	Pinch-off Voltage V _{ds} =3V, I _{ds} =3.0mA		-2.0	-3.5	V
BV_{gd}	Drain Breakdown Voltage I _{gd} =1.2mA	-12	-15		V
BV_{gs}	Source Breakdown Voltage I _{gs} =1.2mA	-7	-14		V
R_{th}	Thermal Resistance		43*		°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	I _{ds}	315mA
I_{gsf}	Forward Gate Current	30mA	5mA
P_{in}	Input Power	26dBm	@ 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	3.2W	2.7W

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.

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Phone: (408) 970-8664 Fax: (408) 970-8998 Web Site: www.excelics.com

EFA120B-100F

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
1.0	0.960	-62.2	7.670	137.4	0.028	52.9	0.458	-46.5
2.0	0.884	-102.4	5.782	106.2	0.038	34.8	0.397	-69.5
3.0	0.841	-126.9	4.474	83.8	0.043	27.0	0.375	-85.2
4.0	0.812	-148.4	3.697	64.4	0.047	20.8	0.376	-97.4
5.0	0.790	-168.3	3.179	46.1	0.050	15.7	0.370	-107.9
6.0	0.774	178.5	2.801	29.3	0.054	10.8	0.342	-125.3
7.0	0.759	163.9	2.490	12.5	0.059	5.2	0.347	-144.3
8.0	0.746	149.9	2.220	-3.8	0.063	-0.7	0.371	-162.5
9.0	0.758	128.8	1.951	-20.5	0.068	-6.2	0.391	-166.2
10.0	0.777	114.8	1.754	-35.9	0.074	-14.2	0.383	-175.9
11.0	0.768	109.9	1.668	-51.1	0.086	-22.8	0.388	159.4
12.0	0.740	102.0	1.596	-66.9	0.099	-32.3	0.418	142.6
13.0	0.740	85.1	1.485	-82.4	0.114	-41.9	0.395	137.7
14.0	0.753	69.4	1.405	-98.6	0.132	-54.5	0.343	122.3
15.0	0.737	57.8	1.342	-117.8	0.156	-69.8	0.382	92.6
16.0	0.718	45.9	1.274	-136.3	0.187	-84.3	0.411	75.2
17.0	0.722	34.0	1.245	-152.8	0.232	-98.1	0.356	68.9
18.0	0.703	22.0	1.211	-171.5	0.295	-114.7	0.310	53.3
19.0	0.657	10.6	1.164	168.6	0.379	-134.5	0.319	39.7
20.0	0.717	-1.0	1.174	147.8	0.514	-158.6	0.270	39.6