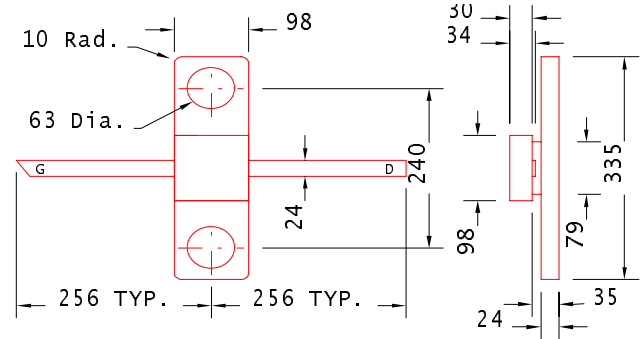


**DATA SHEET**
**Low Distortion GaAs Power FET**

- **HERMETIC 100mil CERAMIC FLANGE PACKAGE**
- **+31.0dBm TYPICAL OUTPUT POWER**
- **7.0dB TYPICAL POWER GAIN AT 8GHz**
- **0.3 X 2400 MICRON RECESSED “MUSHROOM” GATE**
- **Si<sub>3</sub>N<sub>4</sub> PASSIVATION**
- **ADVANCED EPITAXIAL DOPING PROFILE PROVIDES HIGH POWER EFFICIENCY, LINEARITY AND RELIABILITY**



All Dimensions In mils

**ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25 °C)**

SYMBOLS	PARAMETERS/TEST CONDITIONS	MIN	TYP	MAX	UNIT
<b>P<sub>1dB</sub></b>	Output Power at 1dB Compression V <sub>ds</sub> =8V, I <sub>ds</sub> =50% I <sub>dss</sub> f=8GHz	29.0	31.0		dBm
<b>G<sub>1dB</sub></b>	Gain at 1dB Compression V <sub>ds</sub> =8V, I <sub>ds</sub> =50% I <sub>dss</sub> f=8GHz	5.5	7.0		dB
<b>PAE</b>	Power Added Efficiency at 1dB Compression V <sub>ds</sub> =8V, I <sub>ds</sub> =50% I <sub>dss</sub> f=8GHz		30		%
<b>I<sub>dss</sub></b>	Saturated Drain Current V <sub>ds</sub> =3V, V <sub>gs</sub> =0V	400	680	880	mA
<b>G<sub>m</sub></b>	Transconductance V <sub>ds</sub> =3V, V <sub>gs</sub> =0V	280	360		mS
<b>V<sub>p</sub></b>	Pinch-off Voltage V <sub>ds</sub> =3V, I <sub>ds</sub> =6mA		-2.0	-3.5	V
<b>BV<sub>gd</sub></b>	Drain Breakdown Voltage I <sub>gd</sub> =2.4mA	-12	-15		V
<b>BV<sub>gs</sub></b>	Source Breakdown Voltage I <sub>gs</sub> =2.4mA	-7	-14		V
<b>R<sub>th</sub></b>	Thermal Resistance		22*		°C/W

\* Overall R<sub>th</sub> depends on case mounting.

**MAXIMUM RATINGS AT 25°C**

SYMBOLS	PARAMETERS	ABSOLUTE <sup>1</sup>	CONTINUOUS <sup>2</sup>
<b>V<sub>ds</sub></b>	Drain-Source Voltage	12V	8V
<b>V<sub>gs</sub></b>	Gate-Source Voltage	-8V	-4V
<b>I<sub>ds</sub></b>	Drain Current	I <sub>dss</sub>	650mA
<b>I<sub>gsf</sub></b>	Forward Gate Current	60mA	10mA
<b>P<sub>in</sub></b>	Input Power	29dBm	@ 3dB Compression
<b>T<sub>ch</sub></b>	Channel Temperature	175°C	150°C
<b>T<sub>stg</sub></b>	Storage Temperature	-65/175°C	-65/150°C
<b>P<sub>t</sub></b>	Total Power Dissipation	6.3W	5.2W

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.

# EFA240B-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	0.892	-116.0	8.585	112.8	0.035	37.1	0.343	-151.4
2.0	0.850	-150.3	5.034	85.3	0.044	30.1	0.371	-166.1
3.0	0.830	-166.5	3.583	67.0	0.051	27.2	0.374	-175.0
4.0	0.820	177.1	2.830	50.2	0.059	24.6	0.383	179.7
5.0	0.814	161.1	2.351	33.3	0.067	18.6	0.377	172.0
6.0	0.807	151.3	2.008	17.5	0.076	12.5	0.386	155.1
7.0	0.804	140.8	1.731	2.5	0.083	6.0	0.412	142.0
8.0	0.803	131.3	1.511	-11.2	0.090	0.1	0.444	131.6
9.0	0.810	116.1	1.323	-25.5	0.098	-8.2	0.442	127.9
10.0	0.819	106.6	1.185	-39.0	0.107	-16.2	0.445	118.1
11.0	0.803	103.8	1.128	-51.9	0.123	-24.7	0.488	102.8
12.0	0.764	96.4	1.098	-65.2	0.143	-33.9	0.513	95.6
13.0	0.742	79.4	1.039	-80.0	0.162	-45.3	0.485	92.7
14.0	0.732	64.6	0.984	-94.4	0.185	-57.2	0.446	81.8
15.0	0.708	53.5	0.954	-111.1	0.215	-71.9	0.473	65.9
16.0	0.674	42.7	0.925	-127.4	0.251	-86.5	0.457	55.4
17.0	0.669	33.2	0.940	-142.9	0.309	-101.4	0.362	50.0
18.0	0.626	23.6	0.938	-161.1	0.377	-119.7	0.291	39.9
19.0	0.534	16.7	0.932	179.6	0.461	-141.3	0.303	41.3
20.0	0.540	12.3	0.959	158.9	0.583	-166.7	0.347	53.1