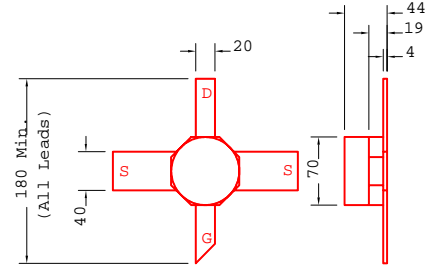


**DATA SHEET**
**Low Distortion GaAs Power FET**

- **NON-HERMETIC LOW COST CERAMIC 70mil PACKAGE**
- **+24.0dBm TYPICAL OUTPUT POWER**
- **7.5 dB TYPICAL POWER GAIN AT 12GHz**
- **0.3 X 600 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> =6V, I <sub>ds</sub> =50% I <sub>dss</sub>	22.0	24.0 24.0		dBm
<b>G<sub>1dB</sub></b>	Gain at 1dB Compression V <sub>ds</sub> =6V, I <sub>ds</sub> =50% I <sub>dss</sub>	6.0	7.5 5.0		dB
<b>PAE</b>	Power Added Efficiency at 1dB Compression V <sub>ds</sub> =6V, I <sub>ds</sub> =50% I <sub>dss</sub>		33		%
<b>I<sub>dss</sub></b>	Saturated Drain Current V <sub>ds</sub> =3V, V <sub>gs</sub> =0V	100	170	240	mA
<b>G<sub>m</sub></b>	Transconductance V <sub>ds</sub> =3V, V <sub>gs</sub> =0V	70	90		mS
<b>V<sub>p</sub></b>	Pinch-off Voltage V <sub>ds</sub> =3V, I <sub>ds</sub> =1.5mA		-2.0	-3.5	V
<b>BV<sub>gd</sub></b>	Drain Breakdown Voltage I <sub>gd</sub> =1.0mA	-10	-15		V
<b>BV<sub>gs</sub></b>	Source Breakdown Voltage I <sub>gs</sub> =1.0mA	-6	-14		V
<b>R<sub>th</sub></b>	Thermal Resistance		175*		°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	10V	6V
<b>V<sub>gs</sub></b>	Gate-Source Voltage	-6V	-4V
<b>I<sub>ds</sub></b>	Drain Current	I <sub>dss</sub>	110mA
<b>I<sub>gsf</sub></b>	Forward Gate Current	15mA	2.5mA
<b>P<sub>in</sub></b>	Input Power	22dBm	@ 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	780mW	650mW

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.

# EFA060B-70

## DATA SHEET

### Low Distortion GaAs Power FET

#### S-PARAMETERS

6V, 1/2 Idss

FREQ (GHz)	--- S11 ---		--- S21 ---		--- S12 ---		--- S22 ---	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1.0	0.959	-36.8	5.607	150.2	0.021	69.7	0.673	-15.7
2.0	0.881	-70.5	4.945	123.1	0.036	52.6	0.632	-31.5
3.0	0.810	-99.4	4.231	100.1	0.044	41.1	0.600	-44.6
4.0	0.753	-126.7	3.718	79.4	0.046	32.4	0.577	-54.8
5.0	0.712	-151.3	3.295	60.6	0.048	28.1	0.546	-64.9
6.0	0.687	-169.6	2.954	43.8	0.050	27.6	0.516	-78.2
7.0	0.669	170.6	2.667	27.3	0.052	27.4	0.508	-90.3
8.0	0.660	152.5	2.440	11.7	0.055	30.2	0.490	-101.7
9.0	0.676	127.8	2.207	-5.2	0.064	29.7	0.490	-111.1
10.0	0.701	108.4	2.002	-21.9	0.074	23.8	0.482	-126.3
11.0	0.712	95.0	1.914	-38.1	0.087	16.1	0.478	-147.5
12.0	0.734	79.3	1.812	-55.4	0.100	6.7	0.485	-168.1
13.0	0.786	64.1	1.623	-71.5	0.107	-4.6	0.477	173.7
14.0	0.814	50.9	1.436	-86.6	0.108	-14.9	0.486	155.8
15.0	0.822	36.8	1.325	-104.7	0.113	-29.1	0.532	132.1
16.0	0.827	21.3	1.192	-124.5	0.113	-45.2	0.560	107.3
17.0	0.815	10.9	1.036	-138.3	0.111	-52.3	0.563	92.5
18.0	0.824	2.0	0.978	-151.3	0.119	-69.9	0.622	79.4
19.0	0.842	-12.9	0.870	-168.6	0.103	-84.5	0.654	62.6
20.0	0.865	-25.0	0.793	174.4	0.098	-99.1	0.709	45.8
21.0	0.837	-34.9	0.737	158.8	0.095	-113.3	0.716	32.5
22.0	0.803	-48.2	0.703	144.6	0.099	-127.5	0.707	22.7
23.0	0.828	-65.6	0.636	126.3	0.099	-145.0	0.692	3.5
24.0	0.832	-79.0	0.563	107.3	0.104	-163.0	0.696	-18.6
25.0	0.762	-97.6	0.529	90.4	0.119	-179.7	0.727	-31.7
26.0	0.779	-120.5	0.523	72.5	0.149	163.3	0.710	-48.8