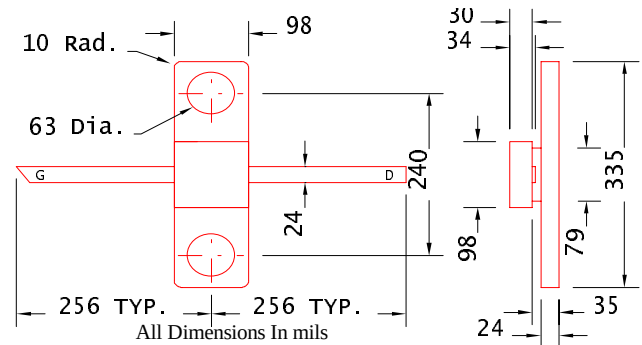


DATA SHEET
Low Distortion GaAs Power FET

- HERMETIC 100mil CERAMIC FLANGE PACKAGE
- +25.0dBm TYPICAL OUTPUT POWER
- 8.0dB TYPICAL POWER GAIN AT 12GHz
- 0.3 X 600 MICRON RECESSED “MUSHROOM” GATE
- Si₃N₄ PASSIVATION
- ADVANCED EPITAXIAL DOPING PROFILE PROVIDES HIGH POWER EFFICIENCY, LINEARITY AND RELIABILITY


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=12GHz	23.0	25.0		dBm
G_{1dB}	Gain at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{dss} f=12GHz	6.5	8.0		dB
PAE	Power Added Efficiency at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{dss} f=12GHz		33		%
I_{dss}	Saturated Drain Current V _{ds} =3V, V _{gs} =0V	100	170	240	mA
G_m	Transconductance V _{ds} =3V, V _{gs} =0V	70	90		mS
V_p	Pinch-off Voltage V _{ds} =3V, I _{ds} =1.5mA		-2.0	-3.5	V
BV_{gd}	Drain Breakdown Voltage I _{gd} =1.0mA	-12	-15		V
BV_{gs}	Source Breakdown Voltage I _{gs} =1.0mA	-7	-14		V
R_{th}	Thermal Resistance		78*		°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 _{dss}	190mA
I_{gsf}	Forward Gate Current	15mA	2.5mA
P_{in}	Input Power	23dBm	@ 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	1.8 W	1.5 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.

Excelics Semiconductor, Inc., 2908 Scott Blvd., Santa Clara, CA 95054

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

EFA060B-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	0.966	-38.4	6.259	147.0	0.018	65.5	0.599	-25.0
2.0	0.912	-70.3	5.205	120.6	0.031	46.2	0.599	-42.0
3.0	0.865	-93.4	4.360	100.3	0.036	31.3	0.598	-53.5
4.0	0.827	-112.8	3.903	82.2	0.039	21.6	0.596	-62.5
5.0	0.794	-134.9	3.581	63.6	0.046	12.1	0.577	-70.8
6.0	0.779	-152.5	3.266	46.5	0.051	2.4	0.510	-81.0
7.0	0.749	-176.2	3.032	27.9	0.057	-8.3	0.481	-92.5
8.0	0.720	162.1	2.825	9.0	0.059	-20.0	0.472	-105.6
9.0	0.716	149.3	2.662	-8.3	0.060	-25.5	0.462	-121.5
10.0	0.700	140.4	2.451	-25.2	0.064	-30.0	0.462	-140.5
11.0	0.676	125.9	2.284	-40.3	0.074	-39.9	0.478	-151.9
12.0	0.654	105.8	2.169	-58.6	0.082	-52.8	0.485	-159.1
13.0	0.650	91.8	2.087	-76.6	0.092	-65.3	0.450	-172.9
14.0	0.628	82.4	2.069	-94.6	0.109	-76.0	0.420	167.6
15.0	0.585	60.5	2.007	-115.6	0.134	-90.7	0.404	150.1
16.0	0.584	34.3	1.844	-136.5	0.154	-107.1	0.341	140.2
17.0	0.605	24.6	1.717	-156.3	0.188	-121.2	0.309	122.6
18.0	0.573	19.1	1.754	-176.3	0.257	-137.0	0.317	92.6
19.0	0.521	-7.8	1.761	157.1	0.352	-159.4	0.291	72.1
20.0	0.627	-44.0	1.630	132.8	0.451	175.2	0.145	49.3