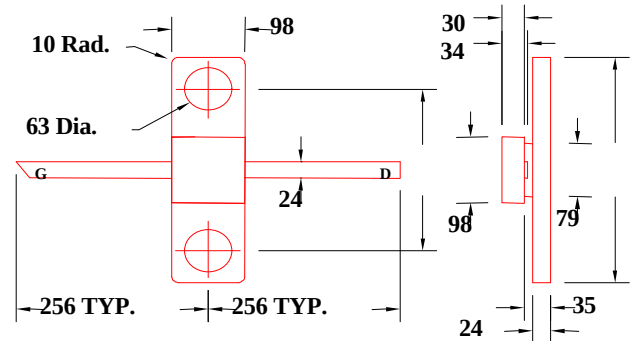


DATA SHEET
Low Distortion GaAs Power FET

- HERMETIC 100mil CERAMIC FLANGE PACKAGE
- +25.0dBm TYPICAL OUTPUT POWER
- 8.0dB TYPICAL POWER GAIN AT 12GHz
- HIGH BV_{gd} FOR 10V BIAS
- 0.3 X 600 MICRON RECESSED “MUSHROOM” GATE
- Si₃N₄ PASSIVATION
- ADVANCED EPITAXIAL DOPING PROFILE PROVIDES HIGH POWER EFFICIENCY, LINEARITY AND RELIABILITY



All Dimensions In mils

ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

SYMBOLS	PARAMETERS/TEST CONDITIONS	MIN	TYP	MAX	UNIT
P_{1dB}	Output Power at 1dB Compression V _{ds} =10V, I _{ds} =50% I _{ds}	23.0	25.0		dBm
G_{1dB}	Gain at 1dB Compression V _{ds} =10V, I _{ds} =50% I _{ds}	6.5	8.0		dB
PAE	Power Added Efficiency at 1dB Compression V _{ds} =10V, I _{ds} =50% I _{ds}		33		%
I_{ds}	Saturated Drain Current V _{ds} =3V, V _{gs} =0V	80	130	180	mA
G_m	Transconductance V _{ds} =3V, V _{gs} =0V	50	70		mS
V_p	Pinch-off Voltage V _{ds} =3V, I _{ds} =1.5mA		-2.5	-4.0	V
BV_{gd}	Drain Breakdown Voltage I _{gd} =1.0mA	-15	-20		V
BV_{gs}	Source Breakdown Voltage I _{gs} =1.0mA	-10	-17		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	14V	10V
V_{gs}	Gate-Source Voltage	-8V	-4.5V
I_{ds}	Drain Current	I _{ds}	150mA
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

EFC060B-100F

DATA SHEET

Low Distortion GaAs Power FET

S-PARAMETERS

10V, 1/2 Idss

FREQ	--- S11 ---		--- S21 ---		--- S12 ---		--- S22 ---	
GHz	Mag	Ang	Mag	Ang	Mag	Ang	Mag	Ang
1.0	1.037	-42.4	4.672	147.3	0.025	62.8	0.524	-33.0
2.0	0.961	-58.5	3.344	127.1	0.035	50.3	0.600	-39.7
3.0	0.925	-80.0	2.965	106.1	0.045	35.5	0.601	-54.7
4.0	0.887	-99.6	2.724	87.0	0.052	22.8	0.598	-67.2
5.0	0.850	-119.5	2.564	68.1	0.058	11.8	0.581	-78.9
6.0	0.807	-137.4	2.418	49.8	0.061	0.7	0.549	-92.5
7.0	0.769	-156.3	2.288	31.5	0.064	-11.0	0.538	-106.9
8.0	0.752	-173.8	2.169	12.2	0.067	-22.7	0.530	-125.7
9.0	0.743	164.0	2.016	-7.6	0.070	-34.3	0.532	-138.3
10.0	0.737	146.2	1.877	-25.5	0.073	-46.5	0.518	-149.8
11.0	0.715	134.7	1.797	-42.4	0.078	-58.5	0.513	-166.5
12.0	0.683	120.7	1.762	-60.2	0.082	-68.9	0.534	-179.0
13.0	0.668	99.1	1.706	-80.2	0.093	-79.2	0.527	170.5
14.0	0.651	79.7	1.665	-101.0	0.111	-92.4	0.488	152.6
15.0	0.621	64.1	1.602	-124.5	0.132	-109.5	0.460	125.3
16.0	0.591	47.2	1.492	-147.0	0.154	-125.3	0.439	108.5
17.0	0.577	32.6	1.441	-167.8	0.194	-139.2	0.470	99.3
18.0	0.553	20.5	1.397	169.0	0.258	-156.4	0.475	80.8
19.0	0.586	2.9	1.370	145.4	0.357	-176.7	0.436	62.4
20.0	0.689	-27.4	1.390	117.2	0.536	156.7	0.364	57.3
21.0	0.662	-73.6	1.292	83.5	0.762	116.9	0.193	70.2
22.0	0.683	-138.8	1.172	52.5	0.964	70.6	0.217	108.4
23.0	0.843	166.6	0.958	18.5	0.897	19.5	0.537	86.1
24.0	0.690	127.4	0.819	-6.9	0.750	-18.9	0.591	64.3
25.0	0.447	89.9	0.710	-44.2	0.594	-63.1	0.578	57.5
26.0	0.676	98.5	0.317	-89.3	0.202	-106.6	0.792	57.4