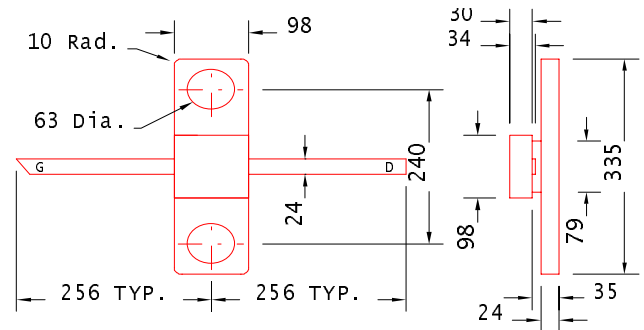


DATA SHEET
Low Distortion GaAs Power FET

- HERMETIC 100mil CERAMIC FLANGE PACKAGE
- +26.0dBm TYPICAL OUTPUT POWER
- 7.5dB TYPICAL POWER GAIN AT 12GHz
- 0.3 X 800 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 f=12GHz V _{ds} =8V, I _{ds} =50% I _{ds}	24.0	26.0		dBm
G_{1dB}	Gain at 1dB Compression f=12GHz V _{ds} =8V, I _{ds} =50% I _{ds}	6.0	7.5		dB
PAE	Power Added Efficiency at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{ds} f=12GHz		32		%
I_{ds}	Saturated Drain Current V _{ds} =3V, V _{gs} =0V	130	210	300	mA
G_m	Transconductance V _{ds} =3V, V _{gs} =0V	90	120		mS
V_p	Pinch-off Voltage V _{ds} =3V, I _{ds} =2.0mA		-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		58*		°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}	250mA
I_{gsf}	Forward Gate Current	20mA	4mA
P_{in}	Input Power	25dBm	@ 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	2.5 W	2.0W

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

EFA080A-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	0.959	-47.5	6.007	149.5	0.028	54.7	0.450	-32.8
2.0	0.898	-81.6	5.050	119.7	0.042	38.4	0.446	-53.9
3.0	0.854	-104.9	4.182	97.3	0.050	26.7	0.442	-68.6
4.0	0.817	-126.2	3.635	78.0	0.054	17.3	0.442	-80.0
5.0	0.785	-147.2	3.268	59.5	0.059	8.8	0.426	-89.3
6.0	0.761	-163.3	2.964	42.1	0.063	1.0	0.378	-104.4
7.0	0.738	179.2	2.690	24.1	0.065	-8.3	0.357	-124.2
8.0	0.718	163.2	2.414	6.9	0.064	-16.5	0.366	-145.0
9.0	0.731	140.3	2.132	-10.6	0.064	-24.6	0.395	-150.2
10.0	0.753	125.5	1.913	-26.3	0.067	-31.4	0.401	-158.8
11.0	0.742	121.7	1.826	-41.3	0.074	-39.8	0.403	178.4
12.0	0.707	115.5	1.752	-56.8	0.083	-47.6	0.430	162.0
13.0	0.709	96.7	1.655	-72.8	0.093	-57.3	0.425	160.0
14.0	0.708	77.6	1.567	-90.4	0.106	-69.1	0.375	151.1
15.0	0.680	65.4	1.509	-110.8	0.125	-85.0	0.394	120.4
16.0	0.658	53.2	1.419	-130.8	0.144	-99.9	0.436	102.6
17.0	0.664	42.2	1.354	-148.0	0.173	-111.8	0.430	103.8
18.0	0.654	33.6	1.316	-167.6	0.223	-127.5	0.436	97.7
19.0	0.623	26.4	1.216	171.4	0.277	-146.8	0.500	80.0
20.0	0.697	15.6	1.201	151.3	0.380	-167.1	0.566	72.0