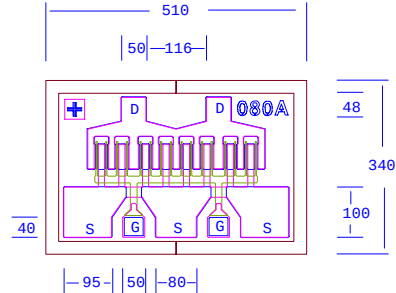


DATA SHEET
Low Distortion GaAs Power FET

- +26.0dBm TYPICAL OUTPUT POWER
- 10.0dB 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
- Idss SORTED IN 15mA PER BIN RANGE



Chip Thickness: 75 ± 13 microns
All Dimensions In Microns

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 f=18GHz	24.0	26.0 26.0		dBm
G_{1dB}	Gain at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{dss} f=12GHz f=18GHz	8.0	10.0 7.5		dB
PAE	Power Added Efficiency at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{dss} f=12GHz		35		%
I_{dss}	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 (Au-Sn Eutectic Attach)		55		°C/W

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}	260mA
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	2.1 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.

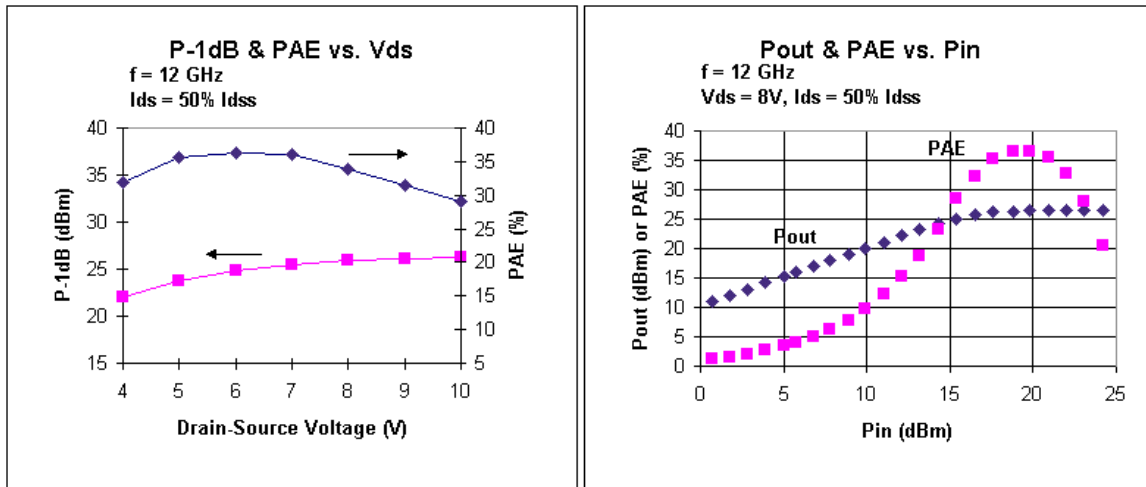
Excelics Semiconductor, Inc., 2908 Scott Blvd., Santa Clara, CA 95054

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

EFA080A

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	0.983	-38.9	6.602	158.2	0.029	65.4	0.421	-24.5
2.0	0.949	-71.6	5.927	135.8	0.050	49.2	0.380	-45.7
3.0	0.916	-96.5	4.998	118.0	0.061	36.4	0.343	-62.4
4.0	0.894	-115.4	4.191	104.1	0.066	27.2	0.326	-75.6
5.0	0.879	-130.5	3.536	92.2	0.068	19.6	0.327	-87.3
6.0	0.873	-140.5	3.028	82.8	0.069	14.5	0.339	-95.6
7.0	0.871	-148.3	2.628	74.6	0.068	10.3	0.359	-102.4
8.0	0.869	-154.1	2.311	67.5	0.067	7.4	0.382	-107.5
9.0	0.872	-158.8	2.058	61.1	0.065	3.8	0.408	-111.9
10.0	0.872	-162.7	1.857	55.2	0.063	3.0	0.433	-115.1
11.0	0.873	-166.5	1.689	49.5	0.061	1.8	0.457	-118.4
12.0	0.876	-169.7	1.557	43.9	0.060	1.0	0.478	-121.4
13.0	0.879	-173.3	1.446	38.4	0.058	-0.9	0.495	-124.4
14.0	0.880	-177.4	1.356	32.9	0.059	-2.3	0.511	-127.6
15.0	0.882	-178.3	1.276	27.2	0.057	-2.9	0.522	-131.2
16.0	0.886	-173.2	1.207	20.9	0.057	-4.6	0.532	-135.3
17.0	0.889	-168.2	1.141	14.6	0.057	-5.7	0.542	-140.3
18.0	0.892	-162.8	1.075	8.3	0.058	-7.1	0.557	-145.3
19.0	0.897	-157.9	1.010	1.7	0.057	-8.0	0.568	-151.5
20.0	0.905	-153.4	0.949	-4.6	0.057	-9.8	0.585	-157.6
21.0	0.923	-152.7	0.829	-9.6	0.053	-9.0	0.627	-165.3
22.0	0.928	-150.2	0.769	-14.6	0.053	-9.5	0.650	-170.5
23.0	0.936	-147.8	0.713	-19.7	0.052	-7.8	0.680	-174.4
24.0	0.939	-146.5	0.664	-23.8	0.052	-5.4	0.706	-177.2
25.0	0.945	-145.2	0.624	-27.3	0.053	-3.9	0.728	-179.7
26.0	0.944	-144.7	0.592	-30.4	0.053	0.4	0.753	-179.1

Note: The data included 0.7 mils diameter Au bonding wires:
2 gate wires, 15 mils each; 2 drain wires, 20 mils each; 6 source wires, 7 mils each.