



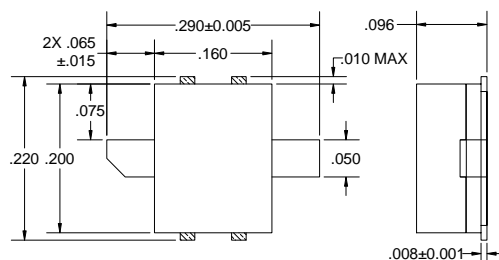
EFA960CR-CP083

Low Distortion GaAs Power FET

UPDATED 05/19/2006

FEATURES

- NON-HERMETIC SURFACE MOUNT
- 160MIL METAL CERAMIC PACKAGE
- +36.0dBm OUTPUT POWER
- 15.5 dB TYPICAL POWER GAIN AT 2 GHz
- 0.5x9600 MICRON RECESSED "MUSHROOM" GATE
- Si₃N₄ PASSIVATION
- ADVANCED EPITAXIAL HETEROJUNCTION PROFILE PROVIDES EXTRA HIGH POWER EFFICIENCY, AND HIGH RELIABILITY



All Dimensions in Inches



Caution! ESD sensitive device.

ELECTRICAL CHARACTERISTICS (T_a = 25°C)

SYMBOL	PARAMETER/TEST CONDITIONS	MIN	TYP	MAX	UNITS
P _{1dB}	Output Power at 1dB Compression V _{ds} = 8 V, I _{ds} =50% I _{dss}		f = 2.0 GHz 36.0 f = 4.0 GHz 36.0		dBm
G _{1dB}	Gain at 1dB Compression V _{ds} = 8 V, I _{ds} =50% I _{dss}	14.0	f = 2.0 GHz 15.5 f = 4.0 GHz 10.5		dB
PAE	Power Added Efficiency at 1dB Compression V _{ds} = 8 V, I _{ds} =50% I _{dss}		f = 2.0 GHz 30		%
I _{DSS}	Saturated Drain Current V _{DS} = 3 V, V _{GS} = 0 V	1600	2720	3520	mA
G _M	Transconductance V _{DS} = 3 V, V _{GS} = 0 V	1100	1450		mS
V _P	Pinch-off Voltage V _{DS} = 3 V, I _{DS} = 27 mA		-2.0	-3.5	V
BV _{GD}	Drain Breakdown Voltage I _{GD} = 9.6 mA	-13	-15		V
BV _{GS}	Source Breakdown Voltage I _{GS} = 9.6 mA	-7	-14		V
R _{TH} *	Thermal Resistance		6*		°C/W

Notes: * Overall R_{th} depends on case mounting.

MAXIMUM RATINGS AT 25°C

SYMBOLS	PARAMETERS	ABSOLUTE ¹	CONTINUOUS ²
V _{ds}	Drain-Source Voltage	10V	8V
V _{gs}	Gate-Source Voltage	-5V	-4V
I _{gsf}	Forward Gate Current	43.2 mA	14.4 mA
I _{gsr}	Reverse Gate Current	-7.2 mA	-2.4 mA
P _{in}	Input Power	33 dBm	@ 3dB Compression
T _{ch}	Channel Temperature	175°C	175°C
T _{stg}	Storage Temperature	-65/175°C	-65/175°C
P _t	Total Power Dissipation	23 W	23 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.

Specifications are subject to change without notice.

Excelics Semiconductor, Inc. 310 De Guigne Drive, Sunnyvale, CA 94085
Phone: 408-737-1711 Fax: 408-737-1868 Web: www.excelics.com

page 1 of 2
Revised May 2006



EFA960CR-CP083

UPDATED 05/19/2006

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
0.5	0.983	-155.2	6.432	94.5	0.012	24.2	0.810	178.8
1.0	0.986	-175.0	3.285	76.9	0.013	25.8	0.779	175.0
1.5	0.936	174.1	2.855	68.2	0.020	29.5	0.739	168.6
2.0	0.929	166.2	2.194	58.4	0.023	29.4	0.736	164.9
2.5	0.923	160.3	1.835	49.4	0.026	29.6	0.725	161.7
3.0	0.920	154.5	1.643	40.4	0.031	28.3	0.703	158.0
3.5	0.912	147.2	1.532	30.1	0.038	24.5	0.679	152.7
4.0	0.898	138.0	1.466	18.3	0.045	17.6	0.656	145.7
4.5	0.888	126.1	1.402	5.2	0.052	9.6	0.634	136.8
5.0	0.879	113.1	1.339	-8.7	0.059	0.6	0.624	127.2
5.5	0.870	99.9	1.271	-22.4	0.066	-9.4	0.621	117.7
6.0	0.862	87.6	1.212	-35.9	0.073	-19.0	0.609	108.0
6.5	0.860	75.1	1.176	-46.6	0.081	-25.3	0.571	104.6
7.0	0.841	63.8	1.194	-59.9	0.095	-34.5	0.560	92.9
7.5	0.829	48.5	1.217	-77.1	0.110	-48.8	0.543	75.7
8.0	0.828	28.5	1.171	-96.3	0.118	-65.3	0.532	55.1
8.5	0.849	8.2	1.060	-115.1	0.122	-80.8	0.555	33.4
9.0	0.872	-8.9	0.921	-132.2	0.117	-97.3	0.606	15.9
9.5	0.884	-21.1	0.794	-145.7	0.111	-109.9	0.623	4.5
10.0	0.891	-31.7	0.734	-153.5	0.115	-118.2	0.679	0.5

Specifications are subject to change without notice.

Excelics Semiconductor, Inc. 310 De Guigne Drive, Sunnyvale, CA 94085
Phone: 408-737-1711 Fax: 408-737-1868 Web: www.excelics.com

page 2 of 2
Revised May 2006