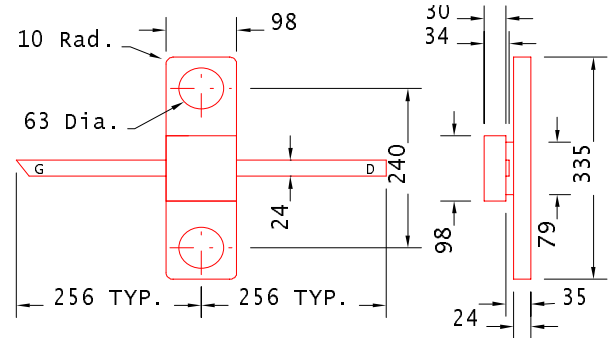


DATA SHEET
High Efficiency Heterojunction Power FET

- HERMETIC 100mil CERAMIC FLANGE PACKAGE
- +27.5dBm TYPICAL OUTPUT POWER
- 8.5dB TYPICAL POWER GAIN AT 12GHz
- 0.3 X 800 MICRON RECESSED “MUSHROOM” GATE
- Si₃N₄ PASSIVATION
- ADVANCED EPITAXIAL HETEROJUNCTION PROFILE PROVIDES EXTRA HIGH POWER EFFICIENCY, AND HIGH RELIABILITY


ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

All Dimensions In mils

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	26.0	27.5		dBm
G_{1dB}	Gain at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{dss} f=12GHz	7.0	8.5		dB
PAE	Power Added Efficiency at 1dB Compression V _{ds} =8V, I _{ds} =50% I _{dss} f=12GHz		42		%
I_{dss}	Saturated Drain Current V _{ds} =3V, V _{gs} =0V	130	240	320	mA
G_m	Transconductance V _{ds} =3V, V _{gs} =0V	160	260		mS
V_p	Pinch-off Voltage V _{ds} =3V, I _{ds} =2.5mA		-1.0	-2.5	V
BV_{gd}	Drain Breakdown Voltage I _{gd} =1.0mA	-11	-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	-3V
I_{ds}	Drain Current	I _{dss}	250mA
I_{gsf}	Forward Gate Current	40mA	7mA
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	2.5W	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.

EPA080A-100F

DATA SHEET

High Efficiency Heterojunction Power FET

S-PARAMETERS

8V, 1/2 Idss

FREQ (GHz)	--- S11 ---		--- S21 ---		--- S12 ---		--- S22 ---	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1.0	0.891	-72.9	13.691	129.5	0.027	52.8	0.442	-43.0
2.0	0.793	-113.6	9.350	99.6	0.037	34.9	0.383	-64.0
3.0	0.745	-136.8	6.955	79.3	0.041	27.7	0.363	-76.6
4.0	0.713	-157.6	5.601	61.6	0.046	21.5	0.360	-87.0
5.0	0.693	-176.8	4.738	44.8	0.050	16.0	0.349	-95.4
6.0	0.681	170.3	4.131	29.3	0.055	9.8	0.312	-109.7
7.0	0.669	156.6	3.653	13.7	0.059	2.2	0.302	-128.5
8.0	0.655	143.8	3.254	-1.5	0.063	-4.8	0.317	-147.6
9.0	0.667	124.6	2.867	-17.2	0.066	-13.2	0.346	-152.2
10.0	0.679	112.0	2.584	-32.1	0.073	-21.9	0.352	-160.8
11.0	0.650	107.2	2.466	-47.5	0.083	-32.5	0.369	175.6
12.0	0.594	98.6	2.339	-63.8	0.094	-43.9	0.416	159.0
13.0	0.589	80.7	2.163	-79.5	0.105	-54.9	0.417	158.1
14.0	0.601	63.9	2.034	-96.0	0.122	-68.8	0.381	150.6
15.0	0.567	51.1	1.903	-116.3	0.141	-85.8	0.405	121.5
16.0	0.529	41.2	1.756	-135.6	0.162	-102.1	0.452	104.0
17.0	0.531	34.3	1.672	-152.7	0.196	-116.3	0.461	105.2
18.0	0.512	28.0	1.588	-172.7	0.246	-133.5	0.489	96.7
19.0	0.504	23.8	1.406	166.8	0.299	-153.4	0.560	75.9
20.0	0.616	14.9	1.332	148.0	0.401	-173.7	0.629	65.9