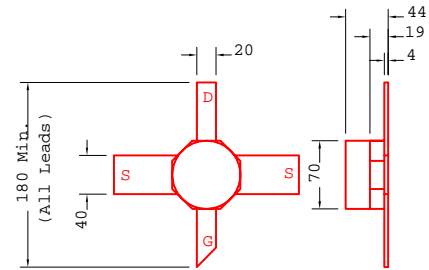


DATA SHEET
Low Distortion GaAs Power FET

- NON-HERMETIC LOW COST CERAMIC 70mil PACKAGE
- +18.5dBm TYPICAL OUTPUT POWER
- 10.5dB TYPICAL POWER GAIN AT 12GHz
- TYPICAL 1.1dB NOISE FIGURE AND 10.5dB ASSOCIATED GAIN AT 12GHz
- 0.3 X 180 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} =6V, I _{ds} =50% I _{dss}		f=12GHz 18.5 f=18GHz 18.5		dBm
G_{1dB}	Gain at 1dB Compression V _{ds} =6V, I _{ds} =50% I _{dss}	9.0	f=12GHz 10.5 f=18GHz 8.0		dB
PAE	Power Added Efficiency at 1dB Compression V _{ds} =6V, I _{ds} =50% I _{dss}		f=12GHz 33		%
NF	Noise Figure V _{ds} =2V, I _{ds} =15mA		f=12GHz 1.1		dB
G_a	Associated Gain V _{ds} =2V, I _{ds} =15mA		f=12GHz 10.5		dB
I_{dss}	Saturated Drain Current V _{ds} =3V, V _{gs} =0V	25	50	80	mA
G_m	Transconductance V _{ds} =3V, V _{gs} =0V	20	30		mS
V_p	Pinch-off Voltage V _{ds} =3V, I _{ds} =1.0 mA		-2.0	-3.5	V
BV_{gd}	Drain Breakdown Voltage I _{gd} =0.5mA	-10	-15		V
BV_{gs}	Source Breakdown Voltage I _{gs} =0.5mA	-6	-14		V
R_{th}	Thermal Resistance		480*		°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	10V	6V
V_{gs}	Gate-Source Voltage	-6V	-4V
I_{ds}	Drain Current	I _{dss}	40mA
I_{gsf}	Forward Gate Current	4mA	0.7mA
P_{in}	Input Power	17dBm	@ 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	285mW	240mW

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.

DATA SHEET

Low Distortion GaAs Power FET

S-PARAMETERS

6V, 1/2 Idss

FREQ (GHz)	--- S11 ---		--- S21 ---		--- S12 ---		--- S22 ---	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1.0	0.992	-15.2	2.467	164.6	0.013	80.7	0.813	-9.6
2.0	0.973	-31.3	2.404	148.7	0.024	66.9	0.799	-21.0
3.0	0.948	-47.1	2.307	133.4	0.033	56.3	0.788	-32.1
4.0	0.927	-62.2	2.278	119.2	0.040	47.1	0.778	-40.9
5.0	0.896	-76.8	2.271	105.4	0.046	38.0	0.757	-49.5
6.0	0.862	-89.8	2.217	91.4	0.050	28.7	0.730	-60.6
7.0	0.824	-103.6	2.144	77.5	0.050	18.8	0.709	-71.2
8.0	0.785	-116.7	2.099	64.5	0.047	8.7	0.679	-80.0
9.0	0.745	-137.4	2.141	50.1	0.043	6.9	0.675	-85.5
10.0	0.712	-157.8	2.132	34.6	0.041	4.4	0.658	-95.2
11.0	0.685	-167.8	2.113	21.5	0.039	4.7	0.636	-109.4
12.0	0.659	178.6	2.119	8.0	0.039	11.3	0.625	-121.6
13.0	0.661	151.4	2.080	-9.0	0.043	10.3	0.608	-130.8
14.0	0.678	126.4	1.968	-26.0	0.047	7.7	0.598	-141.9
15.0	0.668	112.7	1.941	-42.0	0.053	3.2	0.600	-161.3
16.0	0.663	96.6	1.927	-58.8	0.059	-4.7	0.592	-179.9
17.0	0.681	77.3	1.733	-74.2	0.059	-3.2	0.558	170.3
18.0	0.716	64.4	1.654	-86.1	0.081	-17.9	0.607	158.0
19.0	0.704	48.0	1.596	-103.7	0.070	-34.8	0.622	135.6
20.0	0.736	30.3	1.560	-120.9	0.071	-45.7	0.677	119.0
21.0	0.799	18.9	1.480	-136.6	0.072	-58.3	0.666	107.4
22.0	0.786	7.3	1.378	-151.5	0.067	-77.2	0.676	95.1
23.0	0.753	-11.7	1.305	-170.3	0.060	-97.4	0.674	76.0
24.0	0.771	-30.9	1.249	169.6	0.055	-120.5	0.671	57.6
25.0	0.753	-43.1	1.245	152.3	0.055	-141.1	0.655	42.6
26.0	0.720	-58.4	1.255	136.8	0.060	-161.3	0.649	28.8