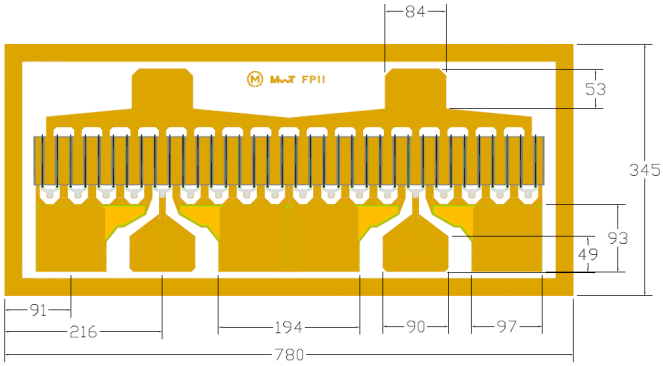
MwT-11F

High Power, High Linearity GaAs FET

Features:

- **32 dBm Output Power at 8 GHz**
- **9 dB Typical Small Signal Gain at 8 GHz**
- **0.25 x 2400 Micron Refractory Metal/Gold Gate**
- **Excellent for Linear High Power and High Power Added Efficiency Applications**
- **Ideal for Commercial, Military, Hi-Rel Space Applications**
- **Choice of Chip and One Package Type**



Chip Dimensions: 780 x 345 microns Chip
Thickness: 100 microns

Description:

The MwT-11F is GaAs MESFET device whose nominal 0.25 micron gate length and 2400 microns gate width make it ideally suited for applications requiring high power up to 32 dBm. The device has very good linearity and power added efficiency. All chips are passivated with SiN (Silicon Nitride).

RF Specifications: • *at Ta= 25°C*

PARAMETERS & CONDITIONS	SYMBOL	FREQ	UNITS	MIN	TYP
Output Power at 1dB Compression Vds=7.0V; Ids=60% of Idss	P1dB	8 GHz	dBm	30.0	32.0
Output Third Order Intercept Point Vds=7.0v Ids=0.7xIDSS Po=25dBm/tone	OIP3	8 GHz	dBm		42
Small Signal Gain Vds=6.0V; Ids=60% of Idss	SSG	8 GHz	dB	7.0	9.0
Power Added Efficiency at P1dB Vds=7.0V; Ids=60% of Idss	PAE	8 GHz	%		40

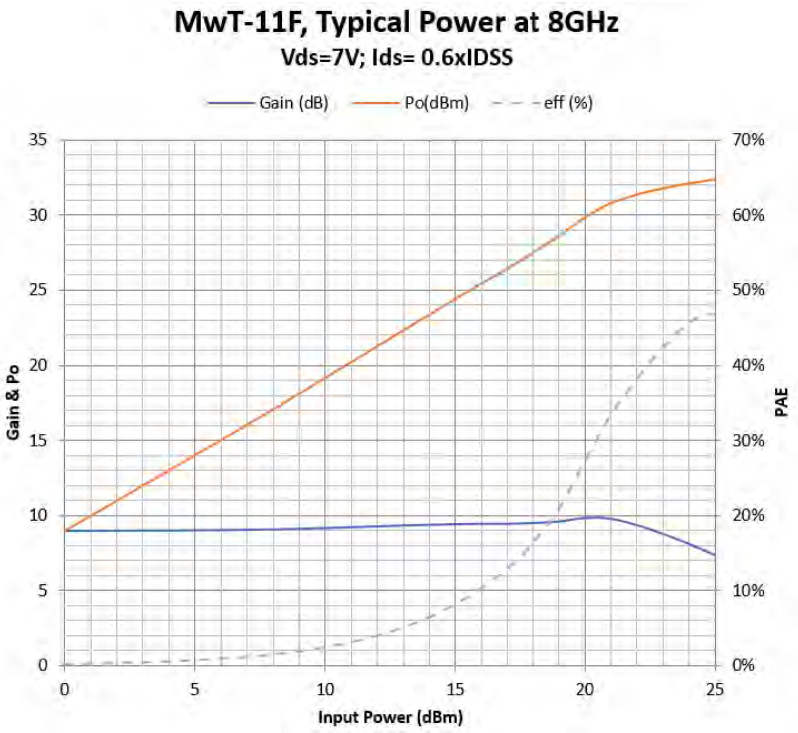
DC Specifications: • *at Ta= 25 °C*

PARAMETERS & CONDITIONS	SYMBOL	UNITS	MIN	TYP	MAX
Saturated Drain Current Vds= 3.0 V VGS=0.0V	IDSS	mA	600		700
Transconductance Vds= 2.0 V VGS=0.0V	Gm	mS		400	
Pinch-off Voltage Vds= 3.0 V IDS=16mA	Vp	V		-2.0	
Gate-to-Source Breakdown Voltage Igs= -2.4 mA	BVGSO	V	-15	-16	
Gate-to-Drain Breakdown Voltage Igd= -2.4 mA	BVGDO	V	-15	-16	
Thermal Resistance *MwT-11F Chip*	Rth	°C/W			28

**Overall Rth depends on case mounting*

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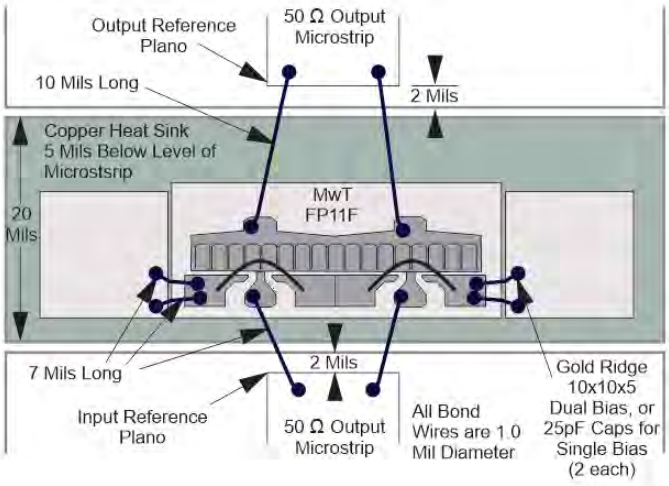
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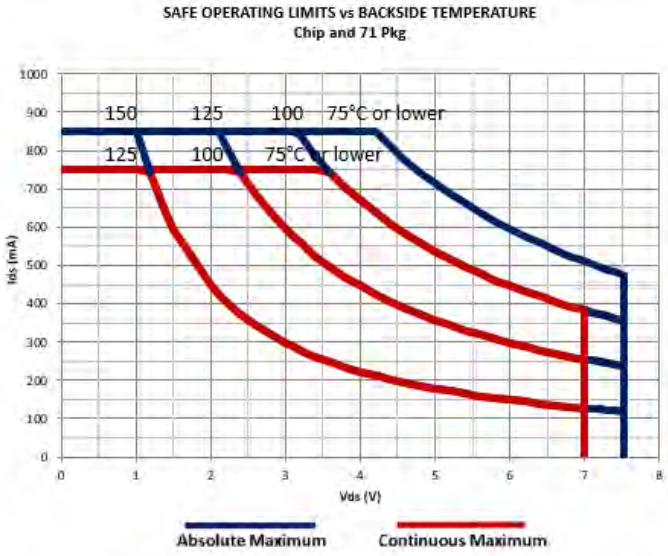


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MwT-11F BONDING





MAXIMUM RATINGS AT Ta = 25 °C

Symbol	Parameter	Units	Cont Max1	Absolute Max2
VDS	Drain to Source Volt.	V	See Safe Operating Limits	
Tch	Channel Temperature	°C	+150	+175
Tst	Storage Temperature	°C	-65 to +150	+175
Pin	RF Input Power	mW	480	720

Notes:

1. Exceeding any one of these limits in continuous operation may reduce the mean-time- to-failure below the design goal.
2. Exceeding any one of these limits may cause permanent damage.

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S-PARAMETER Vds=6V, Ids= 0.7 x Idss

Freq.	S11		S21		S12		S22		K	GMAX
GHz	dB	Ang (°)	dB	Ang (°)	dB	Ang (°)	dB	Ang (°)		dB
0.5	-1.039	-57.809	22.035	142.212	-34.223	58.247	-12.528	-79.225	0.338	28.129
1.0	-1.564	-95.079	19.187	119.276	-31.003	44.138	-10.697	-112.318	0.428	25.095
1.5	-1.807	-117.553	16.582	105.592	-30.096	38.692	-9.794	-128.538	0.601	23.339
2.0	-1.894	-132.204	14.391	96.122	-29.660	35.476	-9.213	-137.284	0.779	22.025
2.5	-1.946	-141.941	12.620	89.418	-29.291	37.302	-8.816	-142.535	0.961	20.956
3.0	-1.948	-149.185	11.109	83.686	-29.091	38.550	-8.462	-146.176	1.130	17.910
3.5	-1.926	-155.024	9.689	78.538	-28.576	41.205	-8.070	-149.401	1.249	16.128
4.0	-1.886	-159.759	8.620	74.781	-28.161	44.313	-7.872	-151.582	1.342	14.896
4.5	-1.902	-163.390	7.555	70.991	-27.714	46.541	-7.631	-153.482	1.454	13.640
5.0	-1.931	-166.398	6.704	67.479	-27.059	48.773	-7.563	-154.444	1.515	12.643
5.5	-1.943	-169.005	6.400	65.758	-26.138	52.113	-8.055	-154.569	1.480	12.166
6.0	-1.916	-171.697	5.581	62.766	-25.711	54.629	-7.629	-156.233	1.520	11.388
6.5	-1.885	-173.842	4.963	59.072	-25.195	55.236	-7.213	-156.772	1.482	10.969
7.0	-1.932	-177.546	4.197	55.380	-24.726	56.823	-6.895	-159.023	1.557	10.066
7.5	-1.801	-177.879	3.697	52.842	-24.393	59.138	-6.857	-159.110	1.499	9.869
8.0	-1.879	-179.912	3.092	49.017	-23.720	59.202	-6.481	-160.133	1.499	9.232
8.5	-1.852	177.369	2.528	45.538	-23.145	59.729	-6.532	-160.787	1.487	8.706
9.0	-1.947	175.505	1.880	42.382	-22.672	58.040	-6.109	-160.581	1.509	8.062
9.5	-1.642	174.153	1.723	40.282	-22.095	61.535	-5.977	-161.795	1.272	8.774
10.0	-1.822	172.649	1.344	37.995	-21.765	61.180	-6.005	-162.486	1.388	7.844
10.5	-1.826	170.748	0.809	34.523	-21.476	61.957	-5.645	-162.722	1.383	7.452
11.0	-1.710	168.859	0.481	30.159	-20.795	62.066	-5.125	-163.636	1.193	7.981
11.5	-1.732	167.864	-0.073	27.511	-20.331	63.206	-4.782	-164.967	1.180	7.562
12.0	-1.659	167.022	-0.519	25.179	-19.845	63.377	-4.570	-166.737	1.111	7.638
12.5	-1.585	164.622	-0.830	23.568	-19.277	62.418	-4.517	-170.219	1.064	7.680
13.0	-1.595	163.599	-0.998	21.226	-18.907	62.733	-4.415	-168.542	1.011	8.303
13.5	-1.613	162.694	-1.036	18.466	-18.526	60.951	-4.115	-169.654	0.923	8.745
14.0	-1.726	160.493	-1.751	12.080	-18.089	62.462	-3.684	-170.046	0.916	8.169
14.5	-1.646	160.296	-2.371	9.104	-17.645	62.996	-3.128	-171.754	0.797	7.637
15.0	-1.428	158.041	-3.248	8.553	-17.041	63.430	-3.114	-175.421	0.783	6.896

ORDERING INFORMATION:

When placing order or inquiring, please specify wafer number, if known. All dice are Visual Level 3 (military grade visual screening). MwT cannot guarantee dice will fall at the lower or upper end of the Idss Range. For details of Safe Handling Procedure please see supplementary information in available PDF on our website www.mwtinc.com.

Available Packaging:

71 Package - MwT-11F71

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