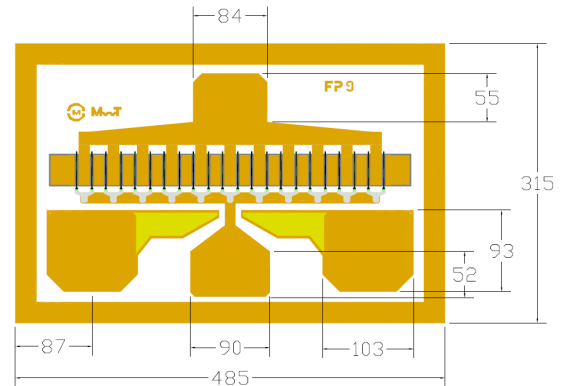


Features:

- 26.5 dBm Output Power at 12 GHz
- 11 dB Small Signal Gain at 12 GHz
- Excellent for Medium Linear Power Applications
- Ideal for Commercial, Military, Hi-Rel Space Applications
- 0.25 Micron Refractory Metal/Gold Gate
- 750 Micron Gate Width
- Choice of Chip and Three Package Types



Chip Dimensions: 485 x 315 microns
Chip Thickness: 100 microns

Description:

The MwT-9F is a GaAs MESFET device whose nominal 0.25 micron gate length and 750 micron gate width make it ideally suited to applications requiring medium linear power. It can be easily matched as the driver stage in high power communications amplifiers or in broad-band military amplifiers. All chips are passivated with SiN (Silicon Nitride).

RF Specifications: • at $T_a = 25^\circ\text{C}$

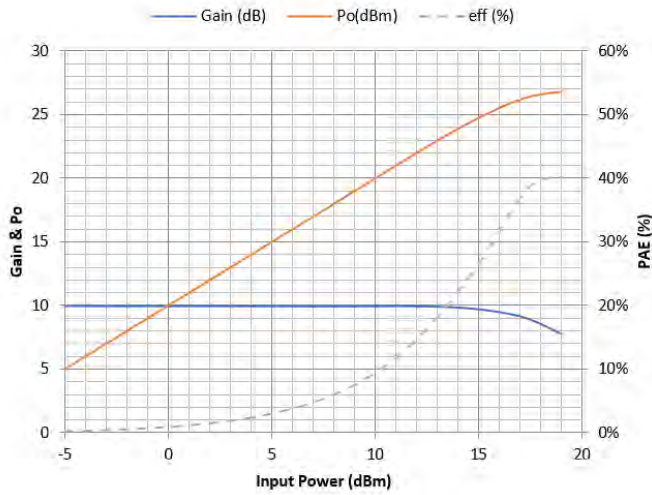
PARAMETERS & CONDITIONS	SYMBOL	FREQ	UNITS	TYP
Output Power at 1dB Compression $V_{ds}=7V$ $I_{ds}=0.6 \times I_{DSS}$	P1dB	12 GHz	dBm	26.5
Output Third Order Intercept Point $V_{ds}=7V$ $I_{ds}=0.6 \times I_{DSS}$	OIP3	12 GHz	dBm	36
Small Signal Gain $V_{ds}=7V$ $I_{ds}=0.6 \times I_{DSS}$	SSG	12 GHz	dB	11
Power Added Efficiency $V_{ds}=7V$ $I_{ds}=0.6 \times I_{DSS}$	PAE	12 GHz	%	35

DC Specifications: • at $T_a = 25^\circ\text{C}$

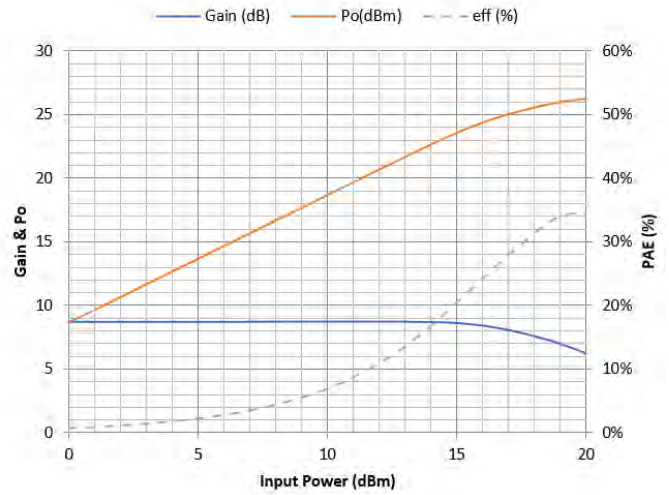
PARAMETERS & CONDITIONS	SYMBOL	UNITS	MIN	TYP	MAX
Saturated Drain Current $V_{ds}=4.0V$ $V_{gs}=0.0V$	I_{DSS}	mA	200		250
Transconductance $V_{ds}=2.0V$ $V_{gs}=0.0V$	Gm	mS	130	140	
Pinch-off Voltage $V_{ds}=3.0V$ $I_{ds}=5.0mA$	V_p	V		-2.0	
Gate-to-Source Breakdown Voltage $I_{gs}=-1.0mA$	BVGSO	V	-14	-16	
Gate-to-Drain Breakdown Voltage $I_{gd}=-1.0mA$	BVGDO	V	-14	-16	
Thermal Resistance <i>MwT-9F chip & 71 pkg</i> <i>70 pkg & 73 pkg</i>	Rth	C/W		60 165*	

*Overall Rth depends on case mounting

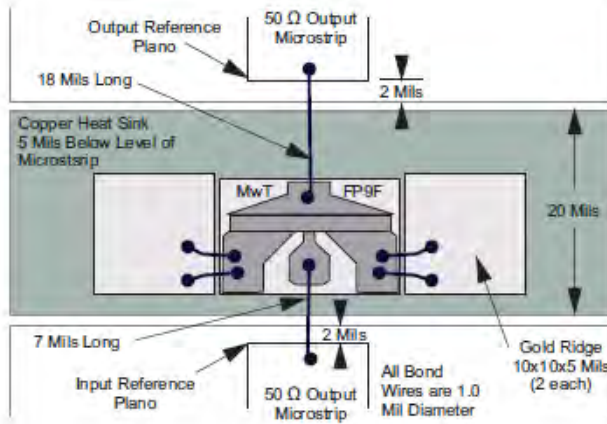
MwT-9F, Typical Power at 12GHz
 $V_{ds}=7V; I_{ds}=0.6 \times I_{DSS}$



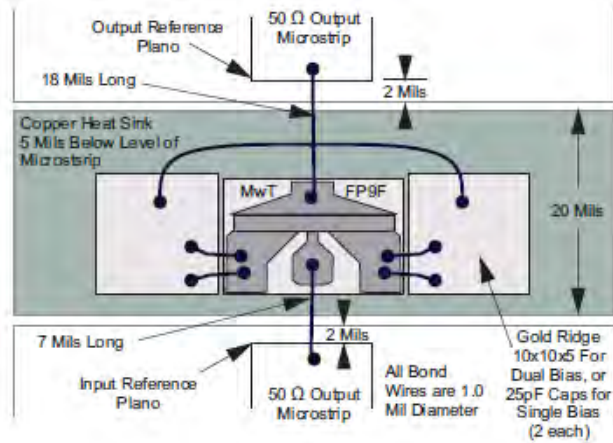
MwT-9F, Typical Power at 18GHz
 $V_{ds}=7V; I_{ds}=0.6 \times I_{DSS}$



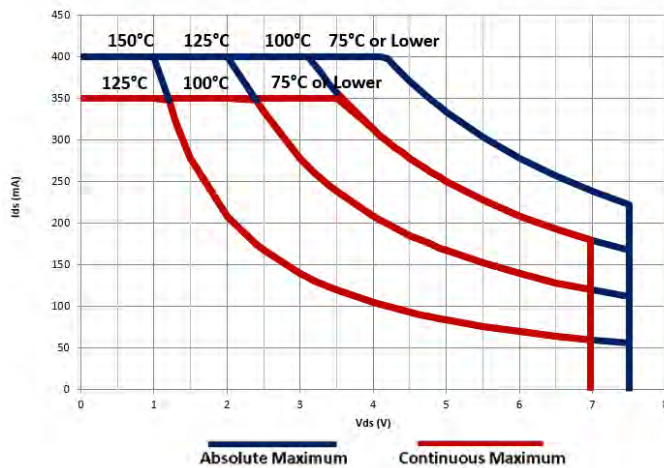
**MwT-9F
DUAL BIAS**



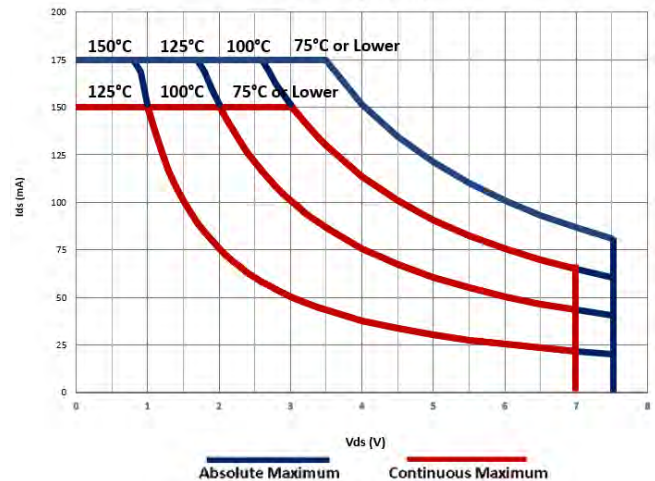
**MwT-9F
OPTIONAL BONDING**



SAFE OPERATING LIMITS vs BACKSIDE TEMPERATURE
MwT-9F Chip and 71 Pkg



SAFE OPERATING LIMITS vs BACKSIDE TEMPERATURE
MwT-9F with 70 Pkg and 73 Pkg



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	300	450

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.