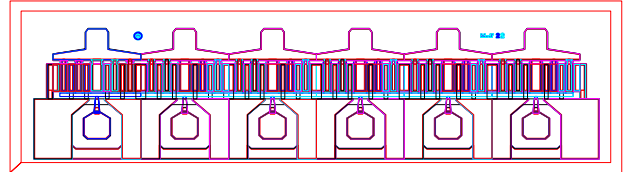


Features:

- +33 dBm typical Output Power at 6 GHz
- 12 dB typical Small Signal Gain at 6 GHz
- 40% typical PAE at 6 GHz
- 0.5 x 4800 Micron Refractory Metal/Gold Gate
- Sorted into 100 mA Idss Bin Ranges
- Excellent for High Power, and High Power Added Efficiency
- Ideal for Commercial, Military, Hi-Rel Space Applications



Chip Dimensions: 1,651 x 508 microns
Chip Thickness: 100 microns

Description:

The MwT-22 is GaAs MESFET device whose nominal 0.5 micron gate length and 4800 micron gate width make it ideally suited for applications requiring high power up to 1.5-2watts. The chip is produced using MwT's reliable metal systems and all devices from each wafer are screened to insure reliability. All chips are passivated using MwT's patented "Diamond-Like Carbon" process for increased durability.

Electrical Specifications:

• at $T_a = 25\text{ }^\circ\text{C}$

SYMBOL	PARAMETERS & CONDITIONS	FREQ	UNITS	MIN	TYP
OIP3	Output IP3 with two tones $V_{ds}=7.5\text{ V}$ $I_{ds}=0.6 \times I_{DSS}=560\text{ mA}$		dBm		48
P1dB	Output Power at 1dB Compression $V_{ds}=7.5\text{ V}$ $I_{ds}=0.6 \times I_{DSS}=560\text{ mA}$	6 GHz	dBm	31.0	33.0
SSG	Small Signal Gain $V_{DS}=7.5\text{ V}$ $I_{ds}=0.6 \times I_{DSS}=560\text{ mA}$	6 GHz	dB	9.0	12
PAE	Power Added Efficiency at P1dB $V_{DS}=7.5\text{ V}$ $I_{ds}=0.6 \times I_{DSS}=560\text{ mA}$	6 GHz	%		40
IDSS	Recommended IDSS Range		mA		800-1200

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

SYMBOL	PARAMETERS & CONDITIONS	UNITS	MIN	TYP	MAX
IDSS	Saturated Drain Current $V_{ds}=4.0\text{ V}$ $V_{gs}=0.0\text{ V}$	mA	800		1200
Gm	Transconductance $V_{ds}=2.5\text{ V}$ $V_{gs}=0.0\text{ V}$	mS	500	650	
Vp	Pinch-off Voltage $V_{ds}=3.0\text{ V}$ $I_{ds}=30\text{ mA}$	V		-1.2	-5.0
BVGSO	Gate-to-Source Breakdown Voltage $I_{gs} = -5.0\text{ mA}$	V	-8.0	-12.0	
BVGDO	Gate-to-Drain Breakdown Voltage $I_{gd} = -5.0\text{ mA}$	V	-12.0	-14.0	
Rth	Chip Thermal Resistance	C/W		12	

MAXIMUM RATINGS AT $T_a = 25\text{ }^\circ\text{C}$

Symbol	Parameter	Units	Absolute Maximum
V_{dS}	Drain-Source Voltage	V	9
V_{gs}	Gate-Source Voltage	V	-6 to +0.8
I_{ds}	Drain Current	mA	800
I_{gs}	Gate Current	mA	5
P_{diss}	DC Power Dissipation	W	6
$P_{in\ max}$	RF Input Power	dBm	+28
T_{ch}	Channel Temperature	$^\circ\text{C}$	150
T_{stg}	Storage Temperature	$^\circ\text{C}$	-65 to 150

Note: Operation of this device above any one of these parameters may cause permanent damage.

ORDERING INFORMATION:

When placing order or inquiring, please specify BIN range, wafer number, if known, and visual screening level required. For details of BIN Selection and Safe Handling Procedure please see supplementary information in available PDF on our website www.mwtinc.com.