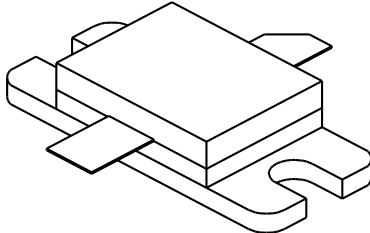


DME 500

500 Watts, 50 Volts, Pulsed
Avionics 1025 - 1150 MHz

<p>GENERAL DESCRIPTION</p> <p>The DME 500 is a high power COMMON BASE bipolar transistor. It is designed for pulsed systems in the frequency band 1025-1150 MHz. The device has gold thin-film metallization for proven highest MTF. The transistor includes input and output prematch for broadband capability. Low thermal resistance package reduces junction temperature, extends life.</p>	<p>CASE OUTLINE 55KT, STYLE 1</p> 
<p>ABSOLUTE MAXIMUM RATINGS</p> <p>Maximum Power Dissipation @ 25°C² 1700 Watts</p> <p>Maximum Voltage and Current</p> <p>BVces Collector to Base Voltage 55 Volts BVebo Emitter to Base Voltage 3.5 Volts Ic Collector Current 40 Amps</p> <p>Maximum Temperatures</p> <p>Storage Temperature - 65 to + 200°C Operating Junction Temperature + 200°C</p>	

ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 1025-1150 MHz	500			Watts
Pin	Power Input	Vcc = 50 Volts			125	Watts
Pg	Power Gain	PW = 10 μsec	6.0	6.5		dB
η_c	Collector Efficiency	DF = 1%		35		%
VSWR	Load Mismatch Tolerance	F = 1090 MHz			10:1	

BVebo	Emitter to Base Breakdown	Ie = 30 mA	3.5			Volts
BVces	Collector to Emitter Breakdown	Ic = 40 mA	55			Volts
hFE	DC - Current Gain	Ic = 500 mA, Vce = 5 V	10		100	
θ_{jc}^2	Thermal Resistance				0.1	°C/W

Note 1: At rated output power and pulse conditions
 2: At rated pulse conditions

Initial Issue June, 1994

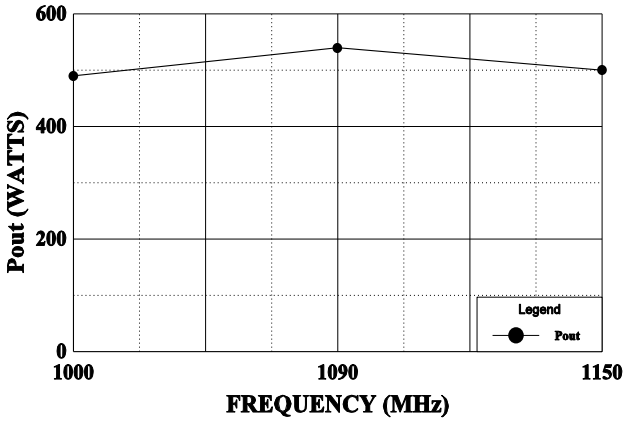
GHz TECHNOLOGY INC. RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE. GHz RECOMMENDS THAT BEFORE THE PRODUCT(S) DESCRIBED HEREIN ARE WRITTEN INTO SPECIFICATIONS, OR USED IN CRITICAL APPLICATIONS, THAT THE PERFORMANCE CHARACTERISTICS BE VERIFIED BY CONTACTING THE FACTORY.



GHZ TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

POWER OUTPUT

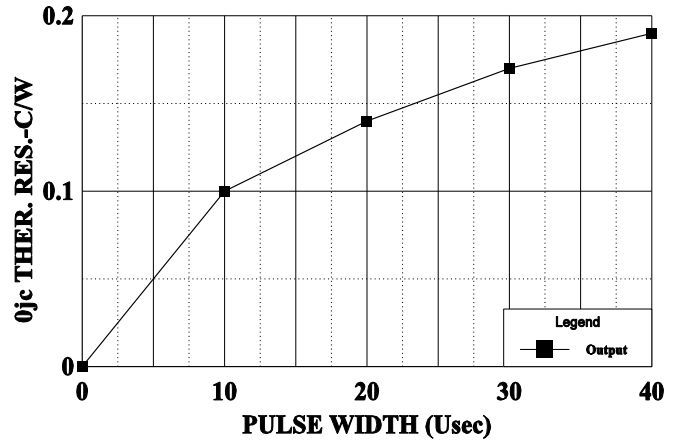
Vcc = 50 V, Pin = 125 W Peak



DME 500

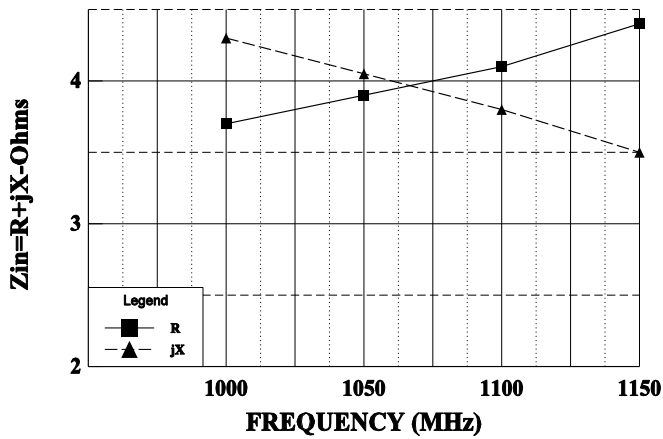
THERMAL RESISTANCE vs PULSE WIDTH

Vcc = 50 V, Tf = 30 C



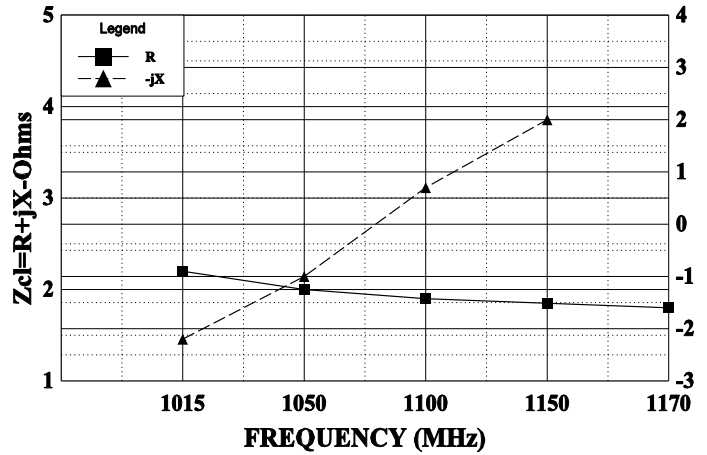
SERIES INPUT IMPEDANCE vs FREQUENCY

Vcc = 50 V, Po = 250 W



SERIES LOAD IMPEDANCE vs FREQUENCY

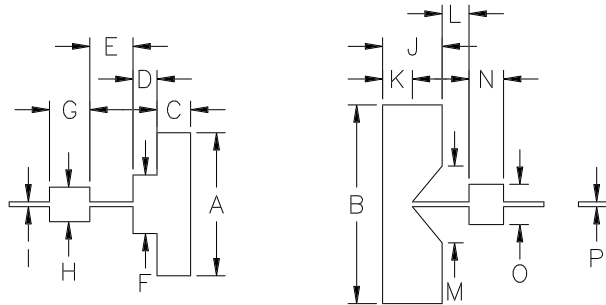
Vcc = 50 V, Po = 500 W



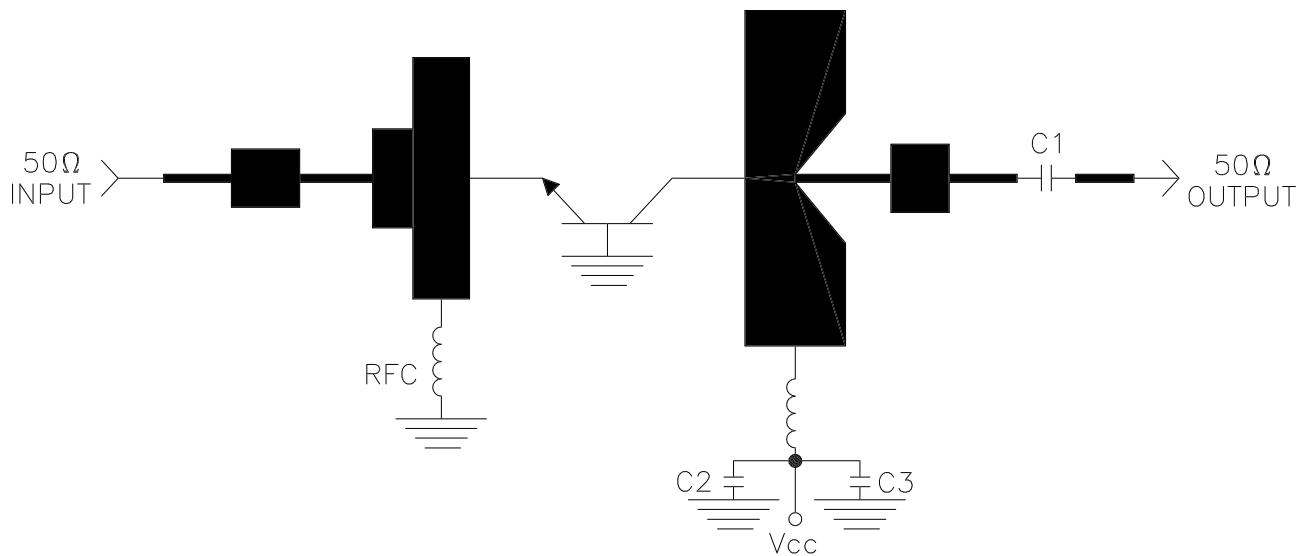
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
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DIM	INCHES
A	.745
B	1.035
C	.175
D	.125
E	.225
F	.305
G	.210
H	.180
I	.025
J	.310
K	.155
L	.140
M	.400
N	.180
O	.210
P	.025



1025/1150 MHz TEST AMPLIFIER



— = Microstrip line on E10, t=0.025"
 C1, C2 = 82PF chip capacitor
 C3 = 500μ Fdc @ 75V capacitor