

GENERAL DESCRIPTION

All devices utilize the most advanced design and process technologies. These features provide the most consistent and reliable chip and package combination designed, built and tested specifically for use in airborne DME.

- * Gold thin-film metallization -- proven highest Mean Time to Failure.
- * Surface passivation -- eliminates contamination and extends life.
- * Eutectic die attach -- reduces junction temperature and extends MTTF.
- * Gold controlled-loop wire bonding -- consistent RF performance.
- * Low thermal-resistance packages -- reduce junction temperature and extend life.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C Case Temperature 1700 W

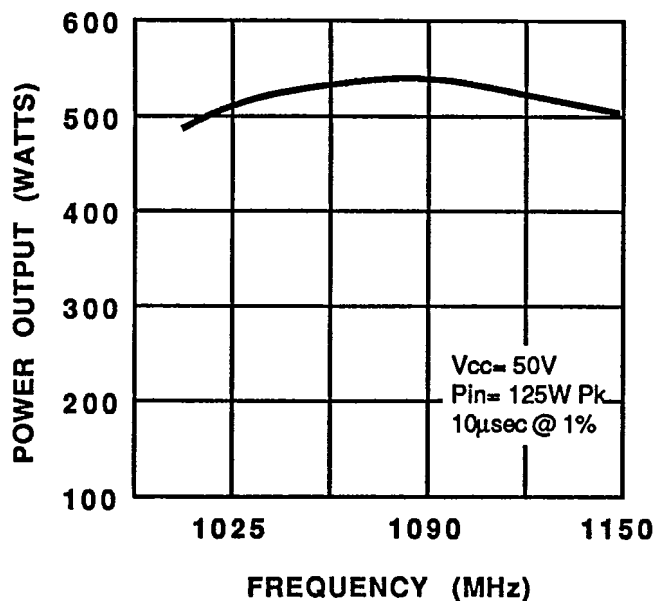
Maximum Voltage and Current

BVces Collector to Emitter Voltage 55 V
BVebo Emitter to Base Voltage 3.5 V
Ic Collector Current 40 A

Maximum Temperatures

Storage Temperature -65 to +200 °C
Operating Junction Temperature +200 °C

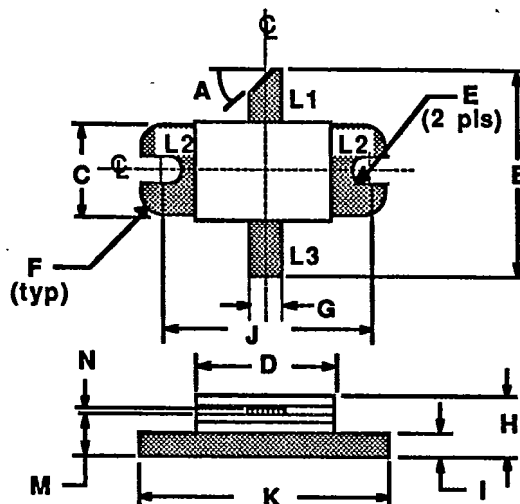
(TYPICAL) POWER OUTPUT



DME 500

500 WATTS - 50 VOLTS
1025/1150 MHz

AVIONICS

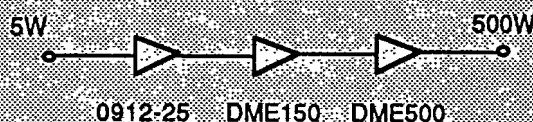


DIM	Millimeter	TOL	Inches	TOL
L1:C	A	45°	5°	45°
L2:B	B	20.32	.76	.800
L3:E	C	9.78	.13	.385
	D	12.70	.13	.500
	E	1.52 R	.13	.060 R
	F	1.52 R	.13	.060 R
	G	3.81	.13	.150
	H	5.21	REF	.205
	I	1.52	.13	.060
	J	17.78	.13	.700
	K	22.86	.13	.900
	M	3.05	.13	.120
	N	0.13	.02	.005

TYPICAL AMPLIFIER LINE UP

Vcc= 50Volts

Frequency Range=1025-1150 MHz



490 Race Street, San Jose, CA 95126

Phone (408) 294-4200, TWX (910) 338-2172

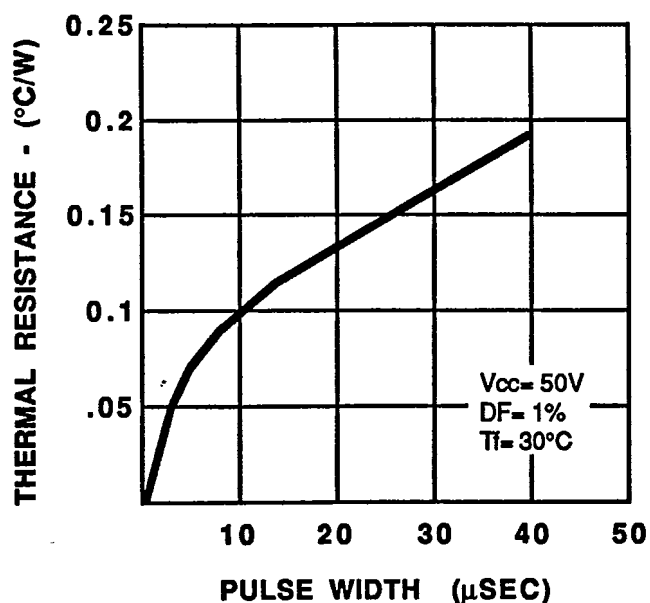
REV A AUG 1987

Ewenny Rd., Bridgend, Mid Glamorgan, CF31 3LQ, United Kingdom, Phone (0656) 68021

Printed in USA

ELECTRICAL CHARACTERISTICS¹

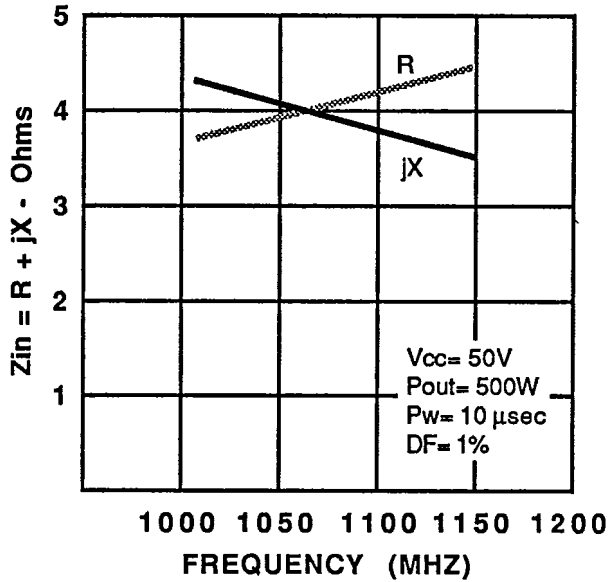
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P_{out}	Power Output	$f = 1025 \text{ to } 1150 \text{ MHz}$ $V_{cc} = 50V$ Pulse Width = $10 \mu\text{sec}$ @ 1%	500			Watts
P_{in}^2	Power Input				125	Watts
P_g	Power Gain		6.0			dB
η_c	Collector Efficiency			35		%
VSWR	Load Mismatch Tolerance				10:1	
BV_{ebo}	Breakdown Voltage (Emitter to Base)	$I_c = 0A, I_e = 30mA$	3.5			Volts
BV_{ces}	Breakdown Voltage (Collector to Emitter)	$V_{be} = 0A, I_c = 40mA$	55			Volts
h_{fe}	DC-Current Gain	$V_{ce} = 5V, I_c = 500mA$	10		100	
θ_{jc}	Thermal Resistance				0.1	$^{\circ}C/W$

Note 1: $T_c = +25^{\circ}C$ unless otherwise specifiedNote 2: Pulse width $10\mu\text{sec}$ @ 1% dutyTHERMAL RESISTANCE VS
PULSE WIDTH

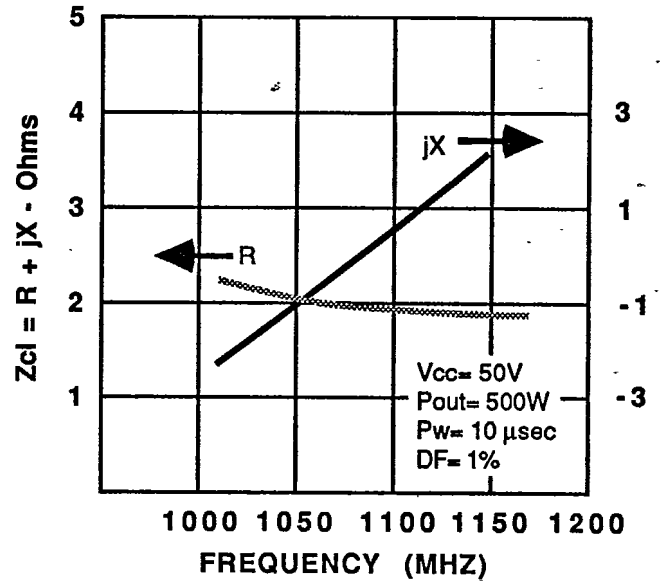
SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE

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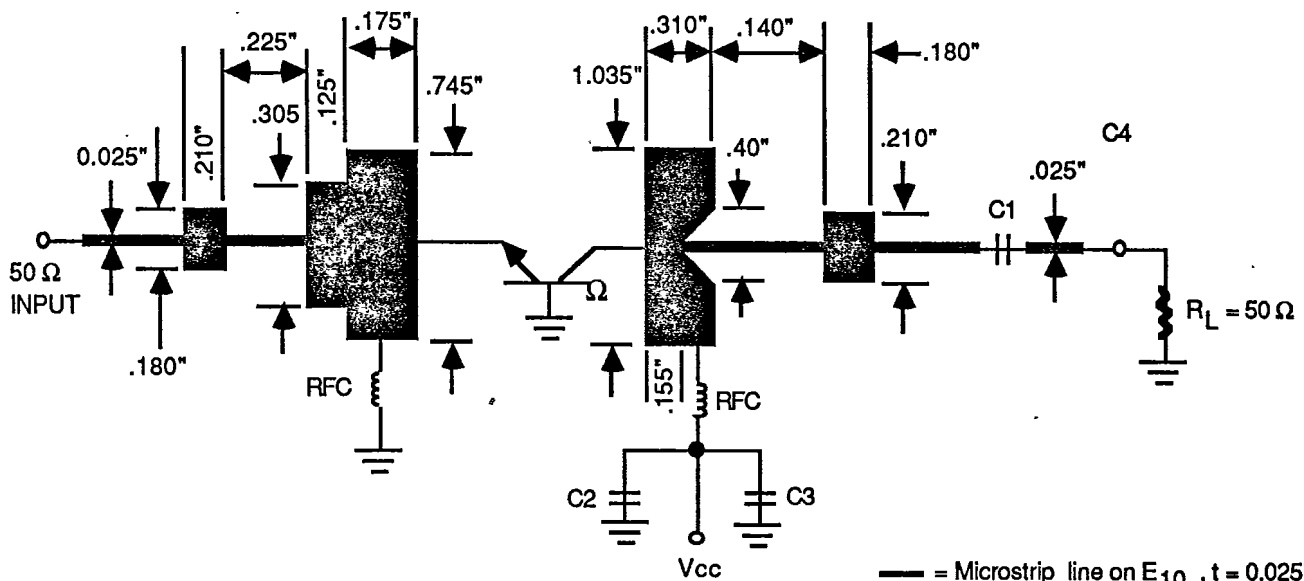
SERIES INPUT IMPEDANCE VS
FREQUENCY (TYPICAL)



SERIES LOAD IMPEDANCE VS
FREQUENCY (TYPICAL)



1025/1150 MHz TEST AMPLIFIER



— = Microstrip line on E_{10} , $t = 0.025"$

C1, C2 = 82 PF chip capacitor

C3 = 500 μ Fdc 75V capacitor