DME 150
150 WATTS - 50 VOLTS
1025/1150 MHz

AVIONICS

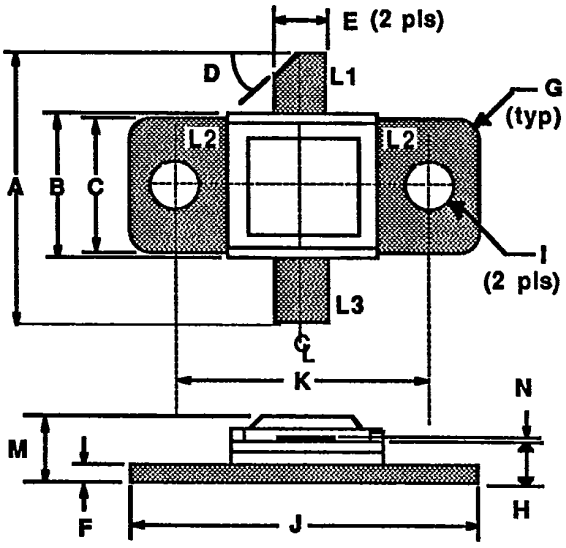
GENERAL DESCRIPTION

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

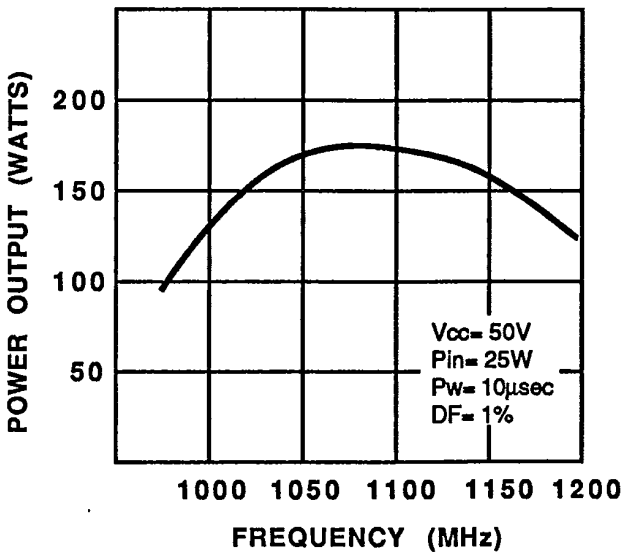
Maximum Power Dissipation @ 25°C Case Temperature		290 W
Maximum Voltage and Current		
BVces	Collector to Emitter Voltage	55 V
BVebo	Emitter to Base Voltage	4.0 V
Ic	Collector Current	0.15 A
Maximum Temperatures		
Storage Temperature		-65 to +150 °C
Operating JunctionTemperature		+200 °C



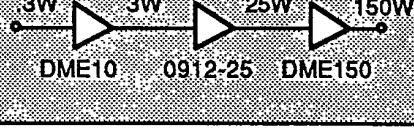
L1 : c
L2 : b
L3 : e

DIM	Millimeter	TOL	Inches	TOL
A	20.32	.76	.800	.030
B	10.16	.13	.400	.005
C	9.78	.13	.385	.005
D	45°	5°	45°	5°
E	3.81	.13	.150	.005
F	1.52	.13	.060	.005
G	1.52 R	.13	.060 R	.005
H	3.05	.13	.120	.005
I	3.30DIA	.13	.130 DIA	.005
J	22.86	.13	.900	.005
K	16.51	.13	.650	.005
M	4.70	REF	.185	REF
N	0.13	.02	.005	.001

(TYPICAL) POWER OUTPUT



TYPICAL AMPLIFIER LINE UP
Vcc= 50 Volts
Frequency Range= 1025-1150 MHz



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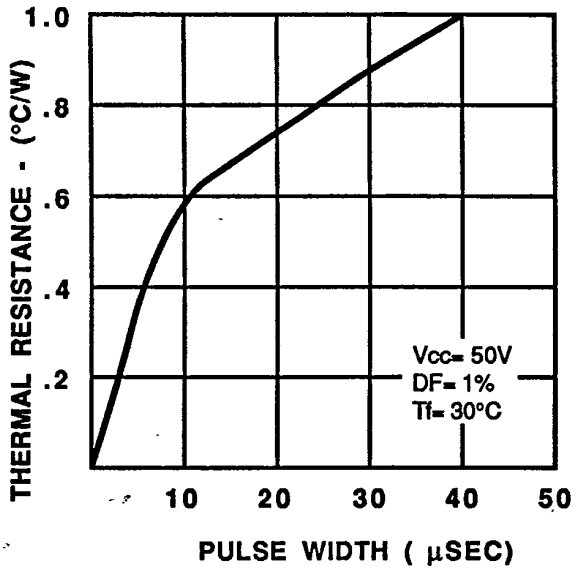
DME 150-2

ELECTRICAL CHARACTERISTICS[1]

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Pout	Power Output	f= 1025 to 1150 MHz Vcc= 50Volts Pulse Width = 10 µsec Duty Cycle = 1%	150			Watts
Pin	Power Input				25	Watts
Pg	Power Gain		7.8			dB
η_c	Collector Efficiency			40		%
VSWR	Load Mismatch Tolerance				20:1	
BVebo	Breakdown Voltage (Emitter to Base)	Ic= 0A, Ie=15mA	4.0			Volts
BVces	Breakdown Voltage (Collector to Emitter)	Vbe= 0A, Ic= 25mA	55			Volts
h_{FE}	DC-Current Gain	Vce= 5V, Ic= 250mA	20			
θjc	Thermal Resistance				0.6	°C/W

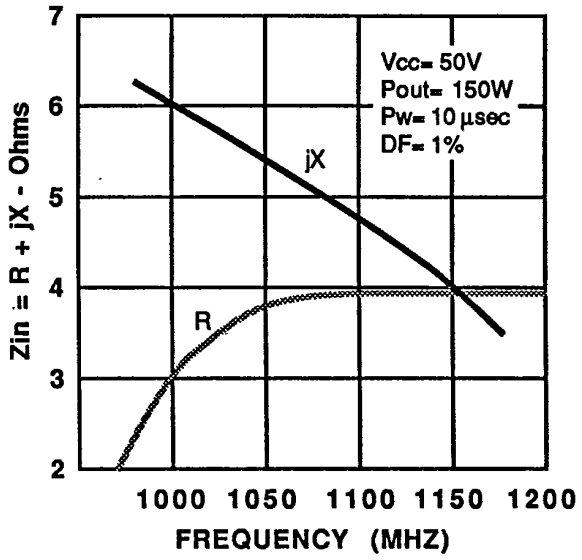
Note 1: Tc = +25°C unless otherwise specified

THERMAL RESISTANCE VS PULSE WIDTH

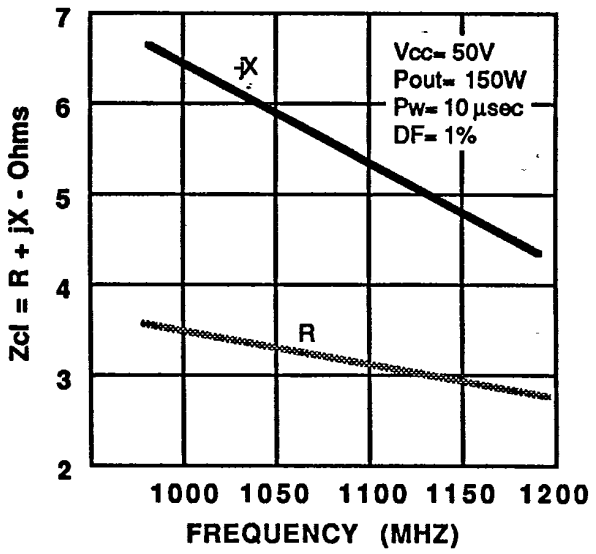


DME 150-3

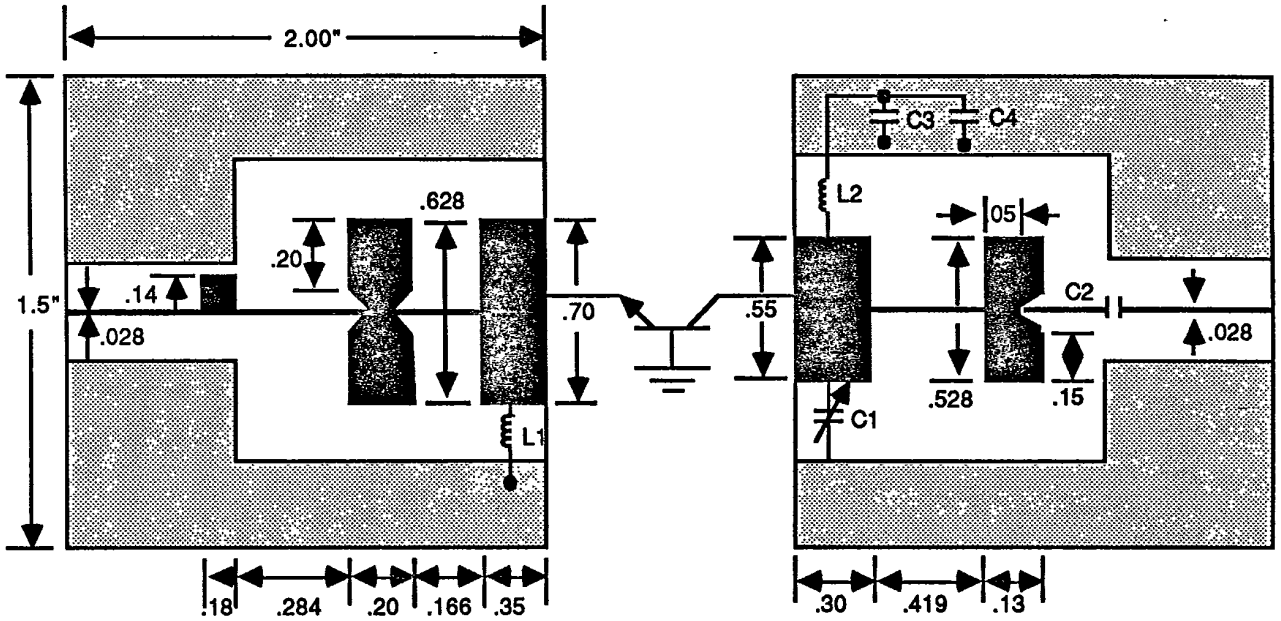
SERIES INPUT IMPEDANCE VS FREQUENCY (TYPICAL)



SERIES LOAD IMPEDANCE VS FREQUENCY (TYPICAL)



1025/1150 MHz TEST AMPLIFIER



Material = .010" Duroid

L1= 1" No. 20 wire
L2= 7 turns No. 20 wire, closewound 1/8" dia.
C1= Johanson No. 5701, 6-6PF
C2= A.T.C. Chip cap. 82PF
C3= A.T.C. Chip cap. 92PF
C4= 200µsec fD 50V