GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

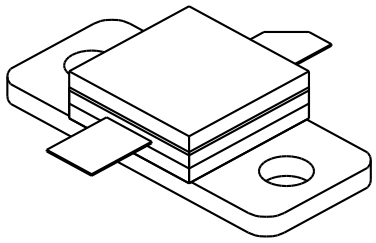
DME 150

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

GENERAL DESCRIPTION

The DME 150 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 and diffused ballasting for proven highest MTTF. The transistor includes input and ouput prematch for broadband capabilit. Low thermal resistance package reduces junction temperature, extends life.

CASE OUTLINE
55AY, STYLE 1



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25ºC[2]	290 Watts
Maximum Voltage and Current	
BVces Collector to Base Voltage	55 Volts
BVebo Emitter to Base Voltage	4.0 Volts
Ic Collector Current	15 Amps
Maximum Temperatures	
Storage Temperature	- 65 to + 150ºC
Operating Junction Temperature	+ 150ºC

ELECTRICAL CHARACTERISTICS @ 25 ^{O}C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 1025-1150 MHz	150			Watts
Pin	Power Input	Vcc = 50 Volts			25	Watts
Pg	Power Gain	PW = 10 μsec	7.8	8.3		dB
η_c	Collector Efficiency	DF = 1%		40		%
VSWR	Load Mismatch Tolerance	F = 1090 MHz			20:1	

BVebo	Emitter to Base Breakdown	Ie = 15 mA	4.0			Volts
BVces	Collector to Emitter Breakdown	Ic = 25 mA	55			Volts
Cob	Capacitance Collector to Base	Vcb = 50 Volts				pF
$\mathbf{h_{FE}}$	DC - Current Gain	Ic = 250 mA, Vce = 5 V	20			
$\theta\mathbf{jc}^{2}$	Thermal Resistance				0.6	ºC/W

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

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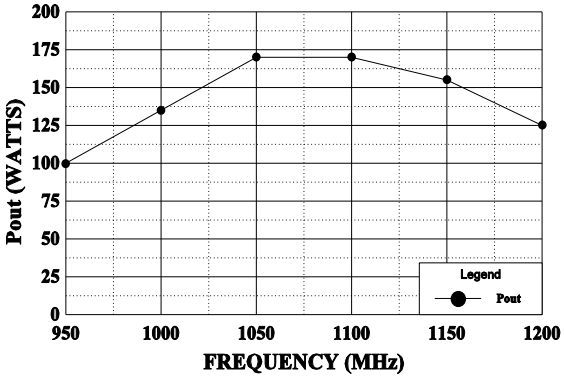
CHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

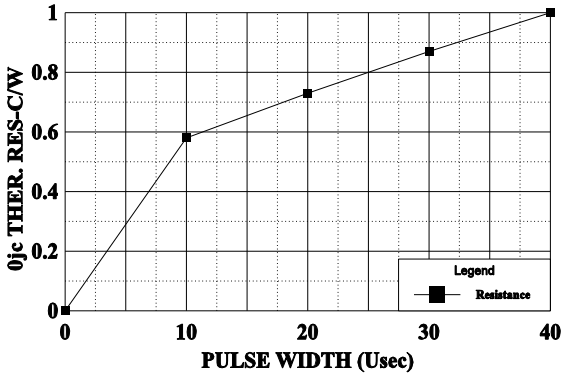
POWER OUTPUT

Vcc = 50 V, Pin = 25 W



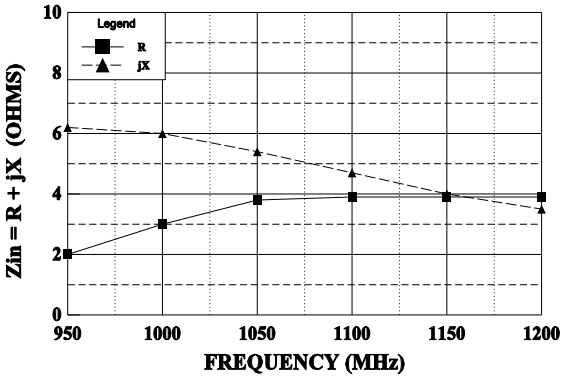
THERMAL RESISTANCE vs PULSE WIDTH

Vcc=50V, DF=1%, Tf=30C



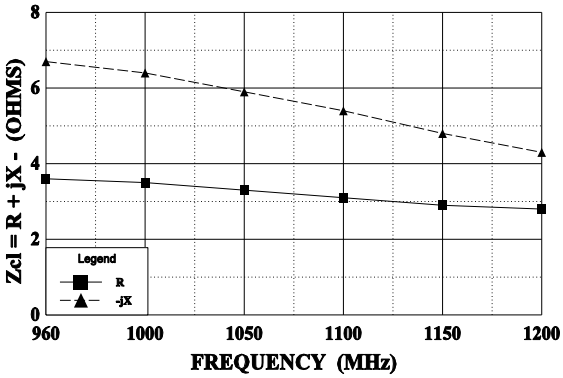
SERIES INPUT IMPEDANCE vs FREQUENCY

Vcc = 50 V, Po = 150 W

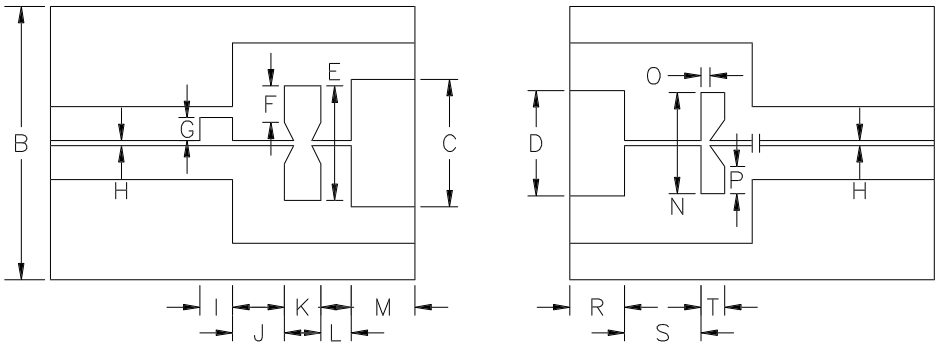


SERIES LOAD IMPEDANCE vs FREQUENCY

Vcc = 50 V, Po = 150 W

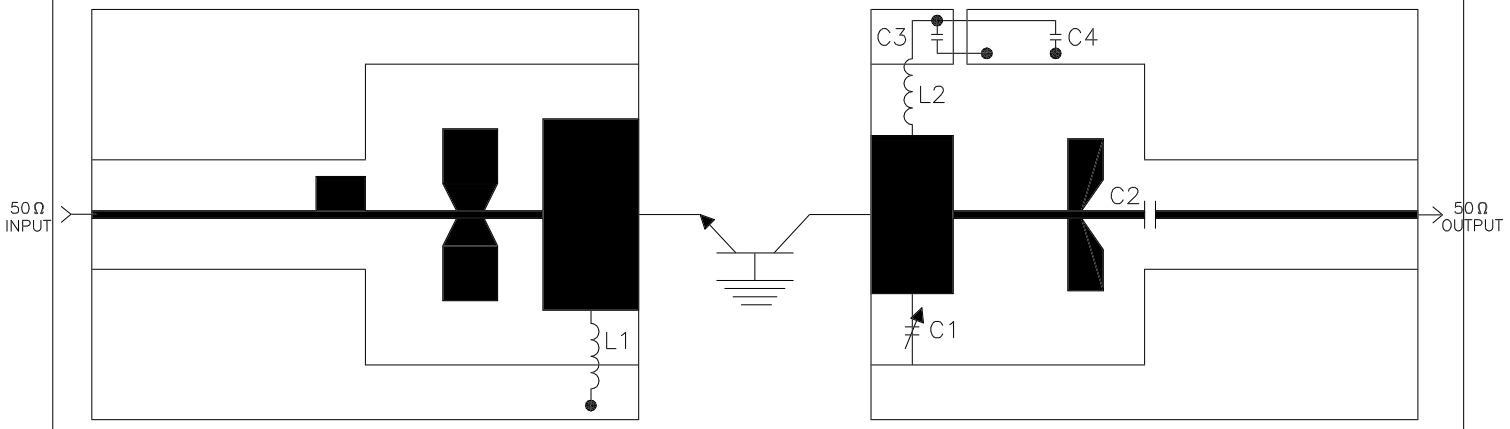


REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



DIM	INCHES
A	2.000
B	1.500
C	.700
D	.550
E	.628
F	.200
G	.140
H	.028
I	.180
J	.284
K	.200
L	.166
M	.350
N	.528
O	.050
P	.150
Q	.028
R	.300
S	.419
T	.130

1025/1150 MHz TEST AMPLIFIER



Material=.010" Duroid Er=2.3

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= 200 MFD @ 50V

	CAGE	DWG NO.	REV
GHz TECHNOLOGY	0PJR2	DME 150	A
		SCALE 1/1	SHEET