GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

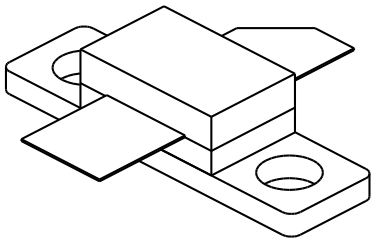
DME 375

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

GENERAL DESCRIPTION

The DME 375 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 MTTF. The transistor includes input prematch for broadband capability. Low thermal resistance package reduces junction temperature, extends life.

CASE OUTLINE
55CX, STYLE 1



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25ºC[2]	875 Watts
Maximum Voltage and Current	
BVces Collector to Base Voltage	60 Volts
BVebo Emitter to Base Voltage	4.0 Volts
Ic Collector Current	30 Amps
Maximum Temperatures	
Storage Temperature	- 65 to + 150ºC
Operating Junction Temperature	+ 200ºC

ELECTRICAL CHARACTERISTICS @ 25 ^{O}C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 1025-1150 MHz	375			Watts
Pin	Power Input	Vcc = 50 Volts			75	Watts
Pg	Power Gain	PW = 10 μsec	7.0	8.0		dB
η_c	Collector Efficiency	DF = 1%		40		%
VSWR	Load Mismatch Tolerance	F = 1090 MHz			00.1	

BVebo	Emitter to Base Breakdown	Ie = 20 mA	4.0			Volts
BVces	Collector to Emitter Breakdown	Ic = 25 mA	60			Volts
Cob	Capacitance Collector to Base	Vcb = 50 Volts		20		Pf
$\mathbf{h_{FE}}$	DC - Current Gain	Ic = 1.0 mA, Vce = 5 V	10			
$\theta\mathbf{jc}^{2}$	Thermal Resistance	Pulsed			0.8	ºC/W

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

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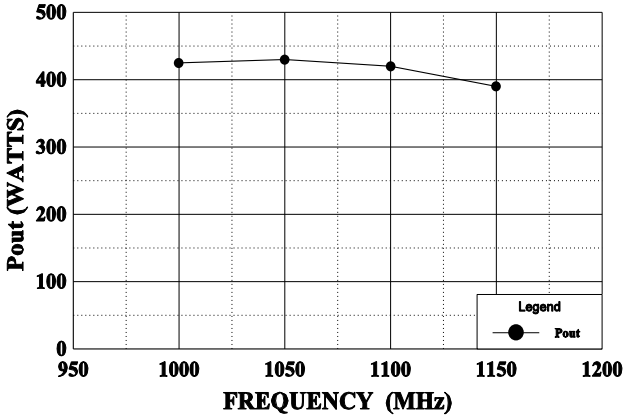
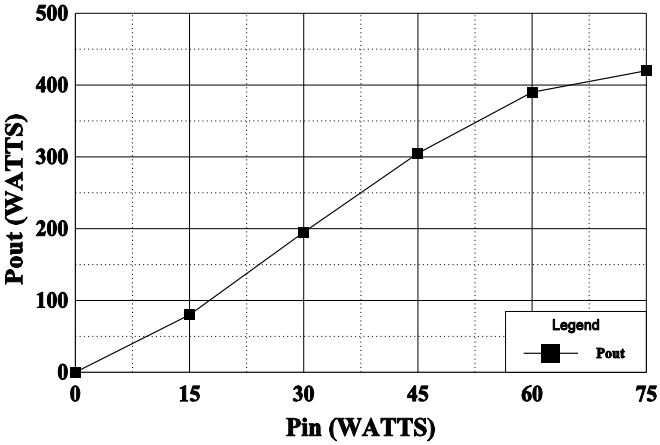
POWER OUTPUT vs FREQUENCY

Vcc = 50 V, Pin = 65 W



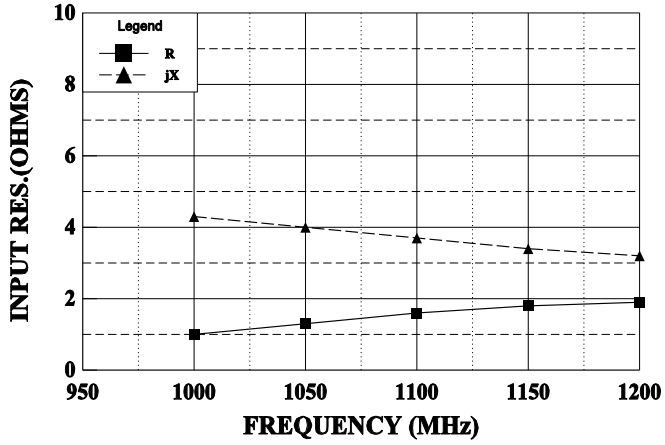
Pout vs Pin

Vcc=50V, f=1090 MHz



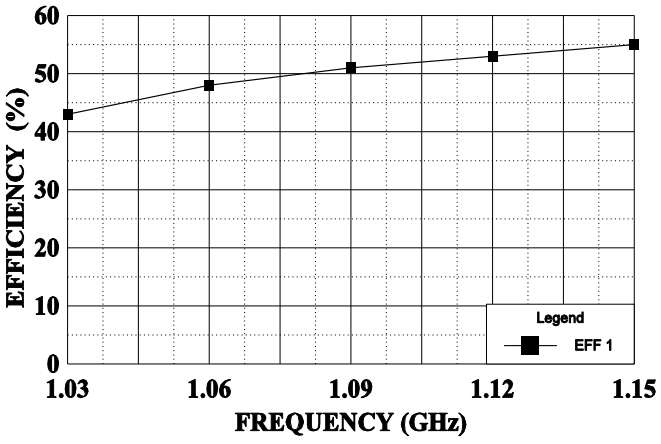
SERIES INPUT IMPEDANCE vs FREQUENCY

Vcc = 50 V, Po = 375 W



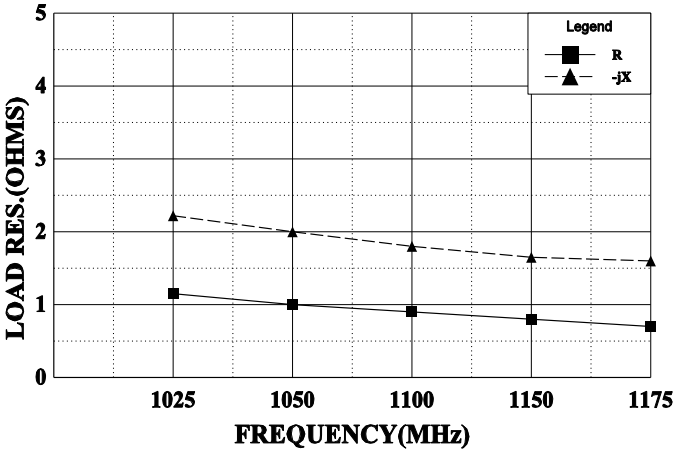
COLLECTOR EFFICIENCY

Vcc = 50 V, Pin = 75 W

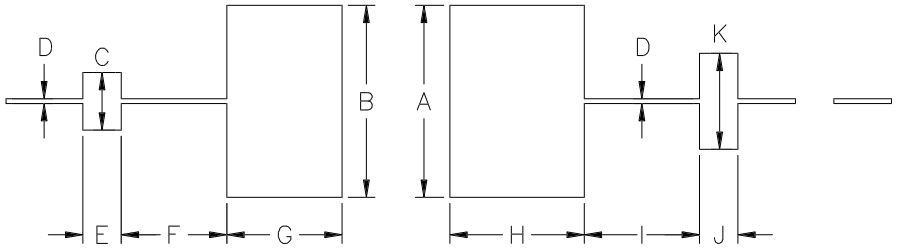


SERIES LOAD IMPEDANCE vs FREQUENCY

Vcc = 50 V, Po = 375 W

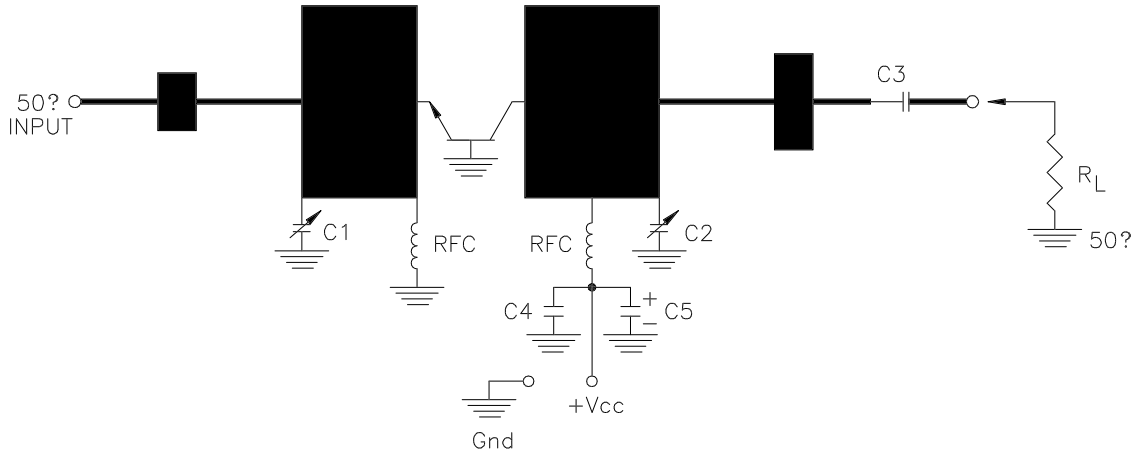


REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



DIM	INCHES
A	1.000
B	1.000
C	.300
D	.025
E	.200
F	.550
G	.600
H	.700
I	.600
J	.200
K	.500

DME 375 / TPR 400 TEST FIXTURE
1025–1150 MHz/1030/1090 MHz – TEST AMPLIFIER (FIG1)



▬ – MICROSTRIP LINE: DUROID, 10 MIL DIELECTRIC D 5880, er=2.33
C1, C2 – 0.6–6pf VAR. CAP.
C3, C4 – 82 pf CHIP
C5 – 200 MFD CAP.

	CAGE	DWG NO.	REV
GHz TECHNOLOGY	0PJR2	DME 375 / TPR 400	–
		SCALE 1/1	SHEET