GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

2001

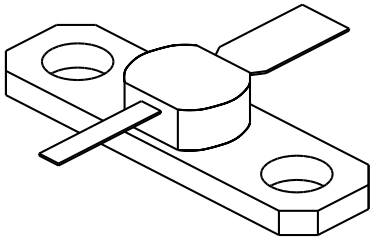
1.0 Watt - 28 Volts, Class C
Microwave 2000 MHz

GENERAL DESCRIPTION

The 2001 is a COMMON BASE transistor capable of providing 1 Watts Class C, RF output power at 2000 MHz. Gold Metalization and diffused ballasting are used to provide high reliability and supreme ruggedness. The transistor uses a fully hermetic High Temperature Solder Sealed package.

CASE OUTLINE

55BT-1, Style 1



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C 5.0 Watts

Maximum Voltage and Current

BVces	Collector to Emitter Voltage	50 Volts
BVebo	Emitter to Base Voltage	3.5 Volts
Ic	Collector Current	0.25 A

Maximum Temperatures

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

ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 2 GHz	1.0			Watt
Pin	Power Input	Vcb = 28 Volts			0.125	Watt
Pg	Power Gain	Po = 1.0 Watts	9.0	9.5		dB
η_c	Collector Efficiency	As Above		40		%
$VSWR_1$	Load Mismatch Tolerance	F = 2 GHz, Po = 1.0 W			30:1	

BVces	Collector to Emitter Breakdown	Ic = 10 mA	50			Volts
BVcbo	Collector to Base Breakdown	Ic = 1 mA	45			Volts
BVebo	Emitter to Base Breakdown	Ie = 1.0 mA	3.5			Volts
Icbo	Collector to Base Current	Vcb = 28 Volts			500	µA
h_{FE}	Current Gain	Vce = 5 V, Ic = 100 mA	20			
Cob	Output Capacitance	F =1 MHz, Vcb = 28 V		4.0		pF
θ_{jc}	Thermal Resistance				35	°C /W

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CHz TECHNOLOGY
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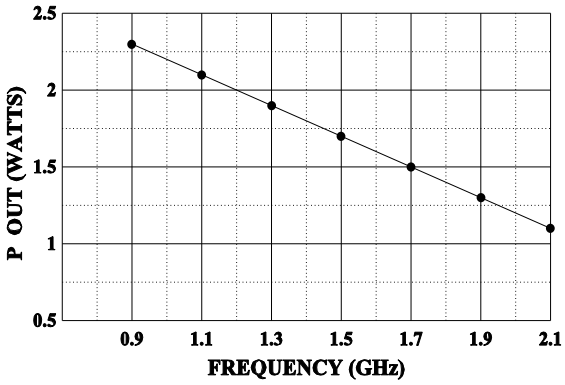
2001

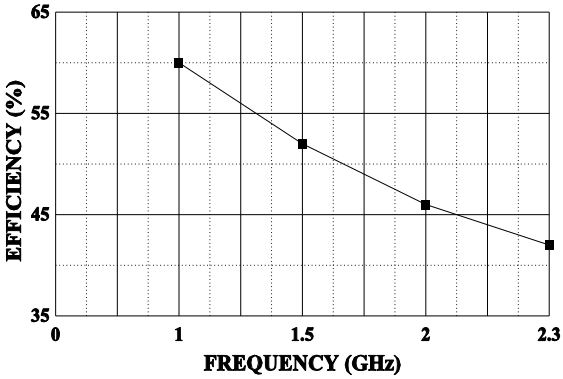
POWER OUTPUT VS FREQUENCY

Vcc=28V, Pin=0.125W



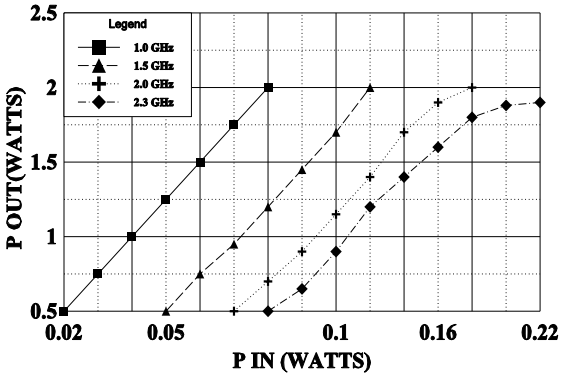
EFFICIENCY VS FREQUENCY

Vcc=28V



POWER OUTPUT VS POWER INPUT

Vcc=28V



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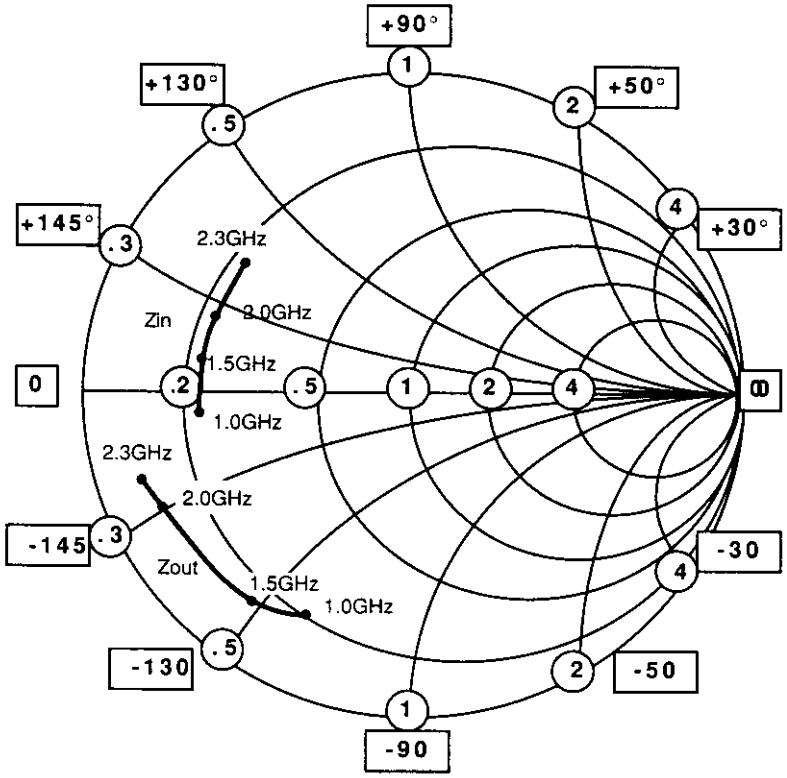
SMITH CHART

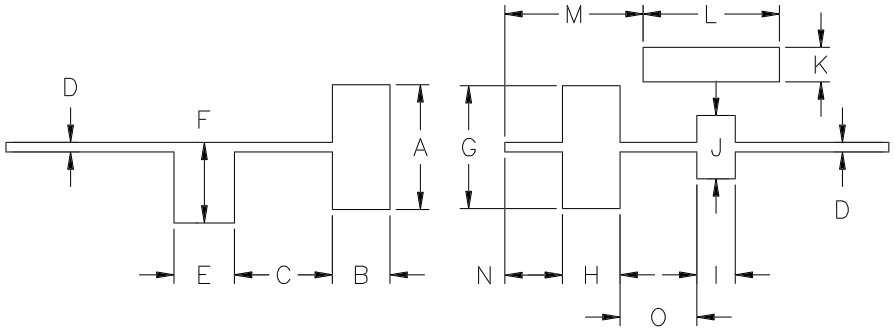
2001

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



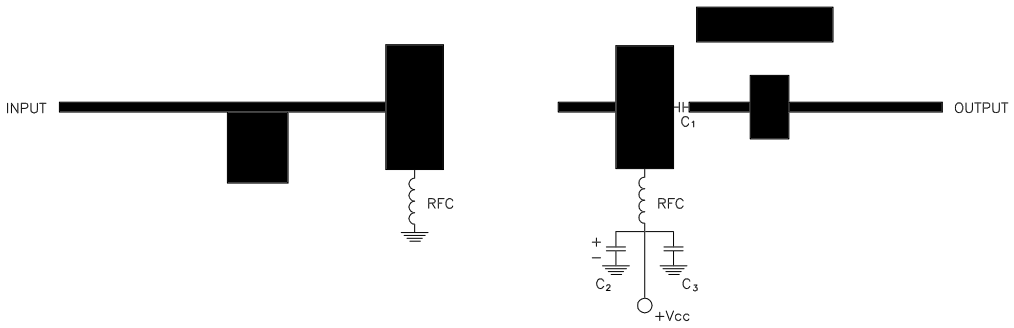
NORMALIZED TO A 50 OHM SYSTEM.

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



DIM	INCHES
A	.650
B	.300
C	.510
D	.050
E	.315
F	.420
G	.640
H	.300
I	.200
J	.330
K	.180
L	.710
M	.720
N	.300
O	.400

2001 TEST AMPLIFIER
F = 2.0 GHz



= MICROSTRIP ON 15 MIL DUROID Er = 2.3
C_1 = 3.6 ATC A CHIP
C_2 = 180pf ATC B CHIP
C_3 = 10 MFD 50V

GHz TECHNOLOGY	CAGE 0PJR2	DWG NO. 2001	REV A
		SCALE 1/1	SHEET