GHz TECHNOLOGY
RF·MICROWAVE SILICON POWER TRANSISTORS

2010

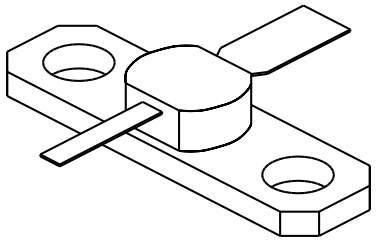
10 Watt - 28 Volts, Class C
Microwave 2000 MHz

GENERAL DESCRIPTION

The 2010 is a COMMON BASE transistor capable of providing 10 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



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C 30 Watts

Maximum Voltage and Current

BVces	Collector to Emitter Voltage	50 Volts
BVebo	Emitter to Base Voltage	3.5 Volts
Ic	Collector Current	2.0 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	10			Watt
Pin	Power Input	Vcb = 28 Volts			2	Watt
Pg	Power Gain	Po= 10 Watts	7.0	8.0		dB
η_c	Collector Efficiency	As Above		40		%
$VSWR_1$	Load Mismatch Tolerance	F = 2 GHz, Po = 10 W			20:1	

BVces	Collector to Emitter Breakdown	Ic = 20 mA	50			Volts
BVcbo	Collector to Base Breakdown	Ic = 4 mA	45			Volts
BVebo	Emitter to Base Breakdown	Ie = 4 mA	3.5			Volts
Icbo	Collector to Base Current	Vcb = 28 Volts			4.0	mA
h_{FE}	Current Gain	Vce = 5 V, Ic = 400 mA	20			
Cob	Output Capacitance	F = 1 MHz, Vcb = 28 V				pF
θ_{jc}	Thermal Resistance				6.0	°C/W

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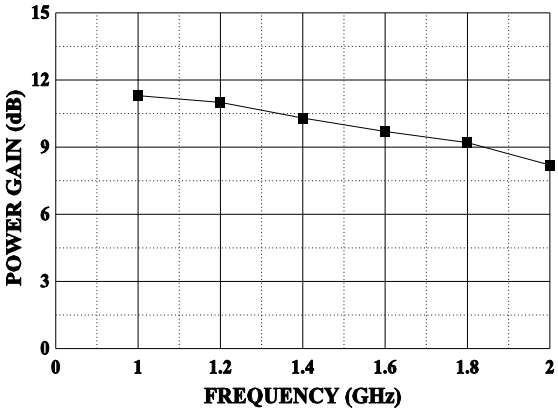
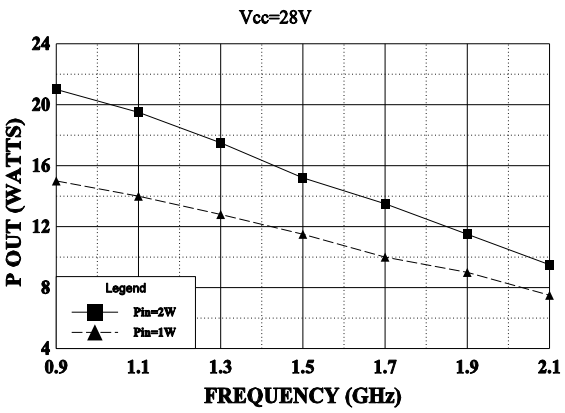
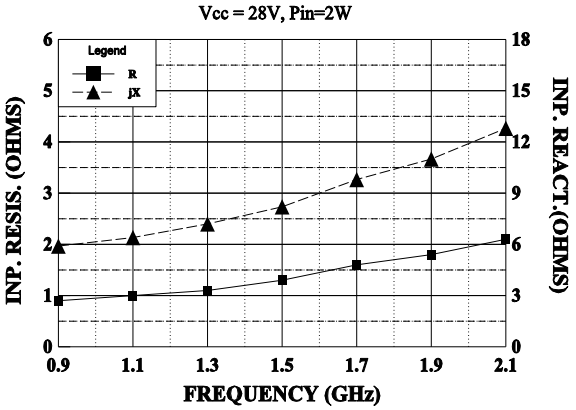
POWER GAIN VS FREQUENCY



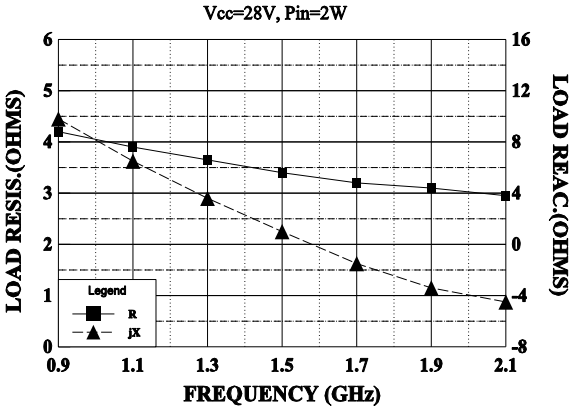
POWER OUTPUT VS FREQUENCY



SERIES INPUT IMPEDANCE VS FREQUENCY



SERIES LOAD IMPEDANCE VS FREQUENCY



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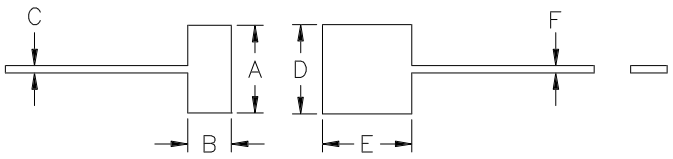
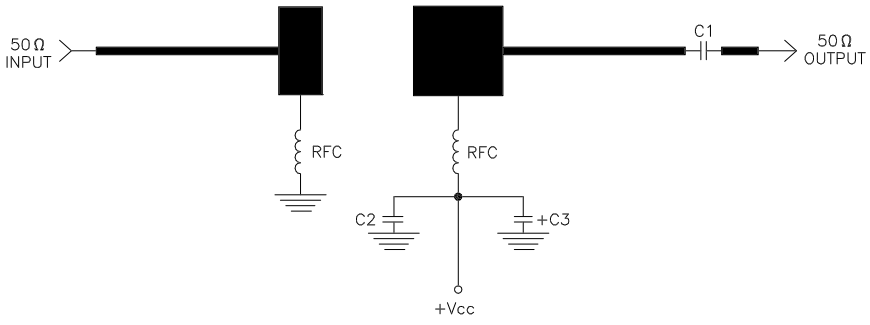
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



DIM	INCHES
A	.480
B	.240
C	.040
D	.490
E	.490
F	.040

2000 MHz TEST AMPLIFIER

Vcc = 28V



NOTE 1. Under the normal operating conditions as specified, junction temperature to be 200° maximum as measured by I.R. scan of the chip.
Thermal Resistance = 6° C/W Junction to Case.

▬ = Microstrip on 0.020" Teflon Fiberglass, Er=2.55
C1,C2 = 47 pf chip cap
C3 = 10μfd @ 35 VOLTS

	CAGE	DWG NO.	REV
CHz TECHNOLOGY	0PJR2	2010	A
		SCALE 1/1	SHEET