

2010

10 Watt - 28 Volts, Class C
Microwave 2000 MHz

GENERAL DESCRIPTION

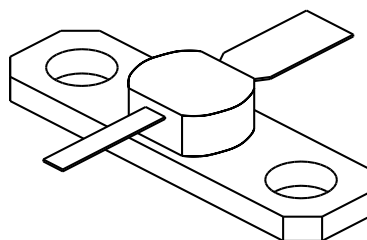
The 2010 is a COMMON BASE transistor capable of providing 10 Watts Class C, RF output power at 2000 MHz. Gold metalization and diffused ballasting are used to provide high reliability and supreme ruggedness. The transistor uses a fully hermetic High Temperature Solder Sealed package.

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

CASE OUTLINE

55BT-1, Style



ELECTRICAL CHARACTERISTICS @ 25 °C

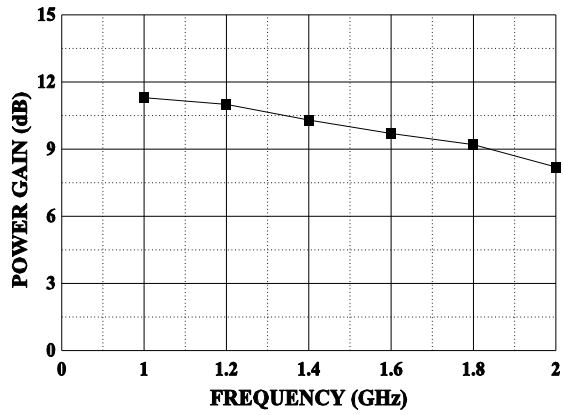
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 2 GHz	10			Watt
Pin	Power Input	Vcb = 28 Volts			2	Watt
Pg	Power Gain	Po = 10 Watts	7.0	8.0		dB
η_c	Collector Efficiency	As Above		40		%
VSWR ₁	Load Mismatch Tolerance	F = 2 GHz, Po = 10 W			20:1	

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			6.0	pF
θ_{jc}	Thermal Resistance					°C/W

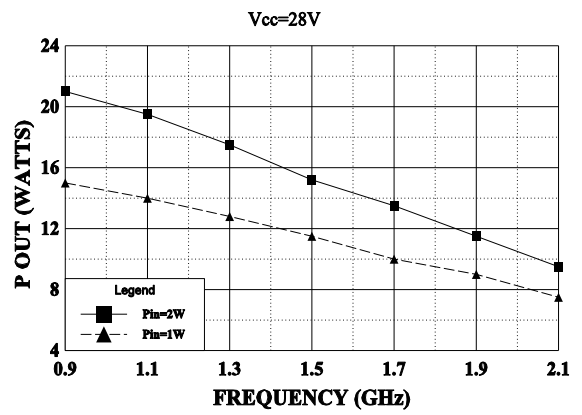
Issue August 1996

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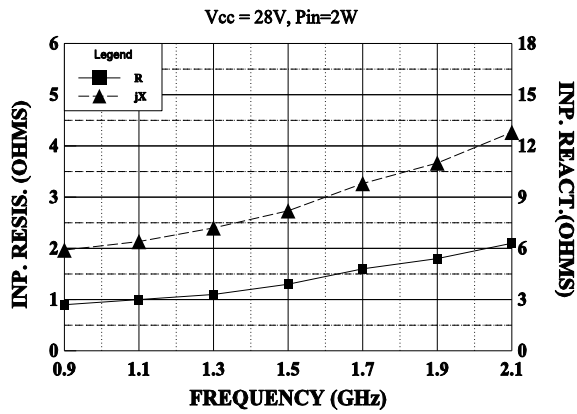
POWER GAIN VS FREQUENCY



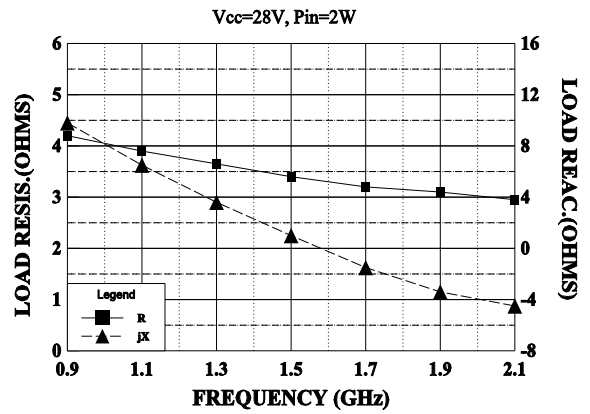
POWER OUTPUT VS FREQUENCY



SERIES INPUT IMPEDANCE VS FREQUENCY

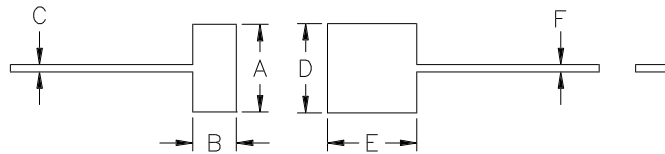


SERIES LOAD IMPEDANCE VS FREQUENCY



REVISIONS

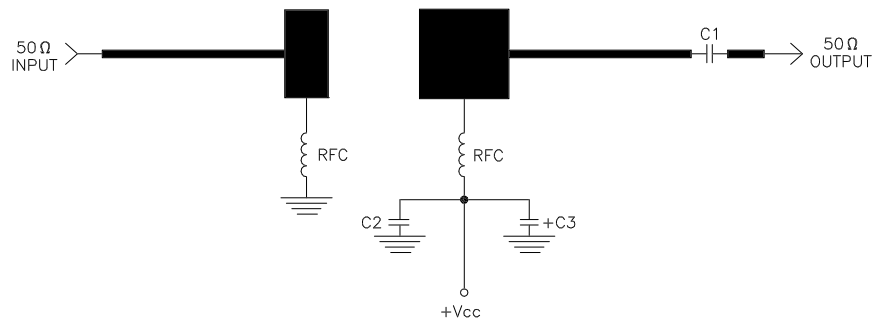
ZONE	REV	DESCRIPTION	DATE	APPROVED
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DIM	INCHES
A	.480
B	.240
C	.040
D	.490
E	.490
F	.040

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
OPJR2	2010	A
SCALE	1/1	SHEET