

2003

3 Watt - 28 Volts, Class C
Microwave 2000 MHz

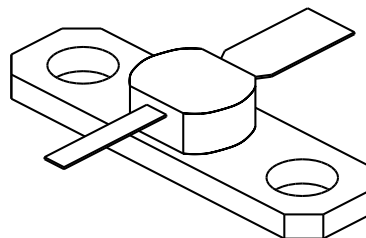
GENERAL DESCRIPTION

The 2003 is a COMMON BASE transistor capable of providing 3 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 is uses a fully hermetic High Temperature solder Sealed package.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C	12 Watts
Maximum Voltage and Current	
BVces Collector to Emitter Voltage	50 Volts
BVebo Emitter to Base Voltage	3.5 Volts
Ic Collector Current	0.5 A
Maximum Temperatures	
Storage Temperature	- 65 to + 200°C
Operating Junction Temperature	+ 200°C

CASE OUTLINE 55BT-1, Style 1



ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P_{out}	Power Out	F = 2000 MHz	3.0			Watt
P_{in}	Power Input	V _{cb} = 28 Volts			0.47	Watt
P_g	Power Gain	P _o = 3.0 Watts	8.1	8.5		dB
η_c	Collector Efficiency	As Above		40		%
VSWR₁	Load Mismatch Tolerance	F = 2 GHz, P _o = 3 W			30:1	

BVces	Collector to Emitter Breakdown	I _c = 10 mA	50			Volts
BVcbo	Collector to Base Breakdown	I _c = 1 mA	45			Volts
BVebo	Emitter to Base Breakdown	I _e = 1.0 mA	3.5			Volts
Icbo	Collector to Base Current	V _{cb} = 28 Volts			500	μA
h_{FE}	Current Gain	V _{ce} = 5 V, I _c = 100 mA	10			
Cob	Output Capacitance	F = 1 MHz, V _{cb} = 28 V		5.0		pF
θ_{jc}	Thermal Resistance				15	°C/W

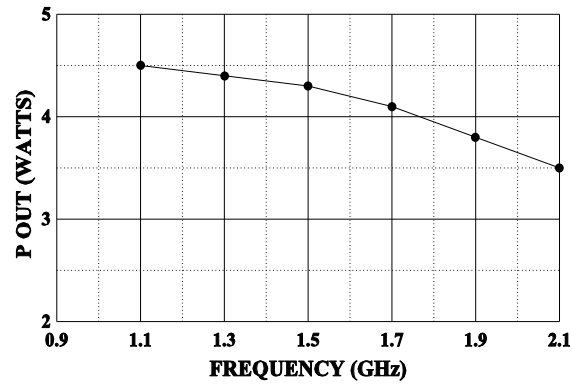
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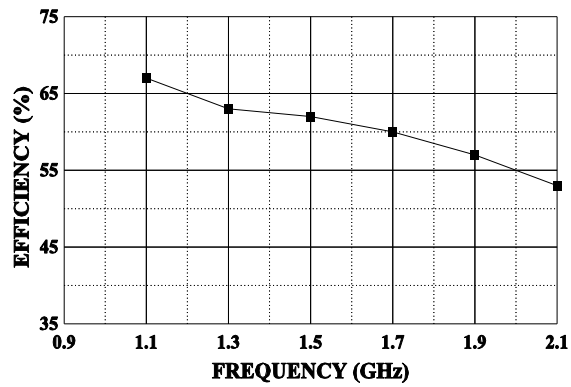
POWER OUTPUT VS FREQUENCY

V_{CC}=28V, Pin = .47 Watts



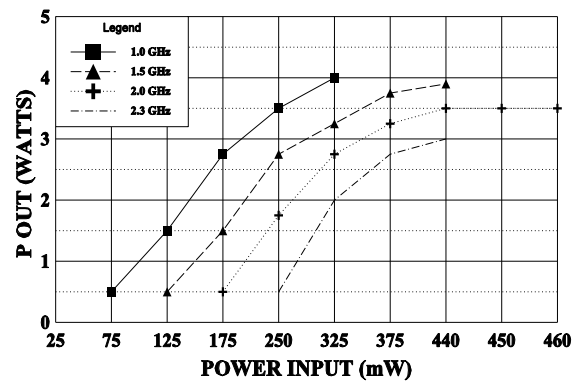
EFFICIENCY VS FREQUENCY

V_{CC}=28V



POWER OUTPUT VS POWER INPUT

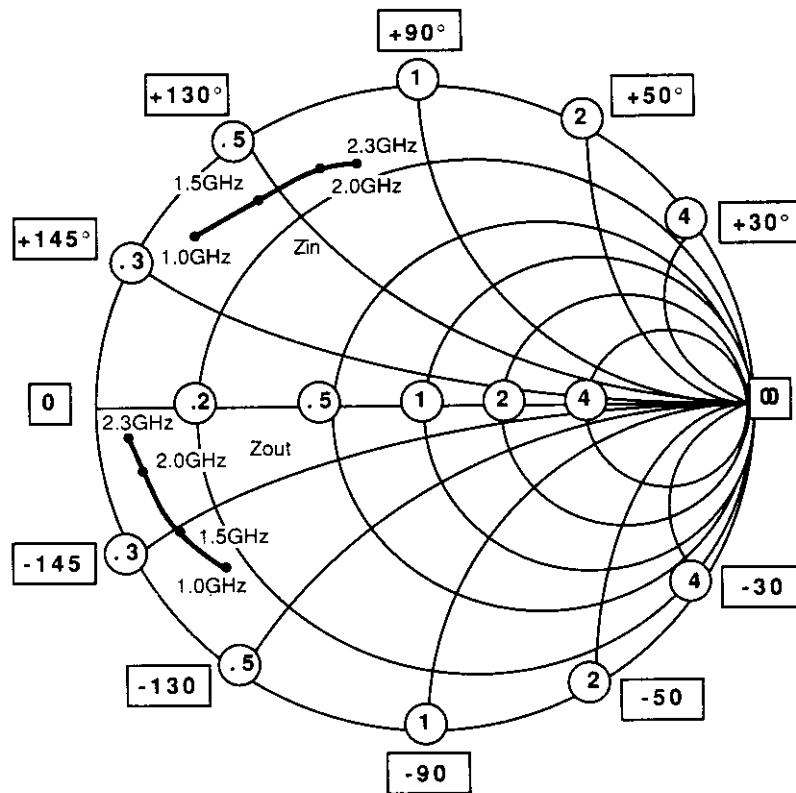
V_{CC}=28V



SMITH CHART

2003

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



NORMALIZED TO A 50 OHM SYSTEM.