

GENERAL DESCRIPTION

The 2003 is a common base transistor capable of providing 3 Watts of CW RF output power in the 1000-2000 MHz. This hermetically sealed transistor is specifically designed for Class C amplifier applications. It utilizes gold metallization and diffused ballasting to provide high reliability and supreme ruggedness.

2003
3 WATTS - 28 VOLTS
2000 MHz

MICROWAVE CW BIPOLAR

ABSOLUTE MAXIMUM RATINGS

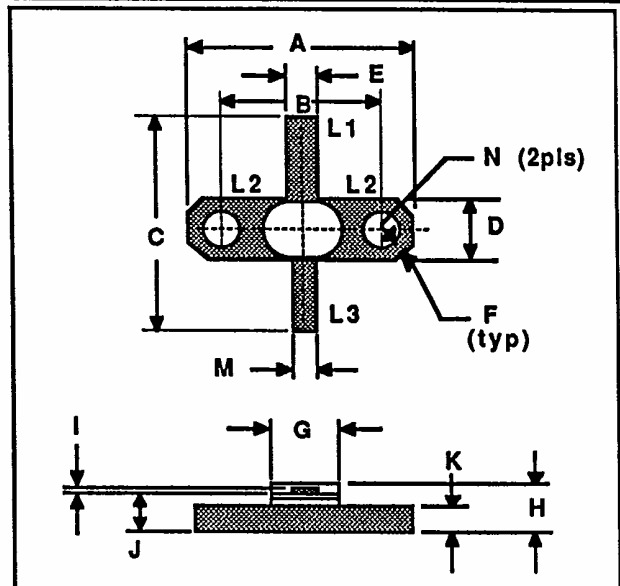
Maximum Power Dissipation @ 25°C Case Temperature **11.6 W**

Maximum Voltage and Current

BVces Collector to Emitter Voltage **50 V**
 BVebo Emitter to Base Voltage **3.5 V**
 Ic Collector Current **0.5 A**

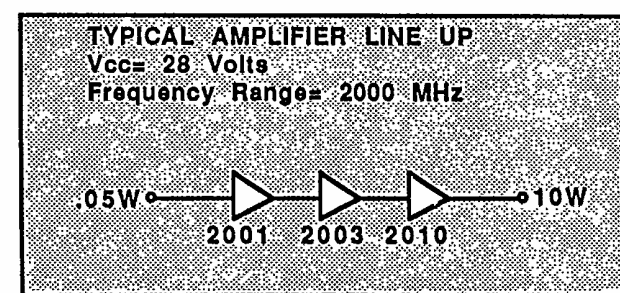
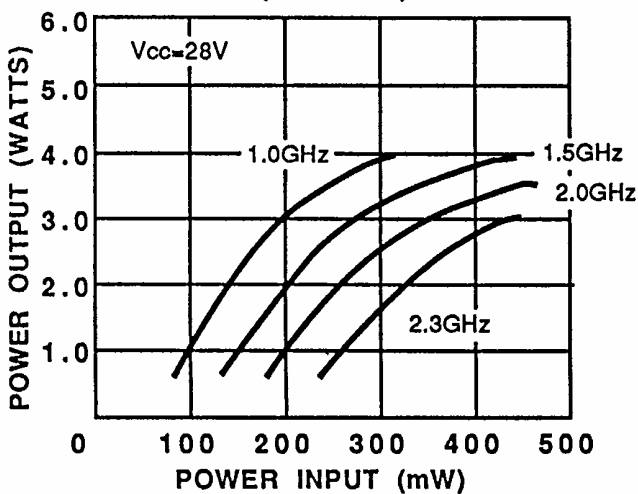
Maximum Temperatures

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



DIM	Millimeter	TOL	Inches	TOL
L1 : B	A	.13	.800	.005
L2 : E	B	.13	.562	.005
L3 : C	C	MIN	.710	MIN
	D	.13	.230	.005
	E	.13	.120	.005
	F	45°	45°	5°
	G	.13	.230	.005
	H	REF	.180	REF
	I	.02	.005	.001
	J	.13	.150	.005
	K	.13	.060	.005
	M	.13	.050	.005
	N	.13	.130	.005

POWER OUTPUT VS POWER INPUT (TYPICAL)

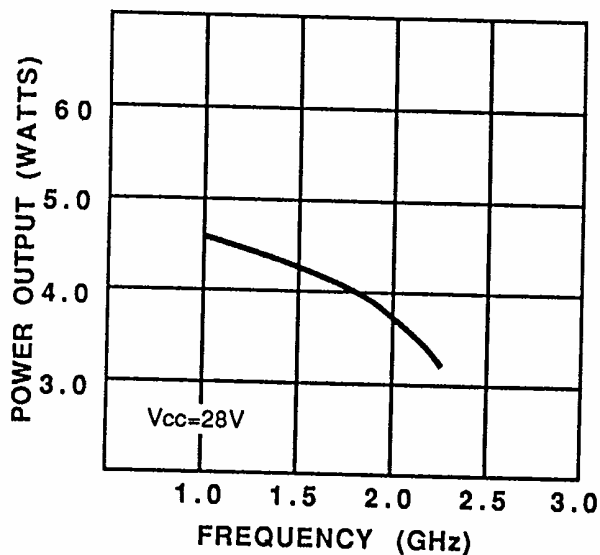


ELECTRICAL CHARACTERISTICS¹

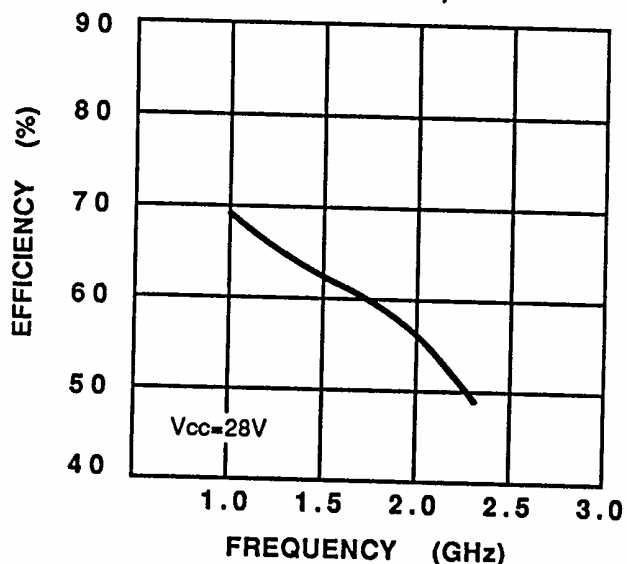
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P _{out}	Power Output	f= 2000 MHz V _{cc} = 28V P _{in} = 0.47W	3.0			Watts
P _{in}	Power Input				0.47	Watts
P _g	Power Gain		8.1			dB
η _c	Collector Efficiency		40			%
V _{SWR}	Load Mismatch Tolerance				∞:1	
B _{Vebo}	Breakdown Voltage (Emitter to Base)	I _c = 0A, I _e = 1.0mA	3.5			Volts
B _{Vces}	Breakdown Voltage (Collector to Emitter)	V _{be} = 0A, I _c = 10mA	50			Volts
B _{Vcbo}	Breakdown Voltage (Collector - Base)	I _e = 0A, I _c = 1mA	45			Volts
I _{cbo}	Collector Leakage Current	I _e = 0A, V _{cb} =28V			500	μA
C _{ob}	Capacitance-Collector to Base	f= 1MHz, V _{cb} = 28V		5.0		pF
h _{FE}	DC-Current Gain	V _{ce} = 5V, I _c = 100mA	10			
θ _{jc}	Thermal Resistance	T _f = 25°C			15	°C/W

NOTE 1: T_c = 25°C unless otherwise specified.

POWER OUTPUT VS FREQUENCY (TYPICAL)



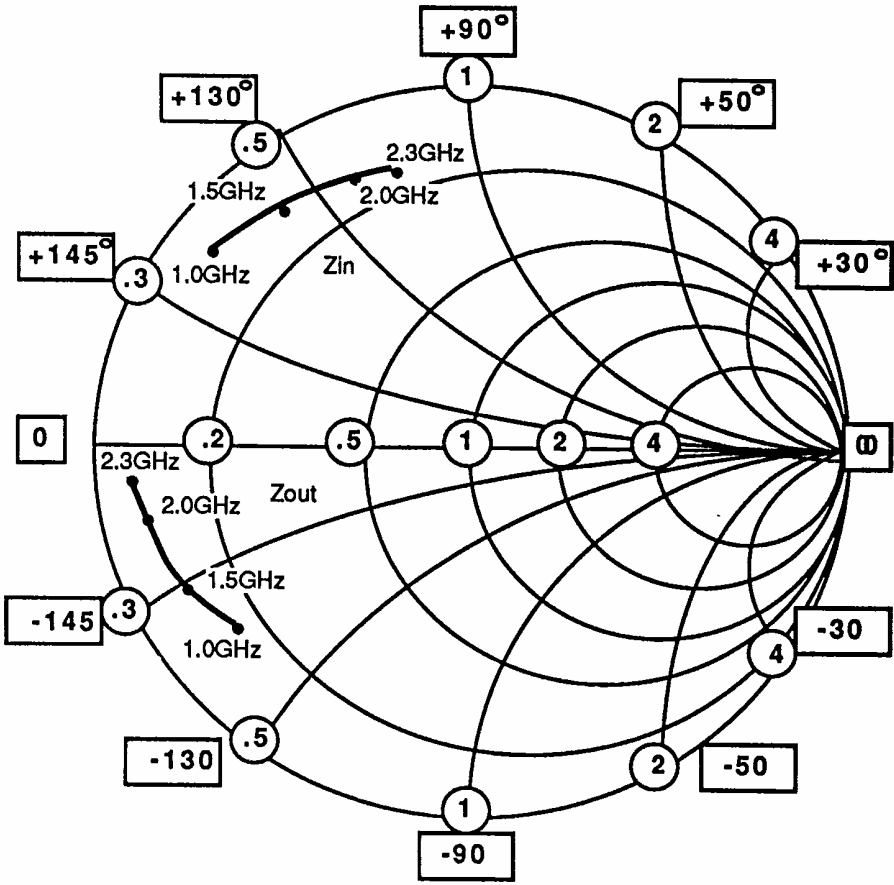
EFFICIENCY VS FREQUENCY (TYPICAL)



SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE

SMITH CHART 2003

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



NORMALIZED TO A 50 OHM SYSTEM.