

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.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C Case Temperature 11.6 W

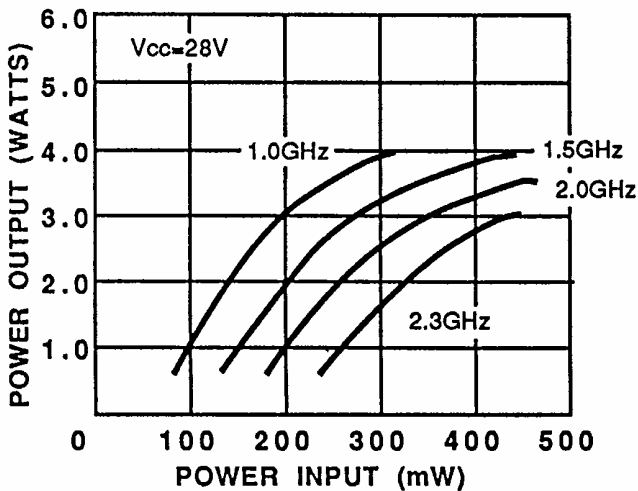
Maximum Voltage and Current

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

Maximum Temperatures

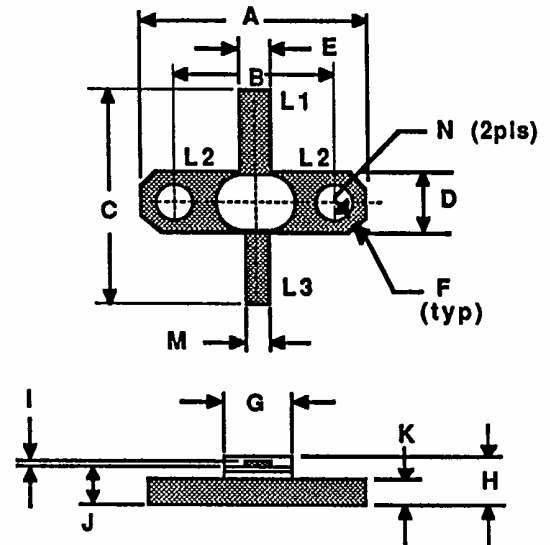
Storage Temperature	-65 to +200°C
Operating Junction Temperature	+200°C

POWER OUTPUT VS POWER INPUT
(TYPICAL)



2003
3 WATTS - 28 VOLTS
2000 MHz

MICROWAVE CW BIPOLAR



DIM	Millimeter	TOL	Inches	TOL
L1 : B				
L2 : E				
L3 : C				
A	20.32	.13	.800	.005
B	14.27	.13	.562	.005
C	18.03	MIN	.710	MIN
D	5.84	.13	.230	.005
E	3.05	.13	.120	.005
F	45°	5°	45°	5°
G	5.84	.13	.230	.005
H	4.57	REF	.180	REF
I	0.13	.02	.005	.001
J	3.81	.13	.150	.005
K	1.52	.13	.060	.005
M	1.27	.13	.050	.005
N	3.30	.13	.130	.005

TYPICAL AMPLIFIER LINE UP

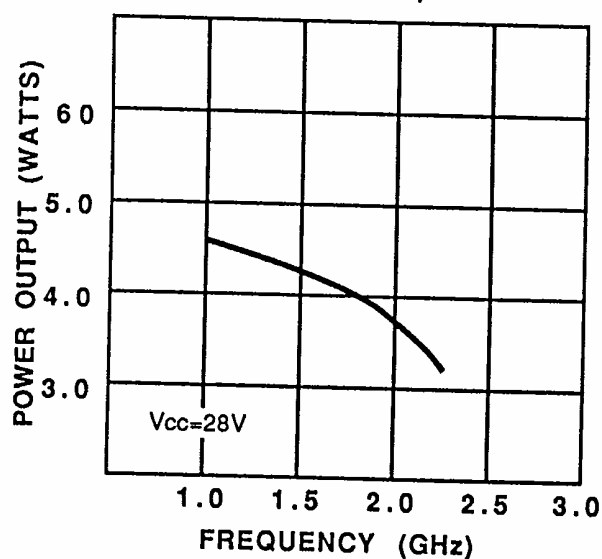
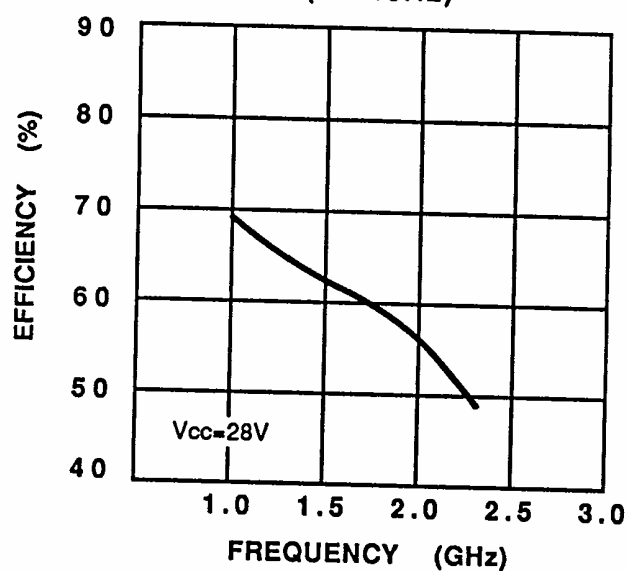
Vcc= 28 Volts

Frequency Range= 2000 MHz



ELECTRICAL CHARACTERISTICS¹

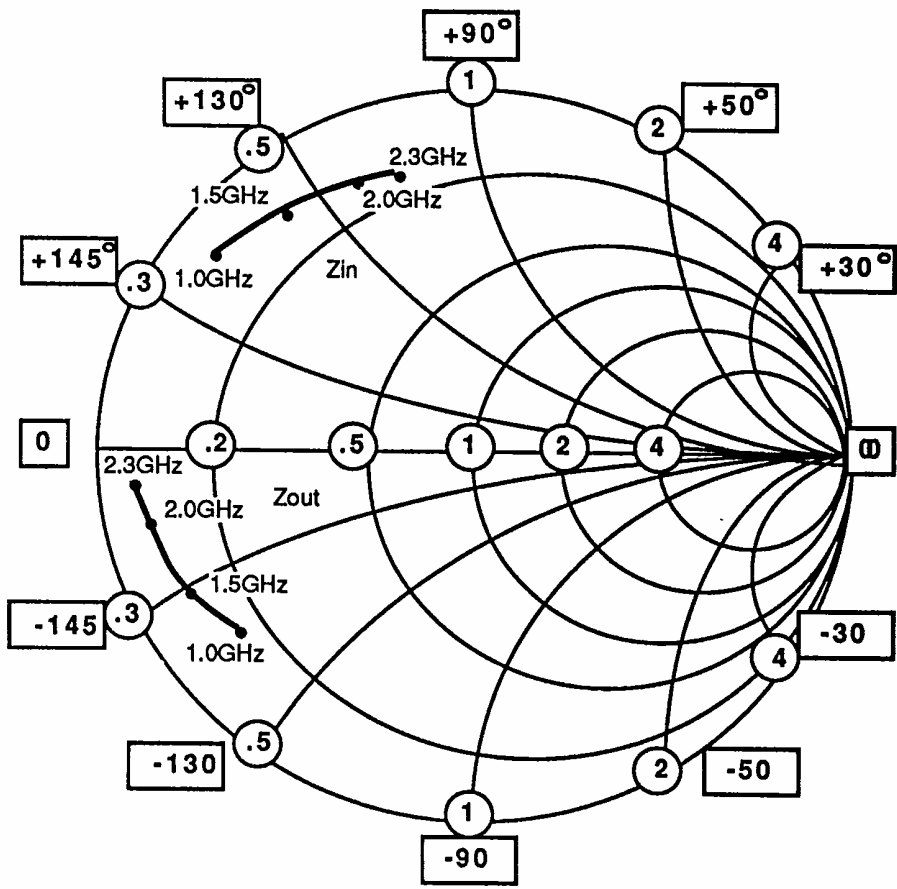
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P _{out}	Power Output	f = 2000 MHz V _{cc} = 28V P _{in} = 0.47W	3.0			Watts
P _{in}	Power Input				0.47	Watts
P _g	Power Gain		8.1			dB
η_c	Collector Efficiency		40			%
VSWR	Load Mismatch Tolerance				$\infty:1$	
BV _{ebo}	Breakdown Voltage (Emitter to Base)	I _c = 0A, I _e = 1.0mA	3.5			Volts
BV _{ces}	Breakdown Voltage (Collector to Emitter)	V _{be} = 0A, I _c = 10mA	50			Volts
BV _{cbo}	Breakdown Voltage (Collector - Base)	I _e = 0A, I _c = 1mA	45			Volts
I _{cbo}	Collector Leakage Current	I _e = 0A, V _{cb} = 28V			500	μ A
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.