2003
3 WATTS - 28 VOLTS
2000 MHz

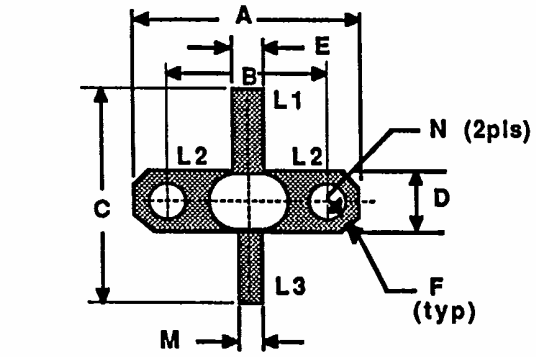
MICROWAVE CW BIPOLAR

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

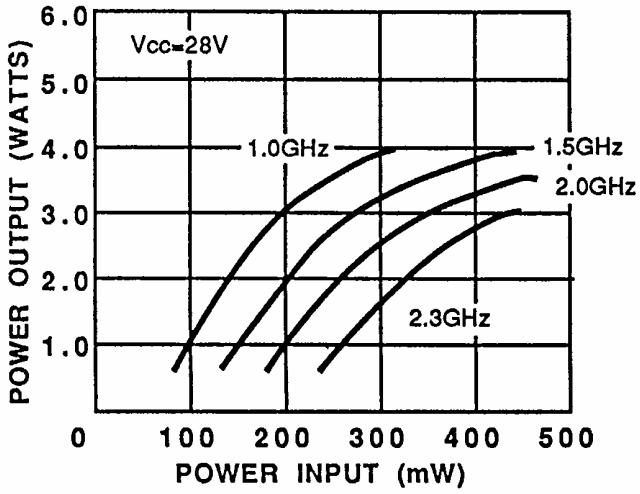
Maximum Power Dissipation @ 25°C Case Temperature		11.6 W
Maximum Voltage and Current		
BVces	Collector to Emitter Voltage	50 V
BVebo	Emitter to Base Voltage	3.5 V
Ic	Collector Current	0.5 A
Maximum Temperatures		
Storage Temperature		-65 to +200°C
Operating JunctionTemperature		+200°C



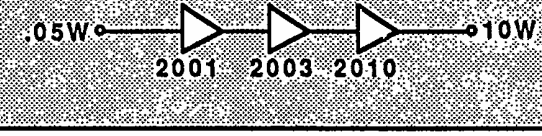
L1 : B
L2 : E
L3 : C

DIM	Millimeter	TOL	Inches	TOL
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

POWER OUTPUT VS POWER INPUT (TYPICAL)



TYPICAL AMPLIFIER LINE UP
Vcc= 28 Volts
Frequency Range= 2000 MHz



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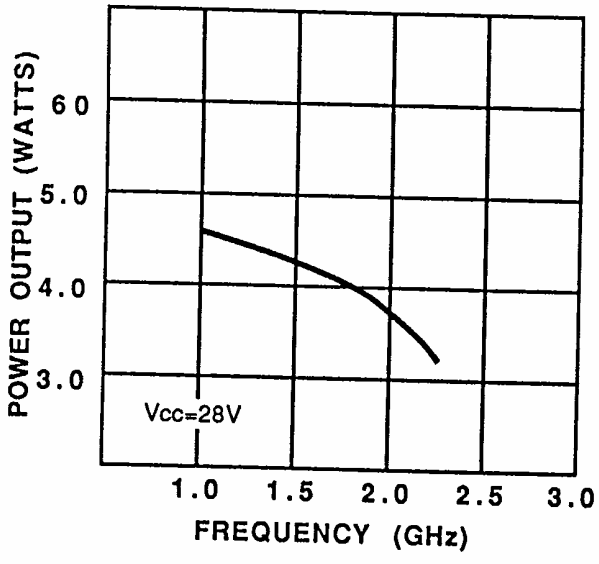
REV A AUG 1987
Printed in USA

ELECTRICAL CHARACTERISTICS[1]

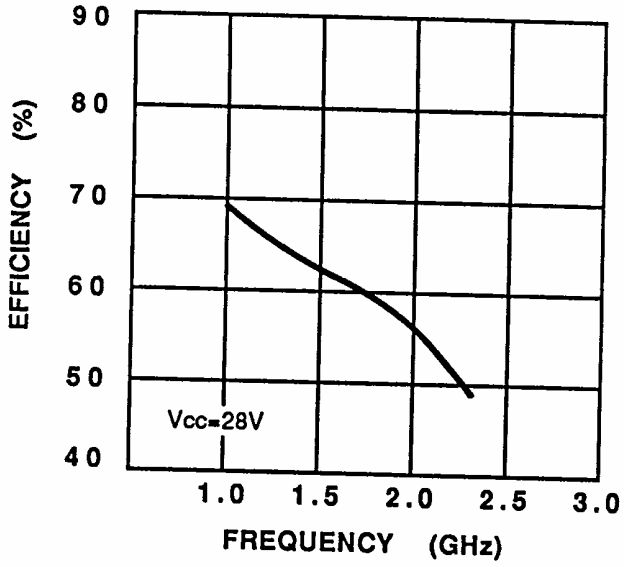
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Pout	Power Output	f= 2000 MHz Vcc= 28V Pin= 0.47W	3.0			Watts
Pin	Power Input				0.47	Watts
Pg	Power Gain		8.1			dB
η_c	Collector Efficiency		40			%
VSWR	Load Mismatch Tolerance				∞:1	
BVebo	Breakdown Voltage (Emitter to Base)	Ic= 0A, Ie= 1.0mA	3.5			Volts
BVces	Breakdown Voltage (Collector to Emitter)	Vbe= 0A, Ic= 10mA	50			Volts
BVcbo	Breakdown Voltage (Collector - Base)	Ie= 0A, Ic= 1mA	45			Volts
Icbo	Collector Leakage Current	Ie= 0A, Vcb=28V			500	μA
Cob	Capacitance- Collector to Base	f= 1MHz, Vcb= 28V		5.0		pF
h_{FE}	DC-Current Gain	Vce= 5V, Ic= 100mA	10			
θjc	Thermal Resistance	Tf= 25°C			15	°C/W

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

POWER OUTPUT VS FREQUENCY (TYPICAL)

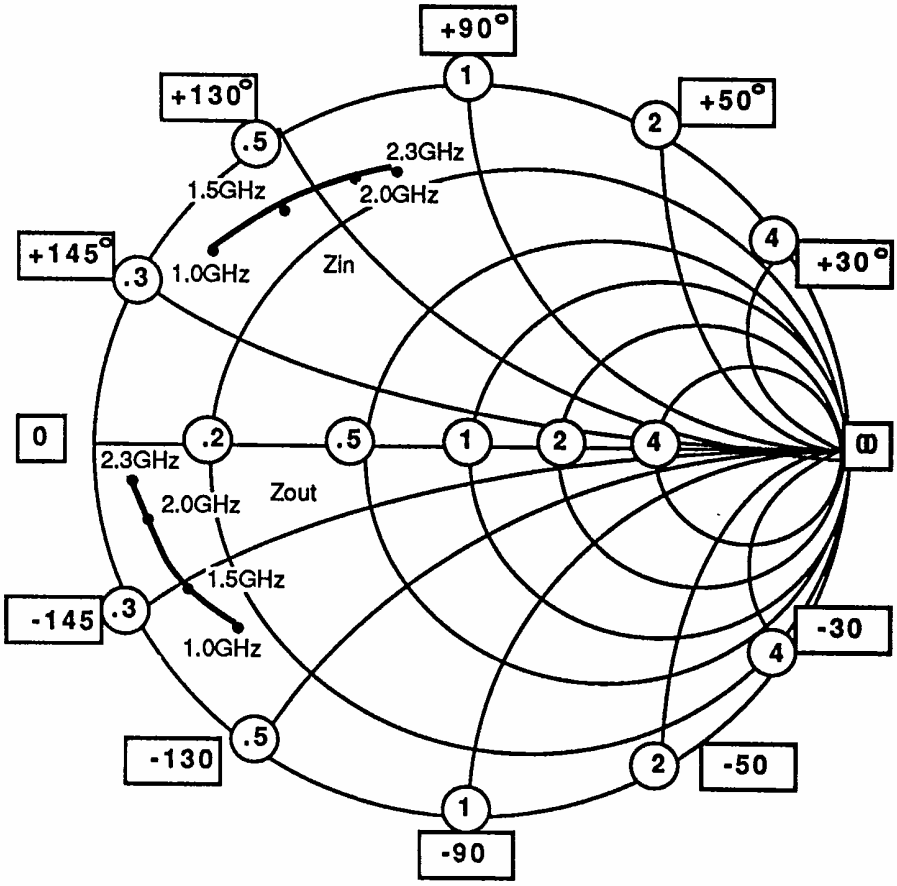


EFFICIENCY VS FREQUENCY (TYPICAL)



SMITH CHART
2003

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



NORMALIZED TO A 50 OHM SYSTEM.