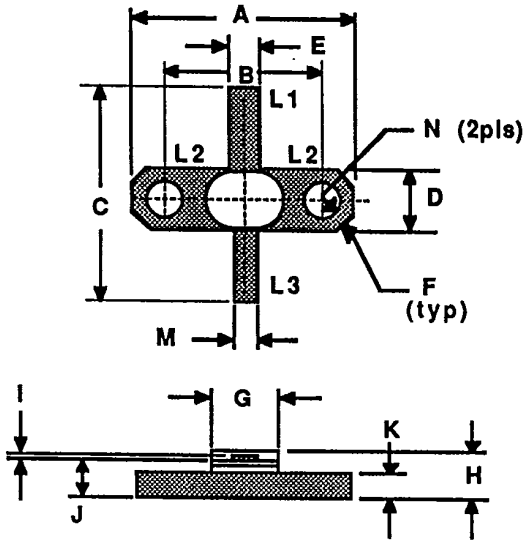
2307
7.0 WATTS - 20 VOLTS
2300 MHz
MICROWAVE CW BIPOLAR

GENERAL DESCRIPTION

The 2307 is a common base transistor capable of providing 7 watts of CW RF output power at 2300 MHz. This hermetically sealed transistor is specifically designed for telemetry and telcommunications applications. It utilizes gold metallization and diffused ballasting to provide high reliability and supreme ruggedness.

ABSOLUTE MAXIMUM RATINGS

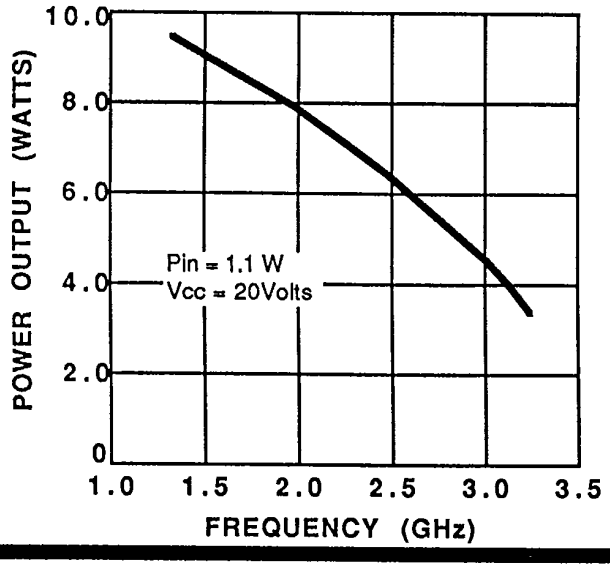
Maximum Power Dissipation @ 25°C Case Temperature		20.5 W
Maximum Voltage and Current		
BVces	Collector to Emitter Voltage	42 V
BVebo	Emitter to Base Voltage	3.5 V
Ic	Collector Current	1.0 A
Maximum Temperatures		
Storage Temperature		-65 to +200 °C
Operating JunctionTemperature		+200 °C



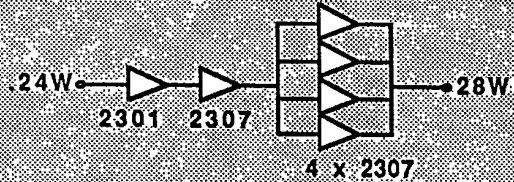
L1 : B
L2 : E
L3 : C

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 FREQUENCY (TYPICAL)



TYPICAL AMPLIFIER LINE UP
Vcc= 20 Volts
Frequency Range= 2300 MHz



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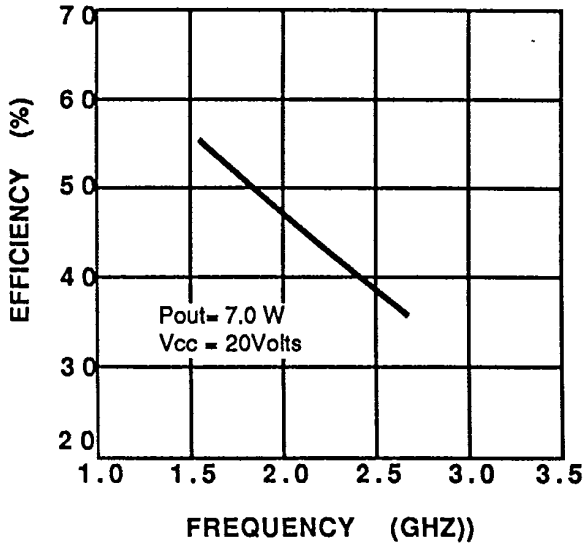
2307-2

ELECTRICAL CHARACTERISTICS[1]

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Pout	Power Output	f= 2.3GHz Vcb= 20V Pin = 1.1W	7.0			Watts
Pin	Power Input				1.1	Watts
Pg	Power Gain		8.0			dB
η_c	Collector Efficiency		35			%
VSWR	Load Mismatch Tolerance				∞:1	
BVebo	Breakdown Voltage (Emitter to Base)	Ic= 0A, Ie= 5.0mA	3.5			Volts
BVces	Breakdown Voltage (Collector to Emitter)	Vbe= 0A, Ic= 50mA	42			Volts
Icbo	Collector Leakage Current	Ie= 0A, Vcb= 22V			2.5	mA
Cob	Capacitance- Collector to Base	f=1.0MHz, Vcb= 22V		10		pF
h_{FE}	DC-Current Gain	Vce= 5V, Ic= 500mA	10			
θ_{jc}	Thermal Resistance	Tc = 25°C			8.5	°C/W

Note 1: Tc = +25°C unless otherwise specified

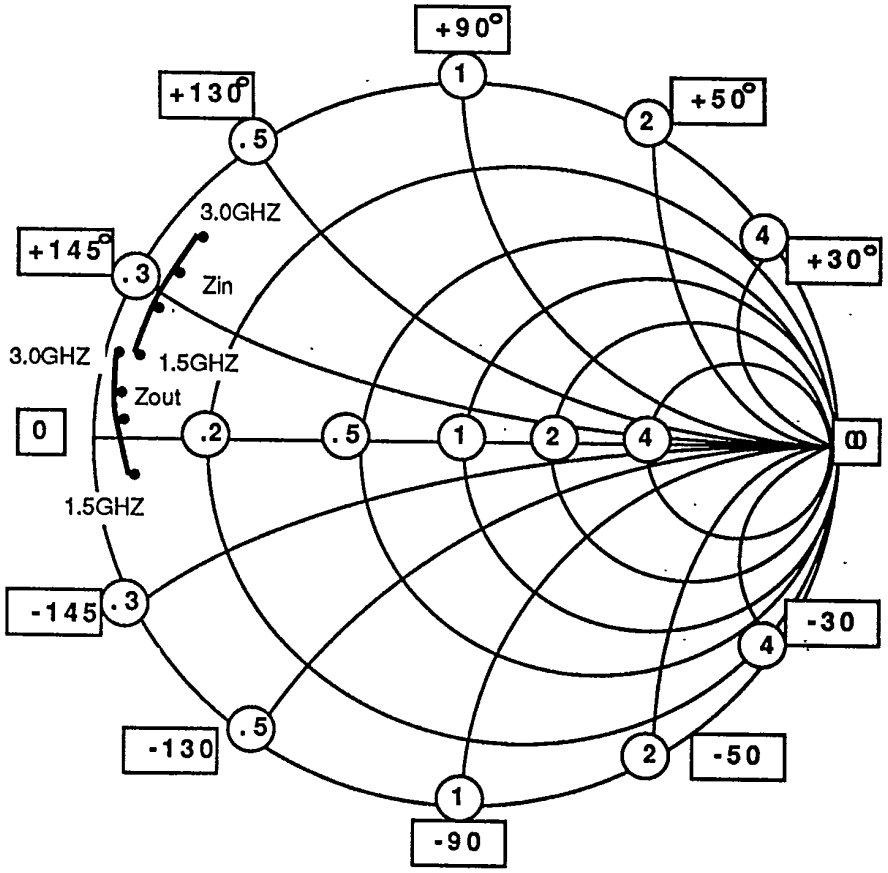
EFFICIENCY VS FREQUENCY
(TYPICAL)



SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE

SMITH CHART 2307

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



NORMALIZED TO A 50 OHM SYSTEM.

FREQUENCY MHz	Zin R	Zin JX	FREQUENCY MHz	Zload R	Zload JX
1500	2	8	1500	2.1	5
2000	1.9	14	2000	1.9	-3
2300	1.85	17	2300	1.8	-5
3000	1.8	20	3000	1.5	-7.5