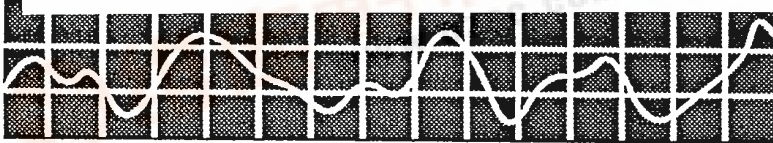


0182998 ACRIAN, INC
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GENERAL DESCRIPTION

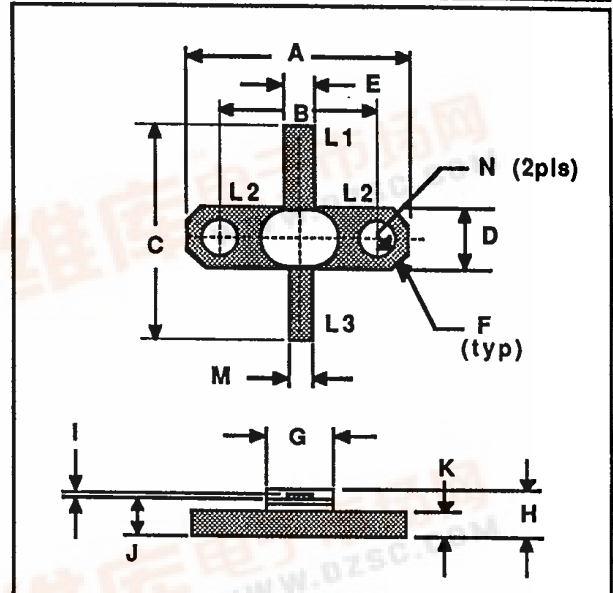
The 2307 is a common base transistor capable of providing 7 watts of CW RF output power at 2300 MHz. This hermetically sealed transistor is specifically designed for telemetry and telecommunications applications. It utilizes gold metallization and diffused ballasting to provide high reliability and supreme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

2307
7.0 WATTS - 20 VOLTS
2300 MHz

MICROWAVE CW BIPOLAR

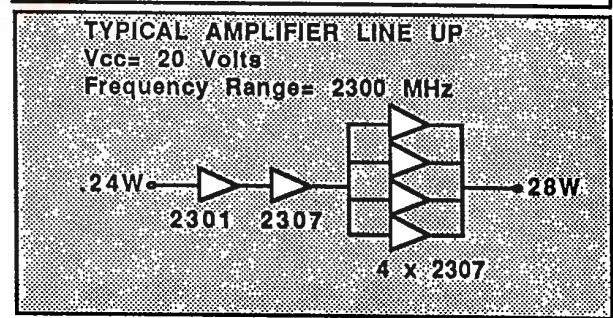
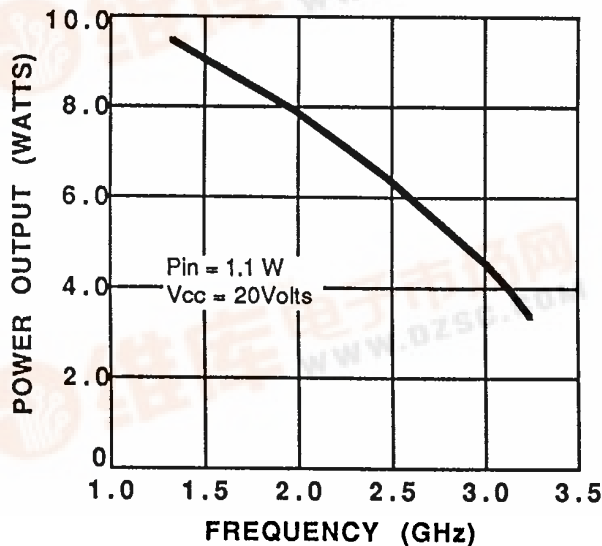
ABSOLUTE MAXIMUM RATINGS

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 Junction Temperature	+200 °C



DIM	Millimeter	TOL	Inches	TOL	
L1 : B	A	20.32	.13	.800	.005
L2 : E	B	14.27	.13	.562	.005
L3 : C	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)

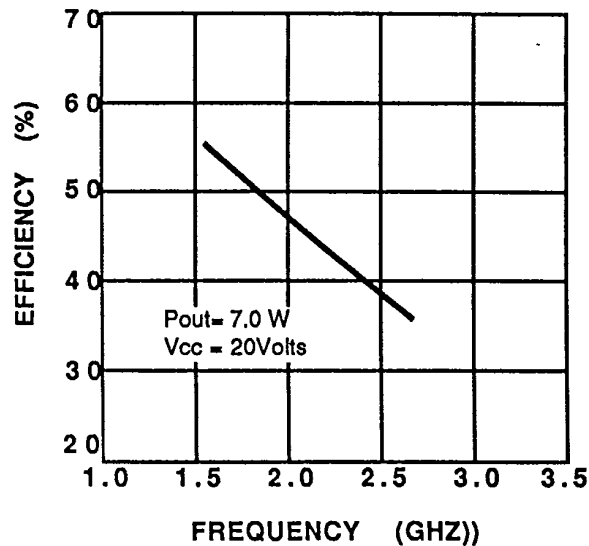


ELECTRICAL CHARACTERISTICS¹

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P _{out}	Power Output	f = 2.3GHz V _{cb} = 20V P _{in} = 1.1W	7.0			Watts
P _{in}	Power Input				1.1	Watts
P _g	Power Gain		8.0			dB
η_c	Collector Efficiency		35			%
VSWR	Load Mismatch Tolerance				$\infty:1$	
B _{Vebo}	Breakdown Voltage (Emitter to Base)	I _c = 0A, I _e = 5.0mA	3.5			Volts
B _{Vces}	Breakdown Voltage (Collector to Emitter)	V _{be} = 0A, I _c = 50mA	42			Volts
I _{cbo}	Collector Leakage Current	I _e = 0A, V _{cb} = 22V			2.5	mA
C _{ob}	Capacitance- Collector to Base	f = 1.0MHz, V _{cb} = 22V		10		pF
h _{FE}	DC-Current Gain	V _{ce} = 5V, I _c = 500mA	10			
θ_{jc}	Thermal Resistance	T _c = 25°C			8.5	°C/W

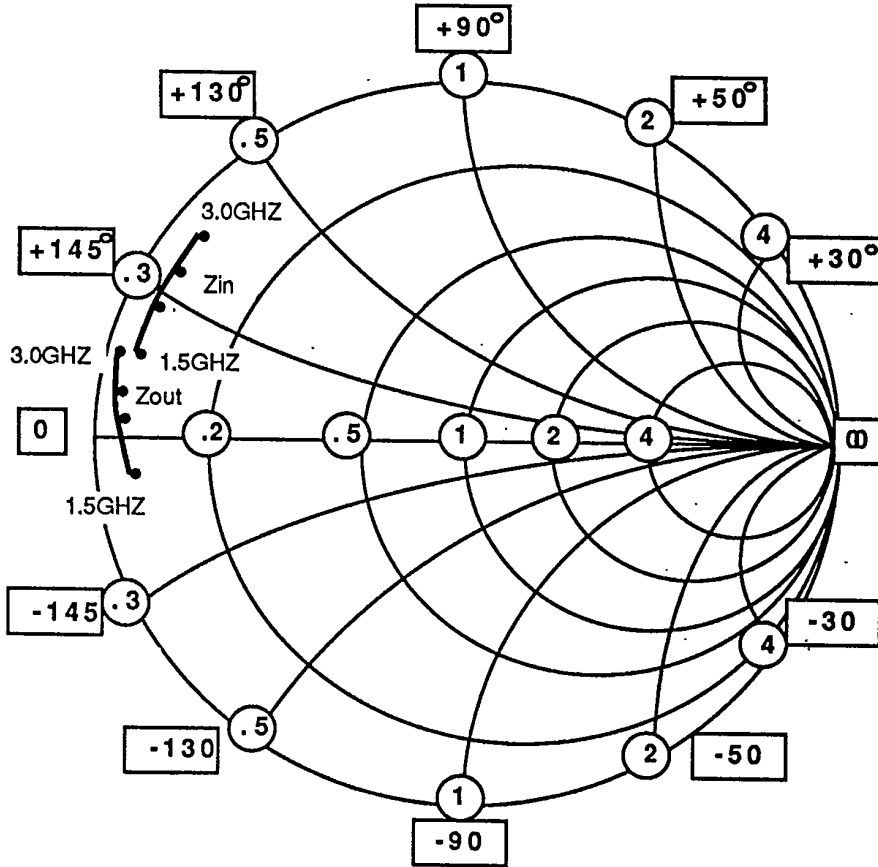
Note 1: T_c = +25°C unless otherwise specified

EFFICIENCY VS FREQUENCY
(TYPICAL)



**SMITH CHART
2307**

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



NORMALIZED TO A 50 OHM SYSTEM.

FREQUENCY MHz	R	Zin	JX	FREQUENCY MHz	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