

NPN SILICON RF POWER TRANSISTOR

DESCRIPTION:

The **ASI 2307** is Designed for General Purpose Class C Power Amplifier Applications up to 2300 MHz.

FEATURES:

- $P_G = 8.0$ dB min. at 7.0 W/2300 MHz
- Hermetic Microstrip Package
- **Omnigold™** Metalization System
- Diffused Ballasting

MAXIMUM RATINGS

I_C	1.0 A
V_{CC}	26 V
P_{DISS}	20.5 W @ $T_C = 25^\circ C$
T_J	-65 °C to +200 °C
T_{STG}	-65 °C to +200 °C
θ_{JC}	8.5 °C/W

PACKAGE STYLE .250 2L FLG

DIM	MINIMUM inches / mm	MAXIMUM inches / mm
A	.028 / 0.71	.032 / 0.81
B	.740 / 18.80	
C	.245 / 6.22	.255 / 6.48
D	.128 / 3.25	.132 / 3.35
E		.125 / 3.18
F	.110 / 2.79	.117 / 2.97
G		.117 / 2.97
H	.560 / 14.22	.570 / 14.48
I	.790 / 20.07	.810 / 20.57
J	.225 / 5.72	.235 / 5.97
K	.165 / 4.19	.185 / 4.70
L	.003 / 0.08	.007 / 0.18
M	.058 / 1.47	.068 / 1.73
N	.119 / 3.02	.135 / 3.43
P	.149 / 3.78	.187 / 4.75

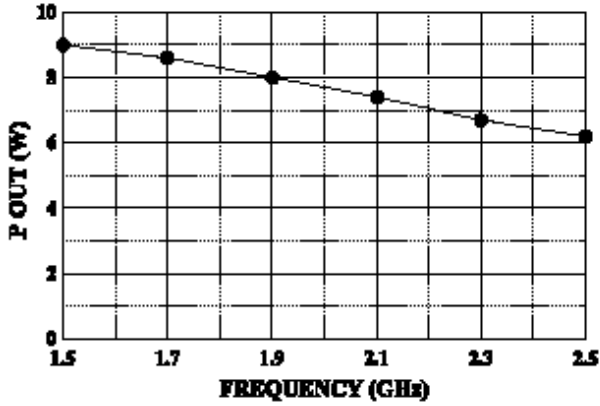
ORDER CODE: ASI10536

CHARACTERISTICS $T_C = 25^\circ C$

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
BV_{CBO}	$I_C = 1.0$ mA	44			V
BV_{CER}	$I_C = 5.0$ mA $R_{BE} = 10 \Omega$	44			V
BV_{EBO}	$I_E = 1.0$ mA	3.5			V
I_{CBO}	$V_{CB} = 22$ V			2.5	mA
h_{FE}	$V_{CE} = 5.0$ V $I_C = 500$ mA	10		300	---
C_{ob}	$V_{CB} = 22$ V $f = 1.0$ MHz		10.0		pF
P_G η_c VSWR	$V_{CC} = 20$ V $P_{OUT} = 7.0$ W $f = 2.3$ GHz $P_{IN} = 1.1$ W	8.0	40	30:1	dB % ---

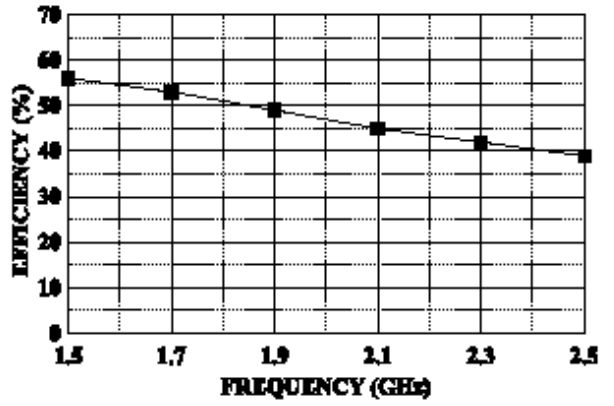
POWER OUTPUT VS FREQUENCY

Vcc=20V, P_{in}=1.1W



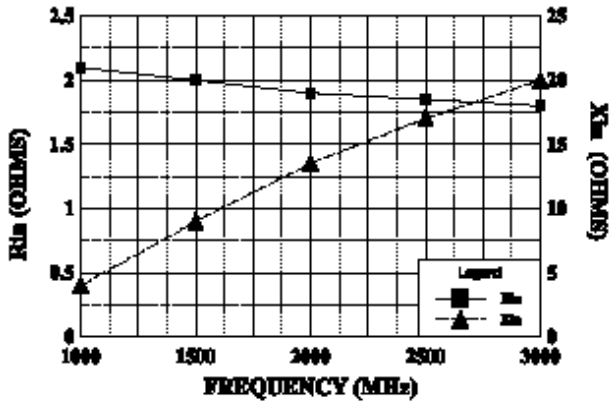
EFFICIENCY VS FREQUENCY

P_{out}=1.0W, Vcc=20V



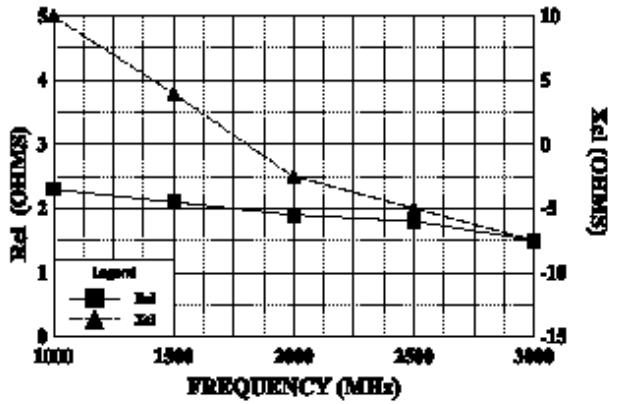
INPUT IMPEDANCE

Vcc = 20 V, P_{in} = 1.1 W



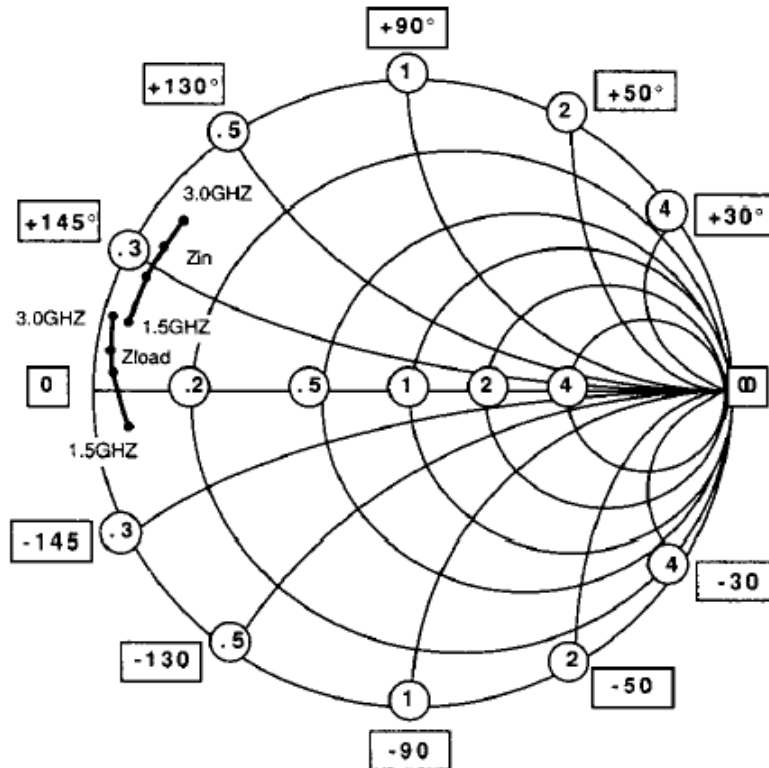
LOAD IMPEDANCE

Vcc = 20 V, P_{in} = 1.1 W



SMITH CHART

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