

NPN SILICON RF POWER TRANSISTOR

DESCRIPTION:

The **ASI 2001** is Designed for General Purpose Class C Power Amplifier Applications up to 2300 MHz.

FEATURES:

- $P_G = 10$ dB min. at 1.0 W/ 2,000 MHz
- Hermetic Microstrip Package
- **Omnigold™** Metalization System

MAXIMUM RATINGS

I_C	200 mA
V_{CC}	35 V
P_{DISS}	7.0 W @ $T_C = 25^\circ C$
T_J	$-65^\circ C$ to $+200^\circ C$
T_{STG}	$-65^\circ C$ to $+200^\circ C$
θ_{JC}	$25^\circ C/W$

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

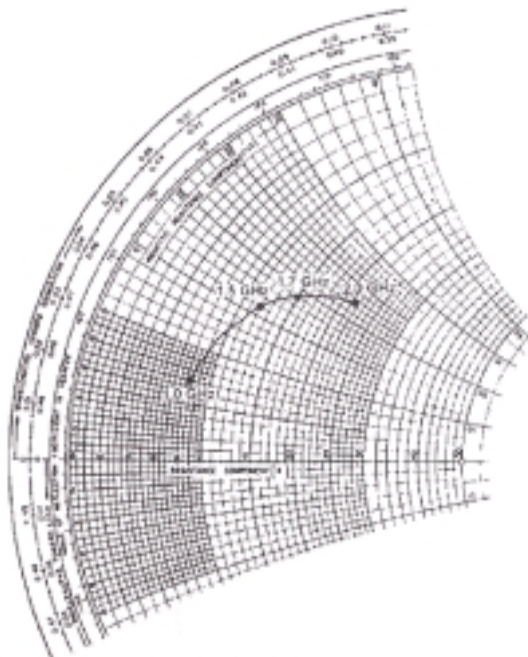
ORDER CODE: ASI10527

CHARACTERISTICS $T_C = 25^\circ C$

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
BV_{CBO}	$I_C = 1.0$ mA	45			V
BV_{CER}	$I_C = 5.0$ mA $R_{BE} = 10 \Omega$	45			V
BV_{EBO}	$I_E = 1.0$ mA	3.5			V
I_{CBO}	$V_{CB} = 28$ V			0.5	mA
h_{FE}	$V_{CE} = 5.0$ V $I_C = 100$ mA	15		120	---
C_{ob}	$V_{CB} = 28$ V $f = 1.0$ MHz			2.5	pF
P_G	$V_{CC} = 28$ V $P_{OUT} = 1.0$ W $f = 2.0$ GHz	10			dB
η_C		35			%

**TYPICAL INPUT
IMPEDANCE**

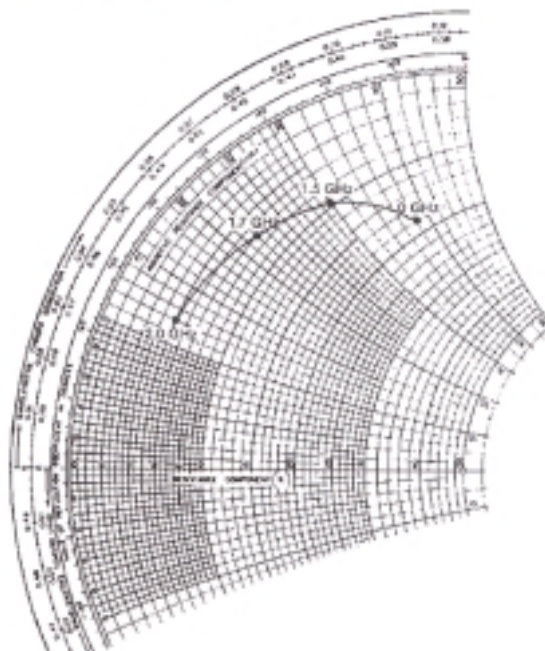

$P_{IN} = 0.2 \text{ W}$
 $V_{CC} = 28 \text{ V}$
 Normalized to 50 ohms

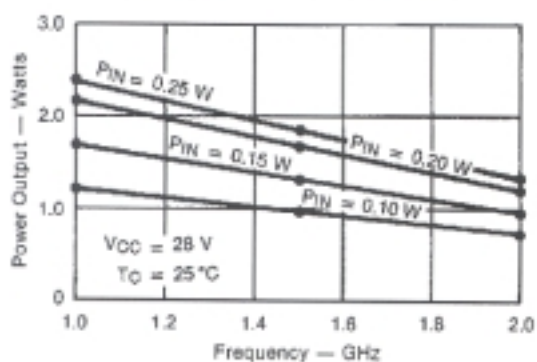
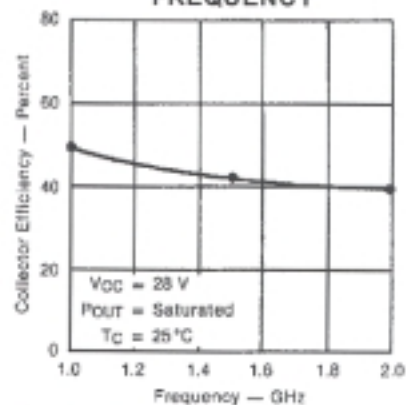
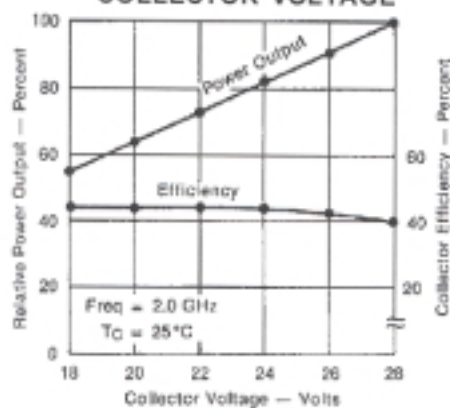


FREQ.	$Z_{IN} (\Omega)$	$Z_{CL} (\Omega)$
1.0 GHz	$8.3 + j 7.0$	$18.0 + j 38.0$
1.5 GHz	$12.0 + j 16.0$	$9.6 + j 30.0$
1.7 GHz	$15.0 + j 14.0$	$7.0 + j 22.0$
2.0 GHz	$21.5 + j 22.5$	$5.0 + j 12.0$

**TYPICAL COLLECTOR
LOAD IMPEDANCE**

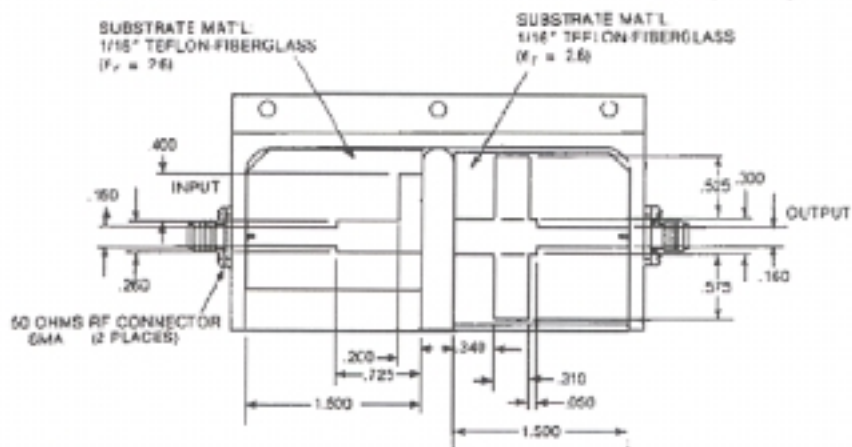

$P_{OUT} = \text{Saturated}$
 $V_{CC} = 28 \text{ V}$
 Normalized to 50 ohms



TYPICAL PERFORMANCE
POWER OUTPUT vs FREQUENCY

COLLECTOR EFFICIENCY vs FREQUENCY

RELATIVE POWER OUTPUT vs COLLECTOR VOLTAGE


TEST CIRCUIT

All dimensions are in inches.
Frequency 2.0 GHz



RF Amplifier Power Output Test

