

# 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 $+200^\circ C$
$\theta_{JC}$	$25^\circ C/W$

**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

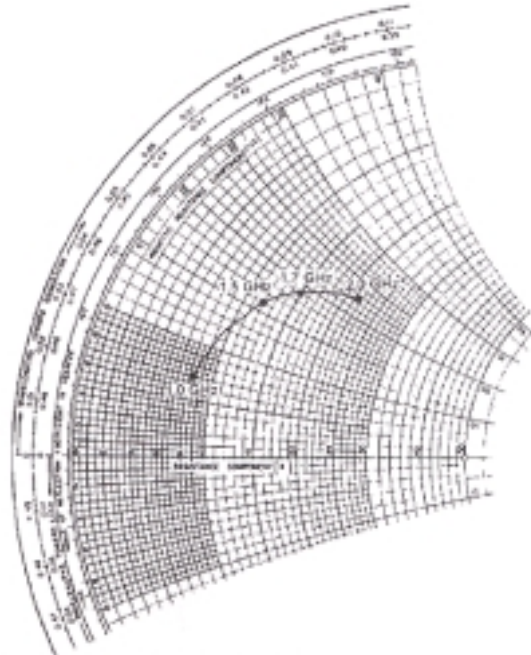
**ORDER CODE: ASI10527**

**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
$\eta_c$		35			%

**TYPICAL INPUT  
IMPEDANCE**

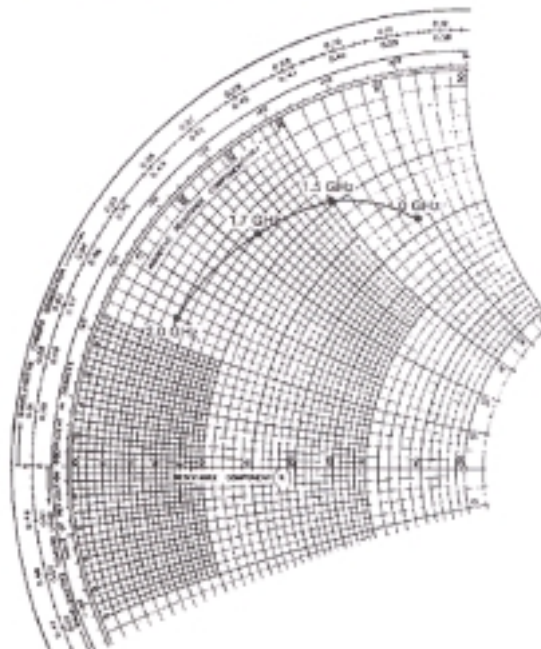

$P_{IN} = 0.2 \text{ W}$   
 $V_{CC} = 28 \text{ V}$   
 Normalized to 50 ohms

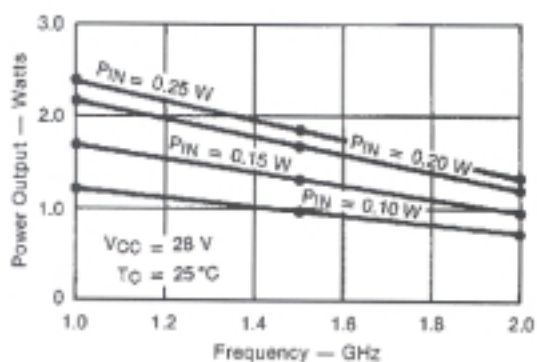
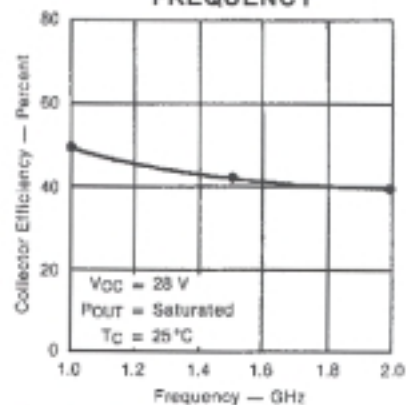
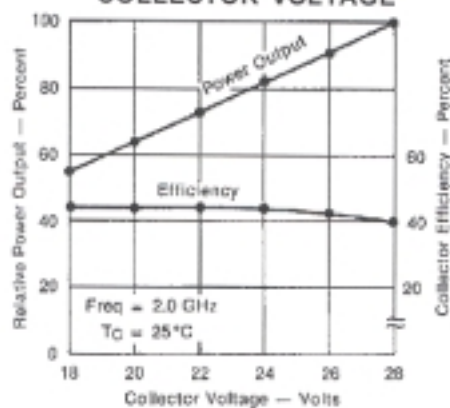


FREQ.	$Z_{IN} (\Omega)$	$Z_{CL} (\Omega)$
1.0 GHz	$8.3 + j 7.0$	$18.0 + j 38.0$
1.5 GHz	$12.0 + j 16.0$	$9.6 + j 30.0$
1.7 GHz	$15.0 + j 14.0$	$7.0 + j 22.0$
2.0 GHz	$21.5 + j 22.5$	$5.0 + j 12.0$

**TYPICAL COLLECTOR  
LOAD IMPEDANCE**

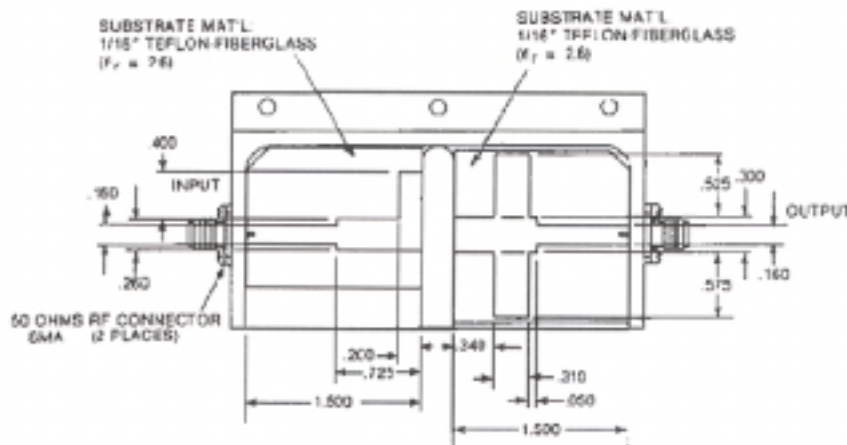

$P_{OUT} = \text{Saturated}$   
 $V_{CC} = 28 \text{ V}$   
 Normalized to 50 ohms



**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

