

NPN SILICON RF POWER TRANSISTOR

DESCRIPTION:

The **ASI 2003** is Designed for General Purpose Class C Power Amplifier Applications up to 2300 MHz.

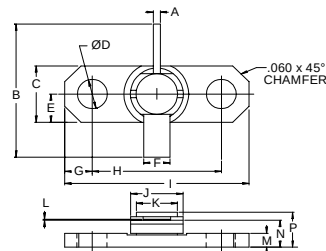
FEATURES:

- $P_G = 10$ dB min. at 3 W/ 2,000 MHz
- Hermetic Microstrip Package
- **Omnigold™** Metalization System

MAXIMUM RATINGS

I_C	600 mA
V_{CC}	35 V
P_{DISS}	21.8 W @ $T_C = 25^\circ\text{C}$
T_J	-65°C to $+200^\circ\text{C}$
T_{STG}	-65°C to $+200^\circ\text{C}$
θ_{JC}	15°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: ASI10528

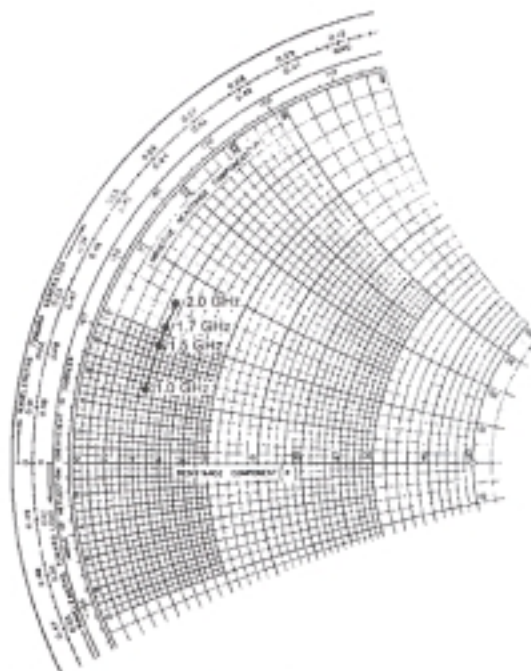
CHARACTERISTICS $T_C = 25^\circ\text{C}$

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			1.0	mA
h_{FE}	$V_{CE} = 5.0$ V $I_C = 200$ mA	15		120	---
C_{ob}	$V_{CB} = 28$ V $f = 1.0$ MHz			3.5	pF
P_G η_c	$V_{CC} = 28$ V $P_{OUT} = 3.0$ W $f = 2.0$ GHz	10 35			dB %

TYPICAL INPUT IMPEDANCE



$P_{IN} = 0.5 \text{ W}$
 $V_{CC} = 28 \text{ V}$
 Normalized to 50 ohms

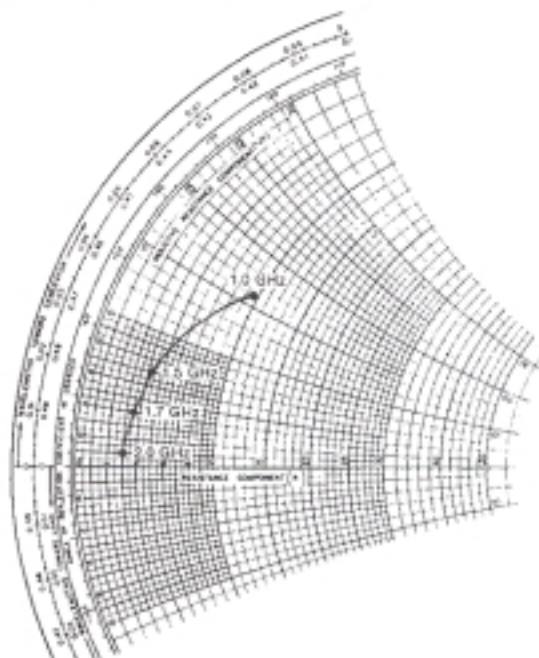


FREQ.	$Z_{IN} (\Omega)$	$Z_{CL} (\Omega)$
1.0 GHz	$4.4 + j 5.5$	$9.6 + j 16.0$
1.5 GHz	$4.5 + j 9.0$	$4.3 + j 7.0$
1.7 GHz	$4.5 + j 10.5$	$3.5 + j 4.0$
2.0 GHz	$4.6 + j 12.5$	$3.0 + j 1.0$

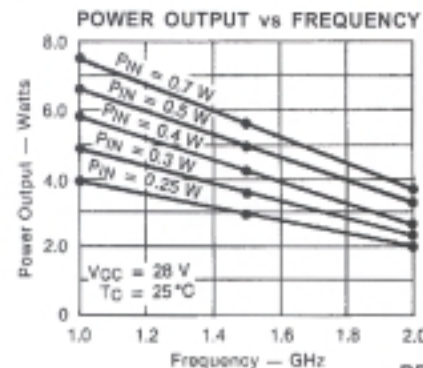
TYPICAL COLLECTOR LOAD IMPEDANCE



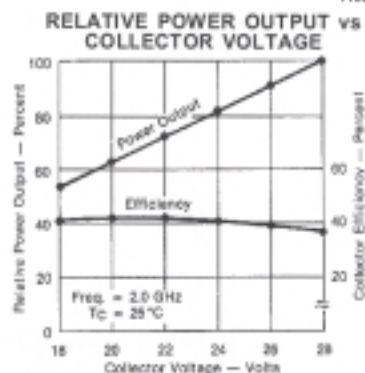
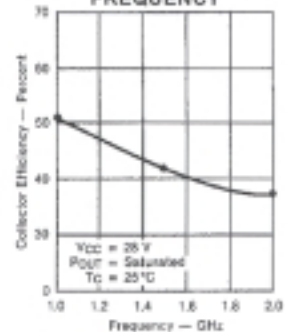
$P_{OUT} = \text{Saturated}$
 $V_{CC} = 28 \text{ V}$
 Normalized to 50 ohms



TYPICAL PERFORMANCE

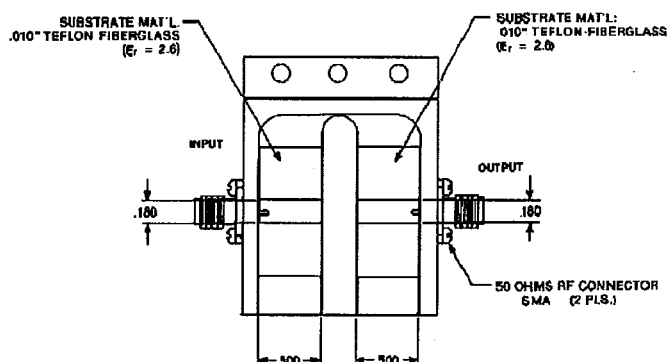


COLLECTOR EFFICIENCY vs FREQUENCY



TEST CIRCUIT

All dimensions are in inches.
Frequency 2.0 GHz



RF Amplifier Power Output Test

