

NPN SILICON RF POWER TRANSISTOR

DESCRIPTION:

The **ASI AJT085** is an RF power transistor, designed for pulsed avionics applications with high duty cycle.

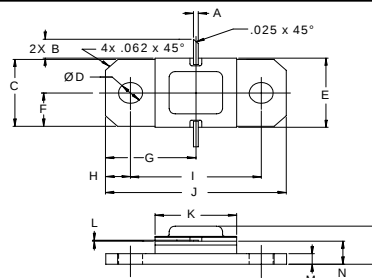
FEATURES:

- 960-1215 MHz
- Internal Input/Output Matching Network
- $P_G = 7.5$ dB at 85 W/ 1215 MHz
- **Omnigold™** Metalization System

MAXIMUM RATINGS

I_C	8.0 A
V_{CC}	40 V
P_{DISS}	300 W @ $T_C \leq 100^\circ\text{C}$
T_J	-65°C to $+250^\circ\text{C}$
T_{STG}	-65°C to $+200^\circ\text{C}$
θ_{JC}	0.75°C/W

PACKAGE STYLE .400 2NL FLG



DIM	MINIMUM inches / mm	MAXIMUM inches / mm
A	.020 / 0.51	.030 / 0.76
B	.100 / 2.54	
C	.376 / 9.55	.396 / 10.06
D	.110 / 2.79	.130 / 3.30
E	.395 / 10.03	.407 / 10.34
F	.193 / 4.90	
G	.450 / 11.43	
H	.125 / 3.18	
I	.640 / 16.26	.660 / 16.76
J	.890 / 22.61	.910 / 23.11
K	.395 / 10.03	.415 / 10.54
L	.004 / 0.10	.007 / 0.18
M	.052 / 1.32	.072 / 1.83
N	.118 / 3.00	.131 / 3.33
P		.230 / 5.84

ORDER CODE: ASI10547

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

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
BV_{CBO}	$I_C = 25$ mA	55			V
BV_{CER}	$I_C = 25$ mA $R_{BE} = 10 \Omega$	55			V
BV_{EBO}	$I_E = 10$ mA	3.5			V
I_{CES}	$V_{CE} = 35$ V			20	mA
h_{FE}	$V_{CE} = 5.0$ V $I_C = 2.0$ A	20		200	---
P_G	$V_{CC} = 35$ V $P_{OUT} = 85$ W $f = 960 - 1215$ MHz	7.5			dB
η_c	$V_{CC} = 35$ V $P_{IN} = 15$ W	40			%

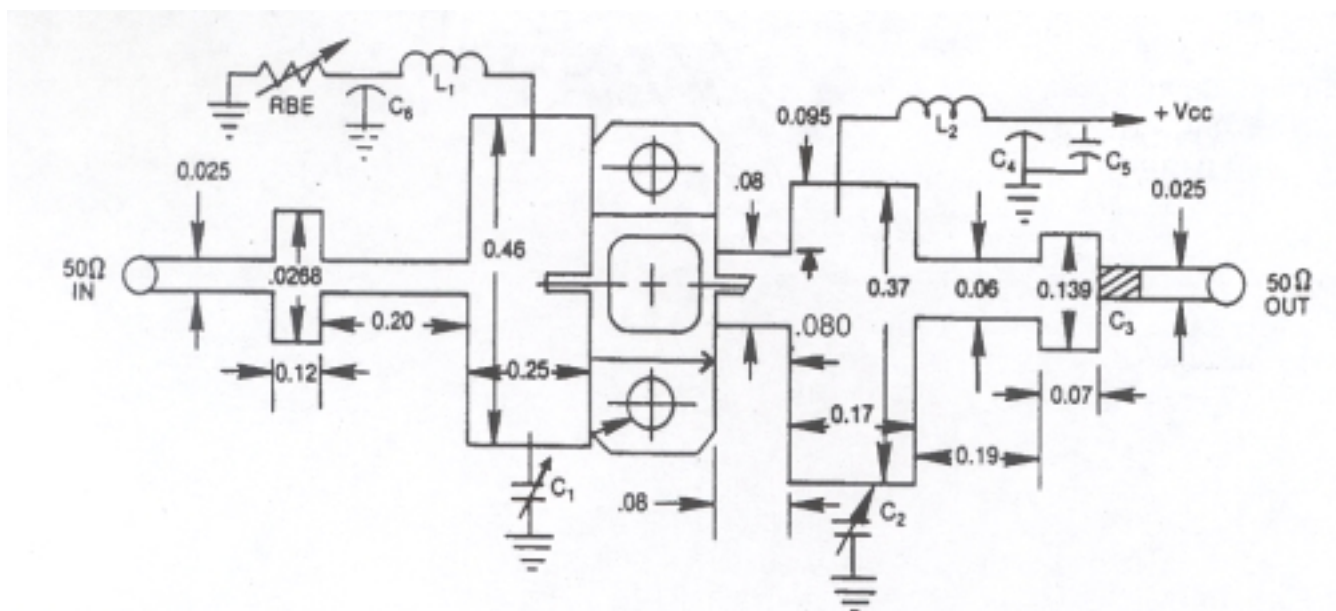
IMPEDANCE DATA

FREQ.	$Z_{IN} (\Omega)$	$Z_{OUT} (\Omega)$
960 MHz	$3.0 + j5.0$	$7.0 - j5.0$
1090 MHz	$5.5 + j5.5$	$3.7 - j1.8$
1215 MHz	$5.3 + j4.5$	$3.0 - 2.5$

$P_{IN} = 15 \text{ W}$

$V_{CC} = 35 \text{ V}$

TEST CIRCUIT



All dimensions are in inches.

Substrate material: .025 thick Al_2O_3 ($\epsilon_r = 9.6$)

- C1 : 0.3—3.5 pF Variable Johanson Capacitor or Equiv.
- C2 : 0.3—3.5 pF Variable Johanson Capacitor or Equiv.
- C3 : 100 pF Chip Capacitor
- C4 : 1500 pF Erie RF Feedthrough, or Equiv.

- C5 : 100 MF, Electrolytic Capacitor, 50V
- C6 : 1500 pF Erie RF Feedthrough, or Equiv.
- L1 : No. 32 Wire, 4 Turns 1/16" I.D.
- L2 : No. 32 Wire, 4 Turns 1/16" I.D.