

# NPN SILICON RF POWER TRANSISTOR

**DESCRIPTION:**

The **2SC1251** is a Common Emitter Device Designed for High Linearity Class A Amplifiers up to 2.0 GHz.

**FEATURES INCLUDE:**

- Direct Replacement for **NE74020**
- High Gain - 10 dB min. @ 1.0 GHz
- Gold Metalization

**MAXIMUM RATINGS**

$I_C$	300 mA
$V_{CB}$	45 V
$P_{DISS}$	5.3W @ $T_C = 25^\circ C$
$T_J$	$-65^\circ C$ to $+200^\circ C$
$T_{STG}$	$-65^\circ C$ to $+150^\circ C$
$\theta_{JC}$	$33^\circ C/W$

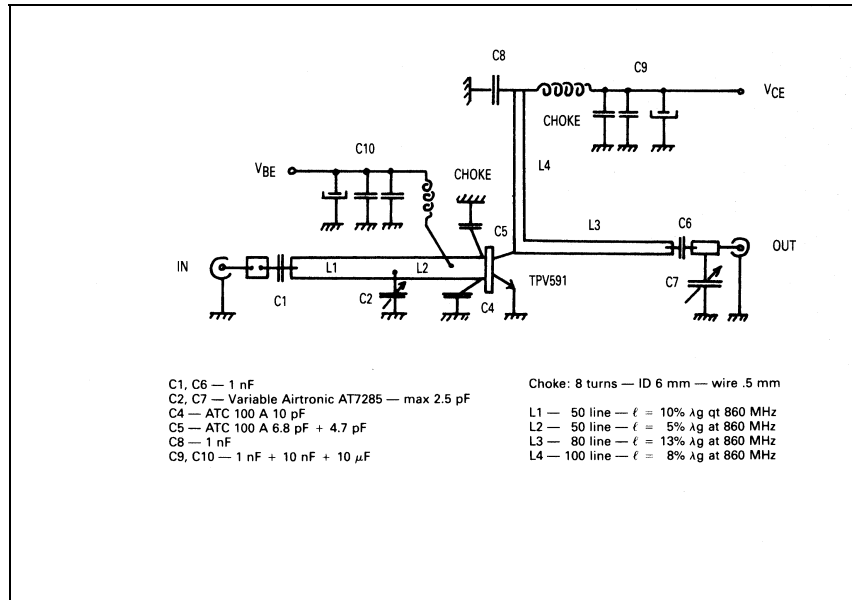
**PACKAGE STYLE .204 4L STUD**

DIM	MILLIMETER	TOL	INCHES	TOL
A	25.40	.38	1.000	.015
B	45	5	45	5
C	0.76	.13	.030	.005
D	5.18 DIA	.13	.204 DIA	.005
E	1.19	.13	.047	.005
F	0.13	.02	.005	.001
G	2.92	.13	.115	.005
H	12.83	.38	.505	.015
I	3.30	.13	.130	.005
J	16.18	REF	.637	REF
K	1.52	.13	.060	.005

1 = COLLECTOR    2 & 4 = EMITTER  
3 = BASE

**CHARACTERISTICS**  $T_C = 25^\circ C$ 

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
$BV_{CEO}$	$I_C = 10$ mA	25			V
$BV_{CBO}$	$I_C = 10$ mA	45			V
$BV_{EBO}$	$I_E = 1.0$ mA	3.0			V
$h_{FE}$	$V_{CE} = 5.0$ V $I_C = 100$ mA	20		200	---
$C_{OB}$	$V_{CB} = 15$ V $f = 1.0$ MHz			3.0	pF
$P_G$	$V_{CE} = 15$ V $I_C = 100$ mA $P_{OUT} = 0.5$ W	13			dB
$P_{1dB}$	$f = 1000$ MHz	+27	+29		dBm



## S - PARAMETERS

$V_{CE} = 20$  Volts,  $I_D = 150$  mA

FREQ. MHz	S11		S21		S12		S22	
	MAG.	ANG.	MAG.	ANG.	MAG.	ANG.	MAG.	ANG.
100	0.735	190	13.65	115	0.025	30	0.364	280
200	0.840	188	8.15	100	0.025	30	0.275	240
300	0.860	181	5.75	90	0.025	30	0.280	240
400	0.857	178	4.25	80	0.030	30	0.285	230
500	0.855	173	3.50	70	0.035	35	0.300	225
600	0.850	170	2.80	66	0.035	35	0.310	220
700	0.850	168	2.45	60	0.040	35	0.320	215
800	0.850	165	2.20	55	0.045	40	0.330	210
900	0.855	163	2.00	50	0.050	45	0.340	215
1,000	0.860	161	1.75	45	0.055	45	0.350	215