

New Jersey Semiconductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

Silicon NPN Power Transistor

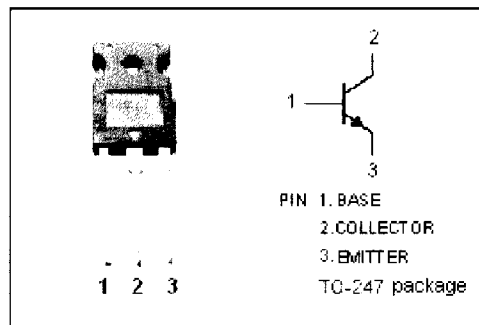
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2SC3220

DESCRIPTION

- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 1.0V(\text{Max.})@I_C = 5A$
- High Switching Speed

APPLICATIONS

- Designed for power supply and general purpose power amplifier applications.

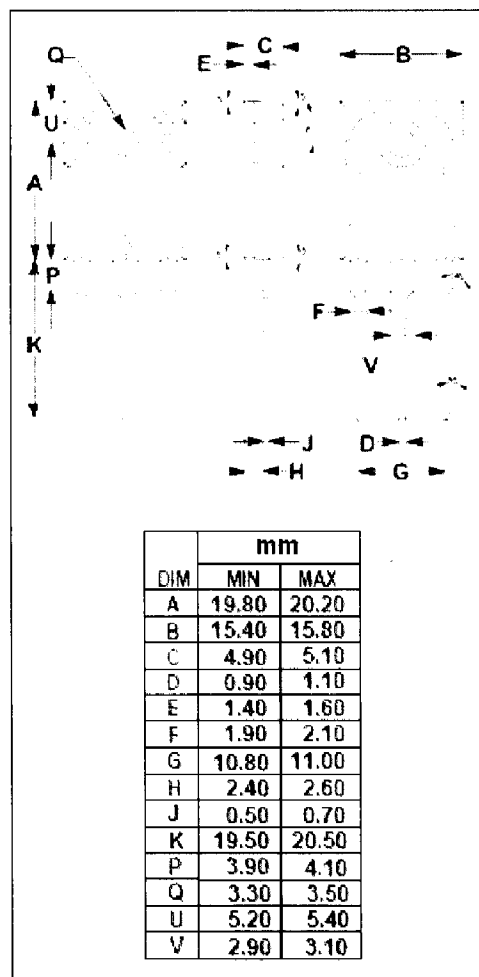


ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	230	V
V_{CEO}	Collector-Emitter Voltage	230	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Peak	20	A
I_B	Base Current-Continuous	4	A
I_{BM}	Base Current-Peak	8	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	80	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.56	$^\circ\text{C/W}$



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Quality Semi-Conductors

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ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.2\text{A}; I_B=0$	230			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=0.5\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=0.5\text{A}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=230\text{V}; I_E=0$			100	μA
I_{CEO}	Collector Cutoff Current	$V_{CE}=230\text{V}; I_B=0$			100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=7\text{V}; I_C=0$			100	μA
h_{FE}	DC Current Gain	$I_C=10\text{A}; V_{CE}=2\text{V}$	10			
f_T	Current-Gain—Bandwidth Product	$I_C=1\text{A}; V_{CE}=10\text{V}$		20		MHz

Switching times

t_{on}	Turn-On Time	$I_C=10\text{A}; I_{B1}=1\text{A}; I_{B2}=2\text{A};$ $R_L=5\Omega; V_{BB2}=4\text{V}$			0.3	μs
t_{stg}	Storage Time				0.5	μs
t_f	Fall Time				0.1	μs