

Silicon NPN Power Transistors

2SD1194

DESCRIPTION

- With TO-220 package
- Complement to type 2SB884
- High DC current gain.
- High current capacity and wide ASO.
- Low saturation voltage
- DARLINGTON

APPLICATIONS

- Motor drivers, printer hammer drivers, relay drivers,voltage regulator control.

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

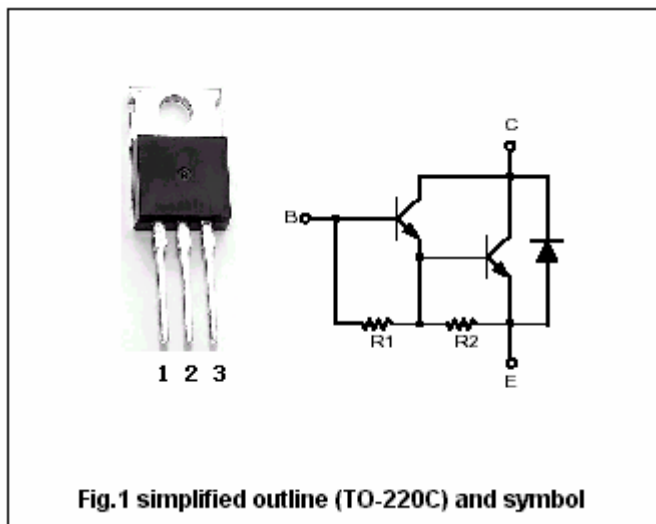


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	110	V
V _{CEO}	Collector-emitter voltage	Open base	100	V
V _{EBO}	Emitter-base voltage	Open collector	6	V
I _C	Collector current		3	A
I _{CM}	Collector current-peak		5	A
P _C	Collector power dissipation	T _a =25°C	1.75	W
		T _C =25°C	30	
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-55~150	°C

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CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=5\text{mA}; I_E=0$	110			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=50\text{mA}; R_{BE}=\infty$	100			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=1.5\text{A}, I_B=3\text{mA}$		0.9	1.5	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=1.5\text{A}, I_B=3\text{mA}$			2.0	V
I_{CBO}	Collector cut-offcurrent	$V_{CB}=80\text{V}; I_E=0$			0.1	mA
I_{EBO}	Emitter cut-offcurrent	$V_{EB}=5\text{V}; I_C=0$			3.0	mA
h_{FE}	DC current gain	$I_C=1.5\text{A}; V_{CE}=3\text{V}$	1500			
f_T	Transition frequency	$I_C=1.5\text{A}; V_{CE}=5\text{V}$		20		MHz

Switching times

t_{on}	Turn-on time	$I_C=500\text{mA}; I_{B1}=-500\text{mA}; I_{B2}=1\text{A}$ $V_{CC}=50\text{V}; R_L=50\Omega$		0.7		μs
t_{stg}	Storage time			5.0		μs
t_f	Fall time			1.2		μs

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PACKAGE OUTLINE

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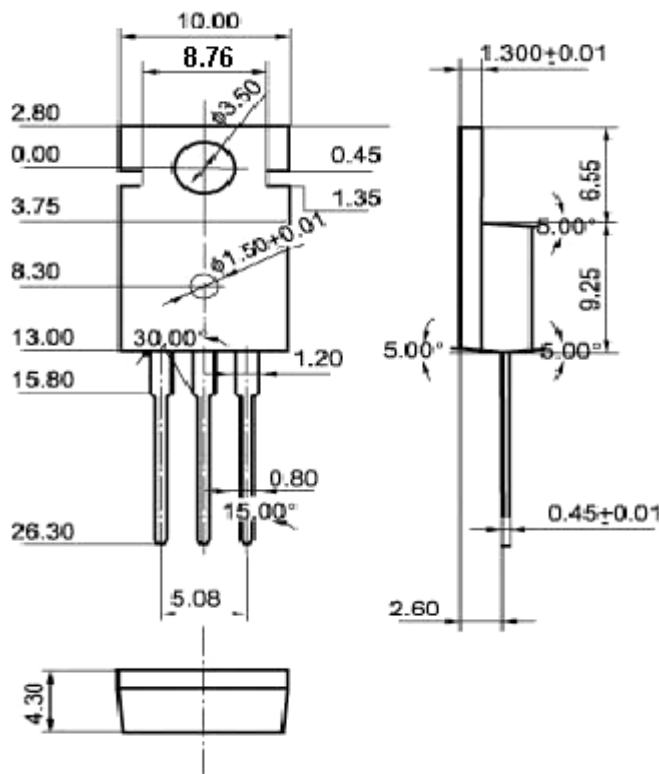


Fig.2 outline dimensions (unindicated tolerance:±0.10 mm)