

Silicon NPN Power Transistors

2SD1196

DESCRIPTION

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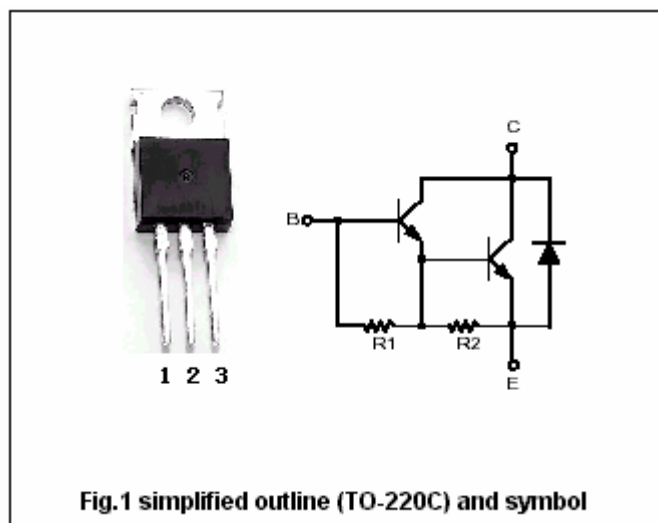
- With TO-220 package
- High DC current gain.
- High current capacity and wide ASO.
- Low saturation voltage
- DARLINGTON

APPLICATIONS

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

PINNING

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



Absolute maximum ratings (Ta=25)

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		8	A
I_{CM}	Collector current-peak		12	A
P_C	Collector power dissipation		1.75	W
		$T_C=25$	40	
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-55~150	

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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	$I_C=4\text{A}, I_B=8\text{mA}$		0.9	1.5	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=4\text{A}, I_B=8\text{mA}$			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	$I_C=4\text{A}; V_{CE}=3\text{V}$	1500	4000		
f_T	Transition frequency	$I_C=4\text{A}; V_{CE}=5\text{V}$		20		MHz

Switching times

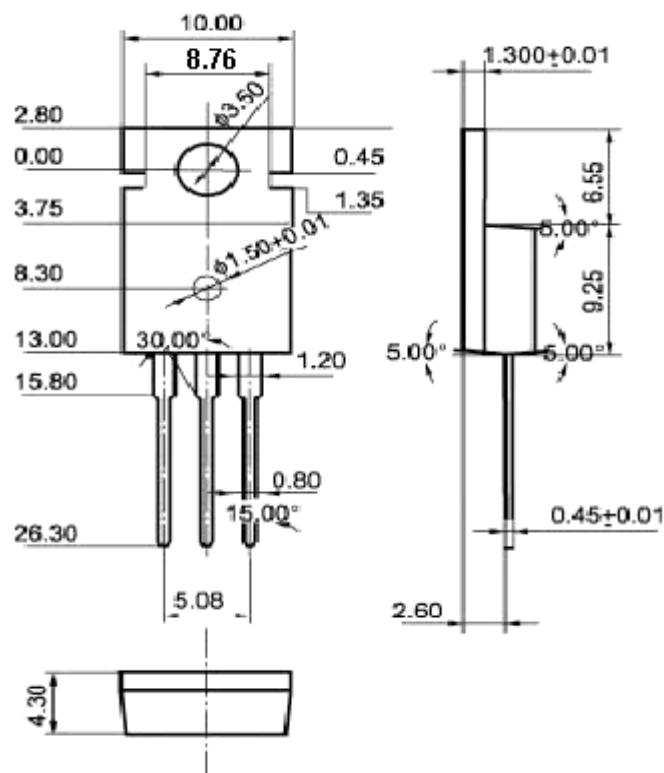
t_{on}	Turn-on time	$I_C=500\text{mA}; I_{B1}=-500\text{mA}; I_{B2}=4\text{A}$ $V_{CC}=50\text{V}; R_L=12.5\Omega;$		0.6		μs
t_{stg}	Storage time			4.8		μs
t_f	Fall time			1.6		μs

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PACKAGE OUTLINE

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