

Silicon NPN Power Transistors

2SD1159

DESCRIPTION

www.datasheet4u.com

·With TO-220 package

APPLICATIONS

- TV horizontal deflection output,
- High-current switching applications

PINNING

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

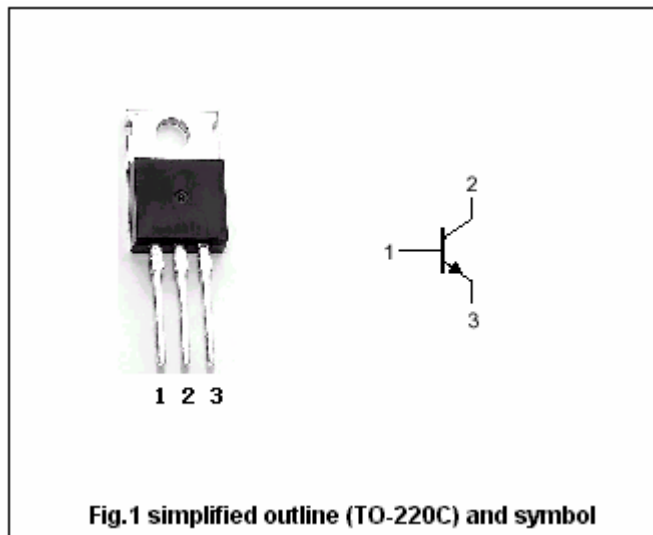


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	200	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	60	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V
I <sub>C</sub>	Collector current (DC)		4.5	A
I <sub>CM</sub>	Collector current-peak		10	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25°C	40	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	°C

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## CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =5mA ; R <sub>BE</sub> =∞	60			V
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =5mA ; I <sub>E</sub> =0	200			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =5mA ; I <sub>C</sub> =0	6			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =4A, I <sub>B</sub> =0.4A		0.5	1.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =4A, I <sub>B</sub> =0.4A			1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =40V; I <sub>E</sub> =0			0.1	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			0.1	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =1A ; V <sub>CE</sub> =5V	30		160	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =4A ; V <sub>CE</sub> =5V	25			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =1A ; V <sub>CE</sub> =5V		10		MHz

## Switching times

t <sub>f</sub>	Fall time	I <sub>C</sub> =5A; I <sub>B1</sub> =-I <sub>B2</sub> =0.5A; V <sub>CC</sub> =50V		0.2	0.5	μs
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PACKAGE OUTLINE

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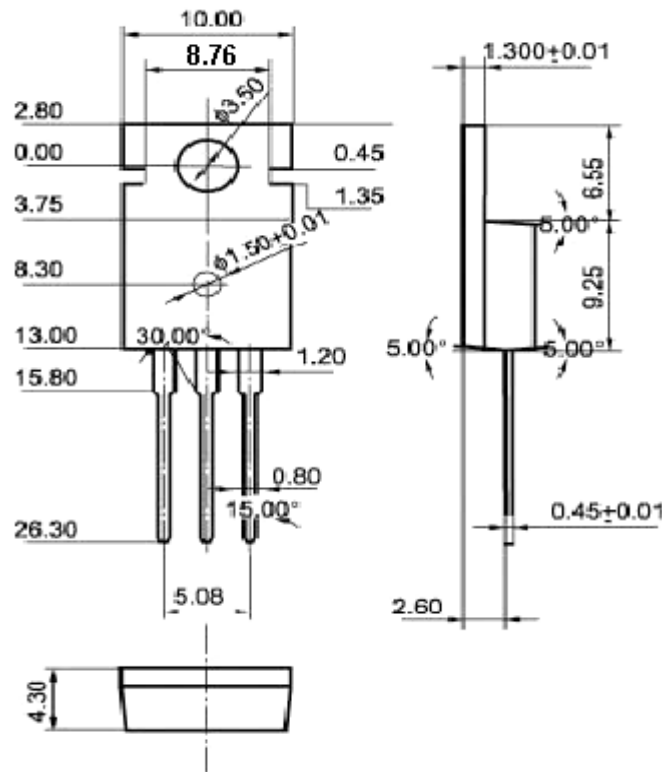


Fig.2 outline dimensions (unindicated tolerance:±0.10 mm)

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