

Silicon NPN Power Transistors

2SD1535

DESCRIPTION

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- With TO-220Fa package
- Wide area of safe operation
- High breakdown voltage
- DARLINGTON

APPLICATIONS

- For high power amplification

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

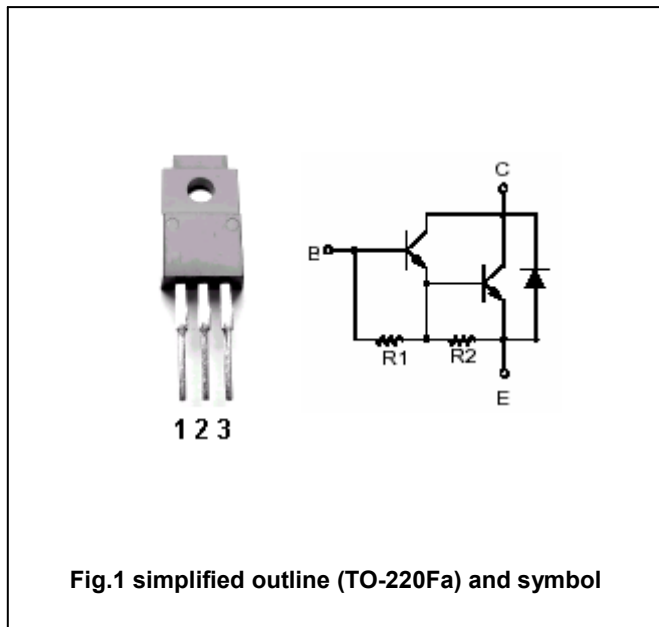


Fig.1 simplified outline (TO-220Fa) and symbol

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	500	V
V <sub>CEO</sub>	Collector -emitter voltage	Open base	400	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	12	V
I <sub>C</sub>	Collector current		7	A
I <sub>CM</sub>	Collector current-peak		14	A
I <sub>B</sub>	Base current		0.5	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25°C	50	W
		T <sub>a</sub> =25°C	2.0	
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>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =0.1A; R <sub>BZ</sub> =∞, L=25mH	400			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =7A; I <sub>B</sub> =70mA			2.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =7A; I <sub>B</sub> =70mA			2.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =500V; I <sub>E</sub> =0			0.1	mA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =400V; I <sub>B</sub> =0			0.1	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =12V; I <sub>C</sub> =0			100	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =2A; V <sub>CE</sub> =2V	500			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =6A; V <sub>CE</sub> =2V	200			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.5A; V <sub>CE</sub> =10V; f=1MHz		20		MHz

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =7A; I <sub>B1</sub> =-I <sub>B2</sub> =70mA V <sub>CC</sub> =300V		1.5		μs
t <sub>stg</sub>	Storage time			5.0		μs
t <sub>f</sub>	Fall time			6.5		μs

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PACKAGE OUTLINE

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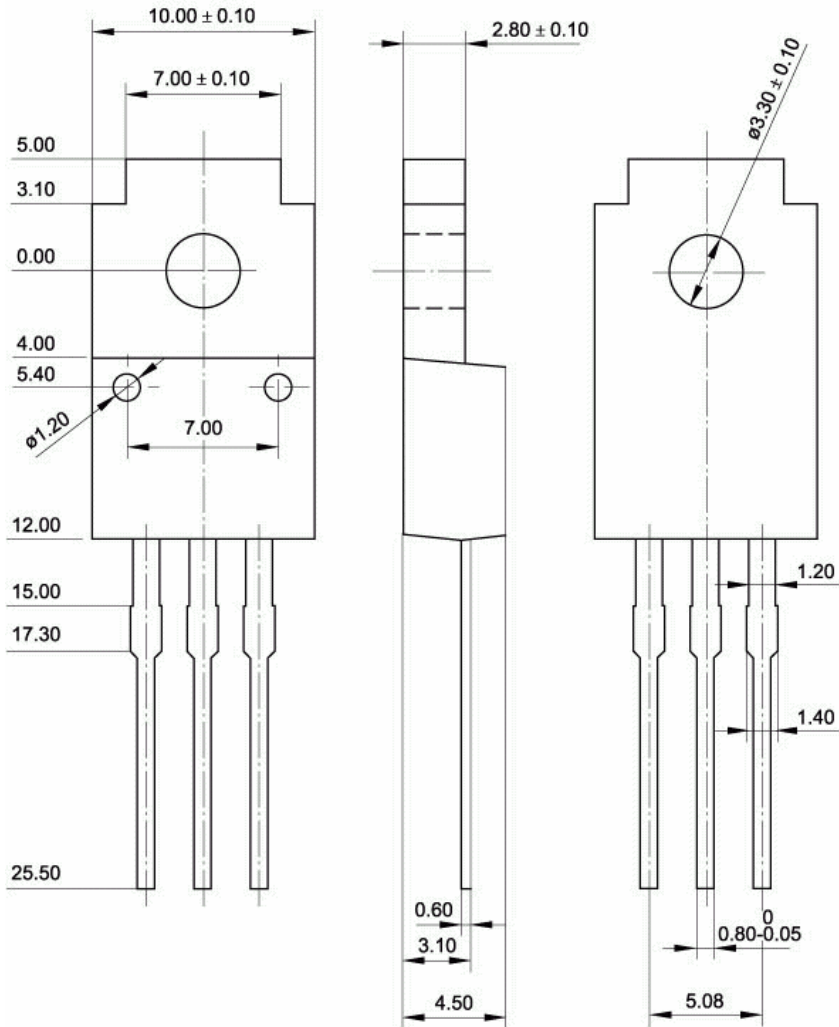


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.15$  mm)