

Silicon NPN Power Transistors

2SD1893

DESCRIPTION

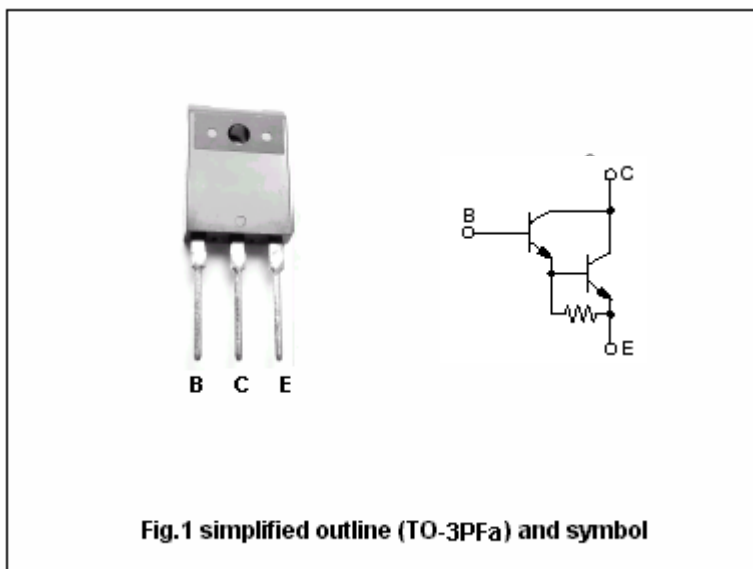
- With TO-3PFa package
- High DC current gain
- Low collector saturation voltage
- Complement to type 2SB1253

APPLICATIONS

- Power amplification
- Optimum for 40W high-fidelity output applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	130	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	110	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	5	V
I <sub>C</sub>	Collector current		6	A
I <sub>CM</sub>	Collector current-peak		10	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25°C	50	W
			3	
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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =30mA ; I <sub>B</sub> =0	110			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5A ; I <sub>B</sub> =5mA			2.5	V
V <sub>BESat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =5A ; I <sub>B</sub> =5mA			3.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =130V ; I <sub>E</sub> =0			100	μA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =110V ; I <sub>B</sub> =0			100	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V ; I <sub>C</sub> =0			100	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =1A ; V <sub>CE</sub> =5V	2000			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =5A ; V <sub>CE</sub> =5V	5000		30000	
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> =5A ; V <sub>CC</sub> =50V I <sub>B1</sub> =-I <sub>B2</sub> =5mA		1.4		μs
t <sub>s</sub>	Storage time			4.5		μs
t <sub>f</sub>	Fall time			0.8		μs

◆ h<sub>FE-2</sub> Classifications

Q	P
5000-15000	8000-30000

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PACKAGE OUTLINE

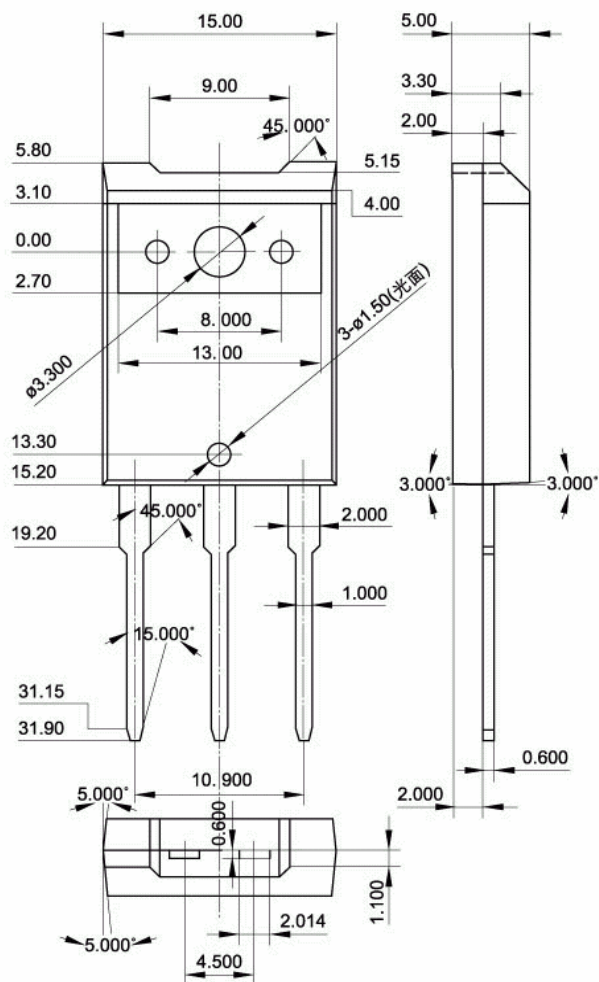


Fig.2 Outline dimensions (unindicated tolerance:±0.30mm)