

**Silicon NPN Power Transistors**

**2SD1893**

**DESCRIPTION**

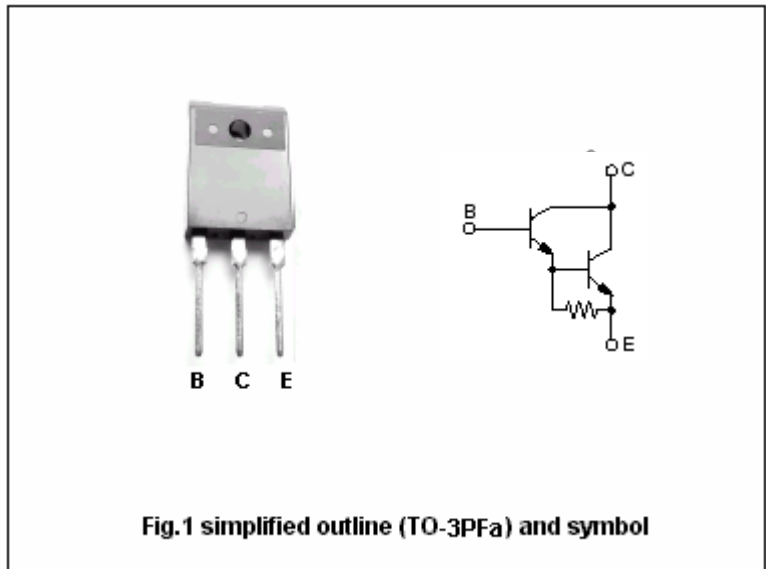
- With TO-3PFa package
- High DC current gain
- Low collector saturation voltage
- Complement to type 2SB1253

**APPLICATIONS**

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

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



**Absolute maximum ratings(Ta=25 )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	130	V
$V_{CEO}$	Collector-emitter voltage	Open base	110	V
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current		6	A
$I_{CM}$	Collector current-peak		10	A
$P_C$	Collector power dissipation	$T_C=25$	50	W
			3	
$T_j$	Junction temperature		150	
$T_{stg}$	Storage temperature		-55~150	

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## CHARACTERISTICS

T<sub>j</sub>=25 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	μ A
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =110V ; I <sub>B</sub> =0			100	μ A
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V ; I <sub>C</sub> =0			100	μ A
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		μ s
t <sub>s</sub>	Storage time			4.5		μ s
t <sub>f</sub>	Fall time			0.8		μ s

◆ h<sub>FE-2</sub> Classifications

Q	P
5000-15000	8000-30000

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PACKAGE OUTLINE

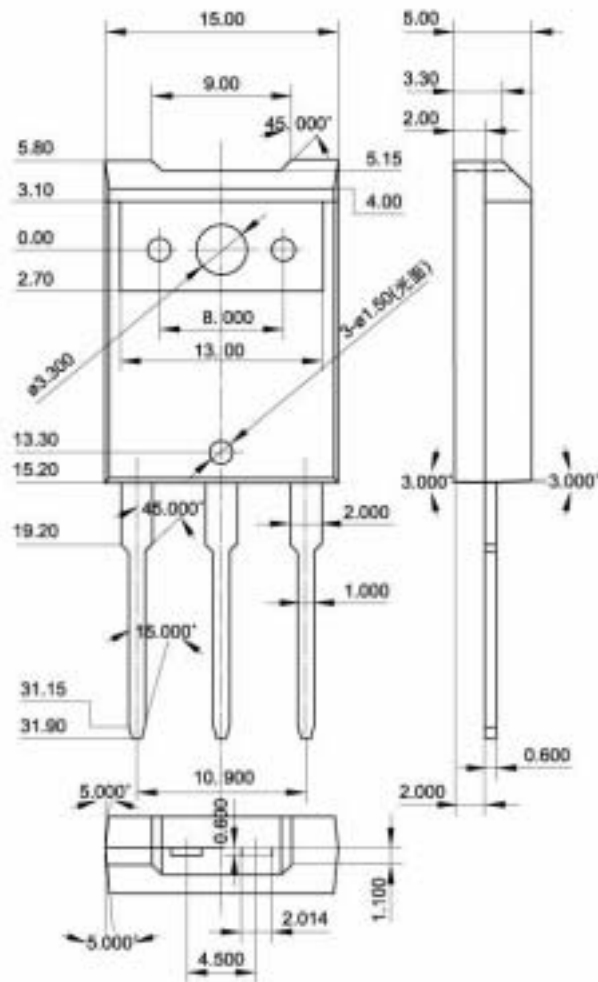


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.30\text{mm}$ )