

**Inchange Semiconductor**

**Product Specification**

**Silicon NPN Power Transistors**

**2SD1894**

**DESCRIPTION**

- With TO-3PFa package
- High DC current gain
- Low collector saturation voltage
- Complement to type 2SB1254

**APPLICATIONS**

- Power amplification
- Optimum for 60W high-fidelity output applications

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

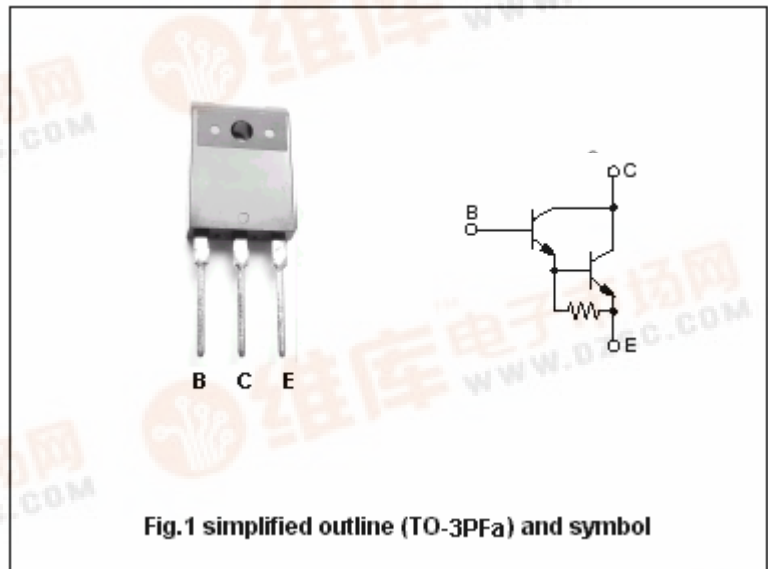


Fig.1 simplified outline (TO-3PFa) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	160	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	140	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	5	V
I <sub>C</sub>	Collector current		7	A
I <sub>CP</sub>	Collector current-peak		12	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25	70	W
			3	
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	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	140			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =6A ; I <sub>B</sub> =6mA			2.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =6A ; I <sub>B</sub> =6mA			3.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =160V ; I <sub>E</sub> =0			100	μ A
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =140V ; 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> =6A ; 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> =6A ; V <sub>CC</sub> =50V I <sub>B1</sub> =-I <sub>B2</sub> =6mA		2.5		μ s
t <sub>s</sub>	Storage time			5.0		μ s
t <sub>f</sub>	Fall time			2.5		μ s

◆ h<sub>FE-2</sub> Classifications

Q	P
5000-15000	8000-30000

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PACKAGE OUTLINE

