

Silicon NPN Power Transistors

2SD1894

DESCRIPTION

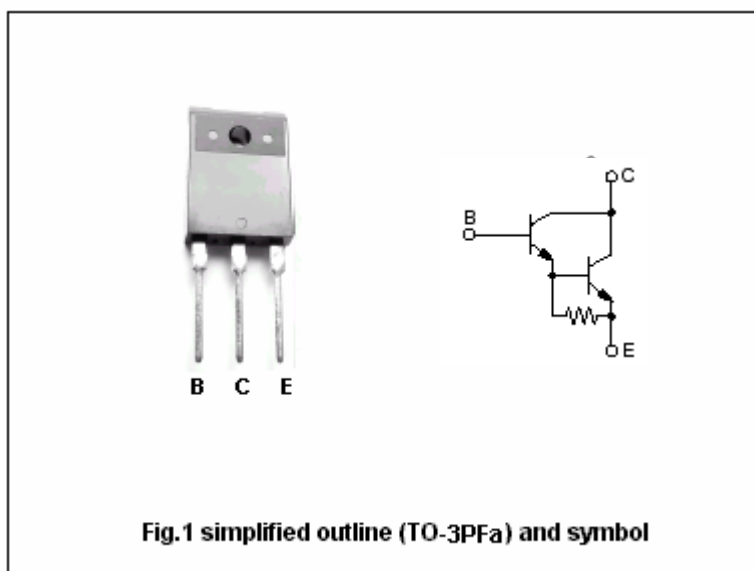
- With TO-3PFa package
- High DC current gain
- Low collector saturation voltage
- Complement to type 2SB1254

APPLICATIONS

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

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

Absolute maximum ratings($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	160	V
V_{CEO}	Collector-emitter voltage	Open base	140	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		7	A
I_{CP}	Collector current-peak		12	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	70	W
			3	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=30mA$; $I_B=0$	140			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=6A$; $I_B=6mA$			2.5	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=6A$; $I_B=6mA$			3.0	V
I_{CBO}	Collector cut-off current	$V_{CB}=160V$; $I_E=0$			100	μA
I_{CEO}	Collector cut-off current	$V_{CE}=140V$; $I_B=0$			100	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=5V$; $I_C=0$			100	μA
h_{FE-1}	DC current gain	$I_C=1A$; $V_{CE}=5V$	2000			
h_{FE-2}	DC current gain	$I_C=6A$; $V_{CE}=5V$	5000		30000	
f_T	Transition frequency	$I_C=0.5A$; $V_{CE}=10V$; $f=1MHz$		20		MHz

Switching times

t_{on}	Turn-on time	$I_C=6A$; $V_{CC}=50V$ $I_{B1}=-I_{B2}=6mA$		2.5		μs
t_s	Storage time			5.0		μs
t_f	Fall time			2.5		μs

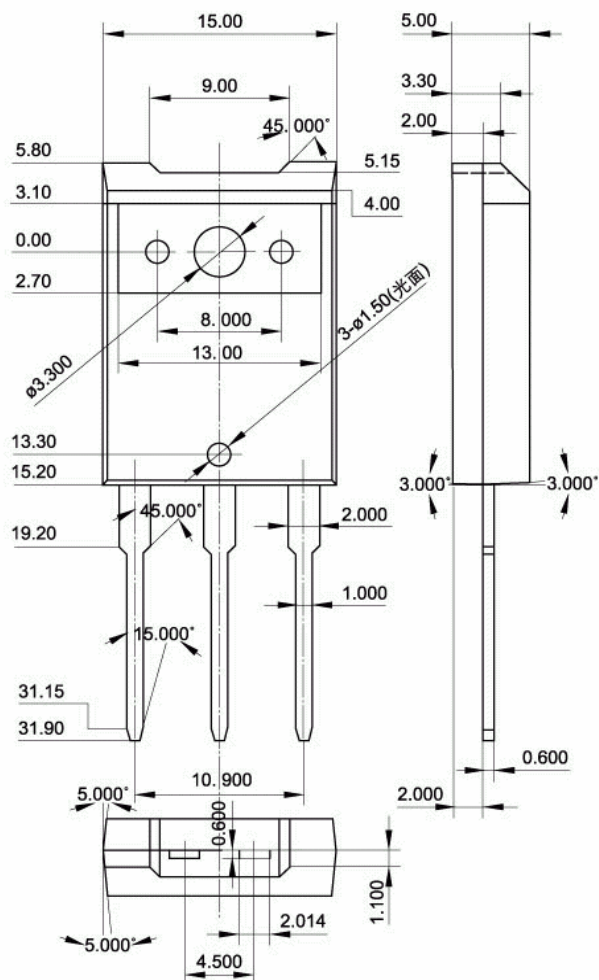
◆ h_{FE-2} Classifications

Q	P
5000-15000	8000-30000

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PACKAGE OUTLINE

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