

## Silicon NPN Power Transistors

## 2SD880

## DESCRIPTION

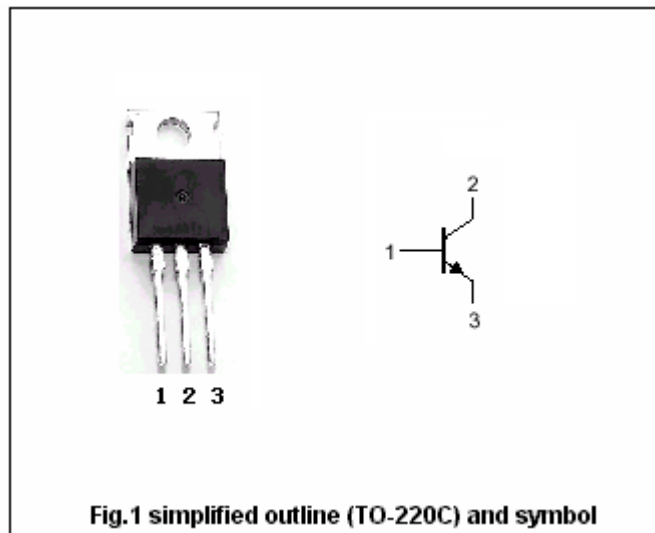
- With TO-220C package
- Complement to type 2SB834
- Low collector saturation voltage

## APPLICATIONS

- Designed for use in audio frequency power amplifier applications

## PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	60	V
$V_{CEO}$	Collector-emitter voltage	Open base	60	V
$V_{EBO}$	Emitter-base voltage	Open collector	7	V
$I_C$	Collector current		3	A
$I_{CM}$	Collector current-Peak		6	A
$I_B$	Base current		0.5	A
$P_C$	Collector dissipation	$T_C=25^{\circ}\text{C}$	30	W
$T_j$	Junction temperature		150	$^{\circ}\text{C}$
$T_{stg}$	Storage temperature		-50~150	$^{\circ}\text{C}$

## THERMAL CHARACTERISTICS

SYMBOL	CHARACTERISTICS	MAX	UNIT
$R_{\theta jc}$	Thermal resistance junction to case	4.16	$^{\circ}\text{C/W}$

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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> =50mA ; I <sub>B</sub> =0	60			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =1mA ; I <sub>C</sub> =0	7			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =3A; I <sub>B</sub> =0.3A			1.0	V
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =5V			1.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =60V; I <sub>E</sub> =0			100	μ A
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =7V; I <sub>C</sub> =0			100	μ A
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =5V	60		300	
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =5V; f=1MHz		3		MHz

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =10I <sub>B1</sub> =-10I <sub>B2</sub> =2A V <sub>CC</sub> =30V PW=30 μ s			1.2	μ s
t <sub>s</sub>	Storage time				2.0	μ s
t <sub>f</sub>	Fall time				1.1	μ s

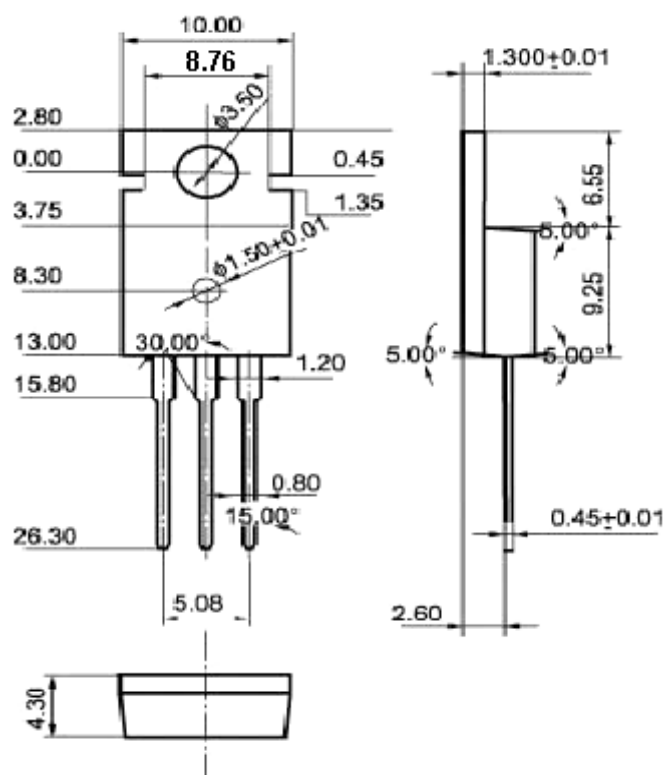
◆ h<sub>FE</sub> Classifications

O	Y	GR
60-120	100-200	150-300

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## PACKAGE OUTLINE



**Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.10\text{mm}$ )**