

## Silicon PNP Power Transistors

## 2SB871 2SB871A

## DESCRIPTION

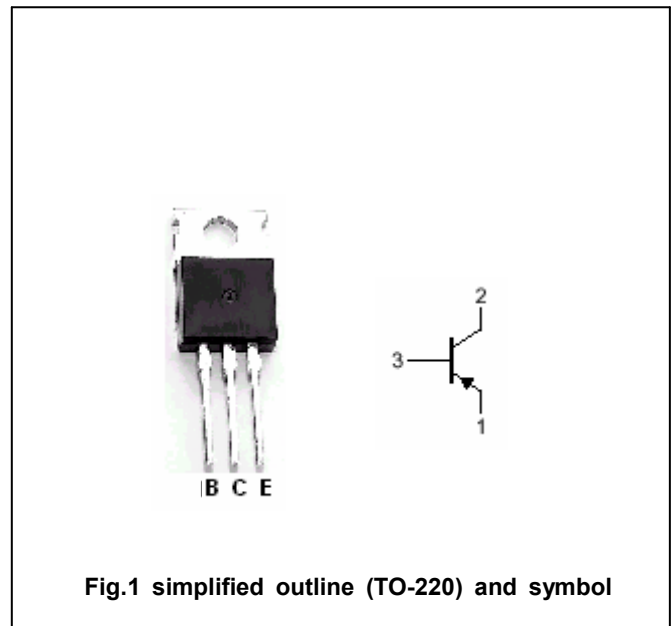
- With TO-220C package
- High speed switching
- Low collector saturation voltage

## APPLICATIONS

- For low voltage switching applications

## PINNING

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

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	2SB871	-40	V
		2SB871A	-50	
$V_{CEO}$	Collector-emitter voltage	2SB871	-20	V
		2SB871A	-40	
$V_{EBO}$	Emitter-base voltage	Open collector	-5	V
$I_C$	Collector current		-10	A
$I_{CM}$	Collector current-Peak		-20	A
$P_C$	Collector power dissipation	$T_C=25^\circ\text{C}$	40	W
$T_j$	Junction temperature		150	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-50~150	$^\circ\text{C}$

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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	2SB871	I <sub>C</sub> =-10mA; I <sub>B</sub> =0	-20			V
		2SB871A		-40			
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-10A; I <sub>B</sub> =-0.33A			-0.6	V	
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-10A; I <sub>B</sub> =-0.33A			-1.5	V	
I <sub>CBO</sub>	Collector cut-off current	2SB871	V <sub>CB</sub> =-40V; I <sub>E</sub> =0			-50	μA
		2SB871A		V <sub>CB</sub> =-50V; I <sub>E</sub> =0			
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-50	μA	
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-0.1A; V <sub>CE</sub> =-2V	45				
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-3A; V <sub>CE</sub> =-2V	60		260		
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =-10V; f=1MHz		400		pF	
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-0.5A; V <sub>CE</sub> =-10V		100		MHz	

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =-3A; I <sub>B1</sub> =-I <sub>B2</sub> =-0.1A		0.1		μs
t <sub>stg</sub>	Storage time			0.5		μs
t <sub>f</sub>	Fall time			0.1		μs

◆ h<sub>FE-2</sub> Classifications

R	Q	P
60-120	90-180	130-260

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PACKAGE OUTLINE



Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.10$ mm)