

## Silicon NPN Power Transistors

2SD1351

## DESCRIPTION

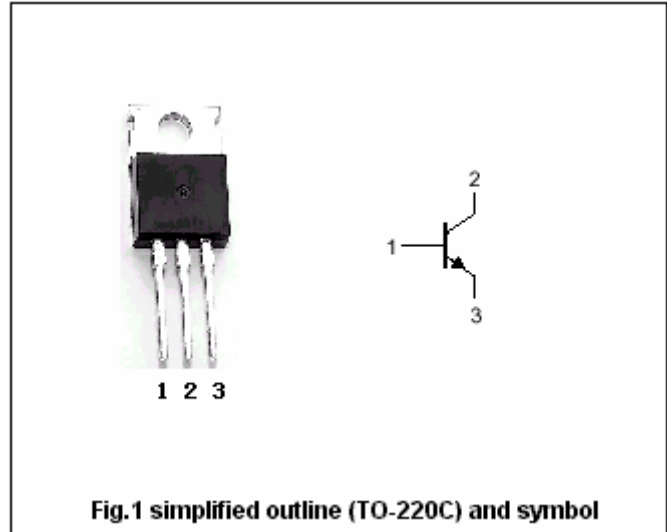
- With TO-220C package
- Complement to type 2SB988
- Low collector saturation voltage

## APPLICATIONS

- For general purpose application

## PINNING

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



## Absolute maximum ratings (Ta=25°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
$I_B$	Base current		0.5	A
$P_C$	Collector dissipation	$T_a=25^\circ\text{C}$	2	W
		$T_C=25^\circ\text{C}$	30	
$T_j$	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	I <sub>C</sub> =50mA; I <sub>B</sub> =0	60			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =2A; I <sub>B</sub> =0.2A		0.25	1.0	V
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =0.5A; V <sub>CE</sub> =5V		0.7	1.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =60V; I <sub>E</sub> =0			0.1	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =7V; I <sub>C</sub> =0			0.1	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =0.5A; V <sub>CE</sub> =5V	60		300	
C <sub>ob</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =10V, f=1MHz		35		pF
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.5A; V <sub>CE</sub> =5V		3.0		MHz

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>B1</sub> =-I <sub>B2</sub> =0.2A V <sub>CC</sub> =30V; R <sub>L</sub> =15Ω Duty cycle ≤ 1%		0.65		μs
t <sub>stg</sub>	Storage time			1.30		μs
t <sub>f</sub>	Fall time			0.65		μs

◆ h<sub>FE</sub> Classifications

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

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PACKAGE OUTLINE

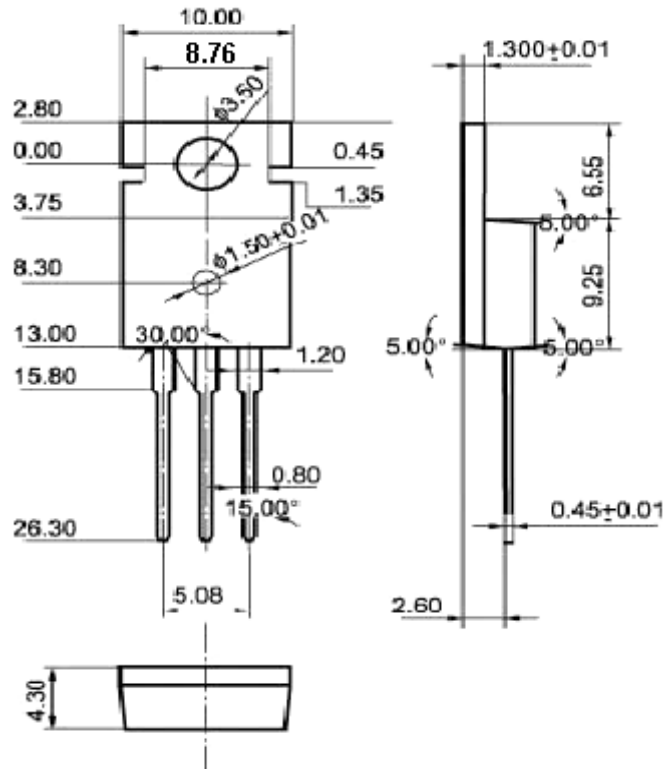


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.10$ mm)