

## Silicon PNP Power Transistors

2SB601

## DESCRIPTION

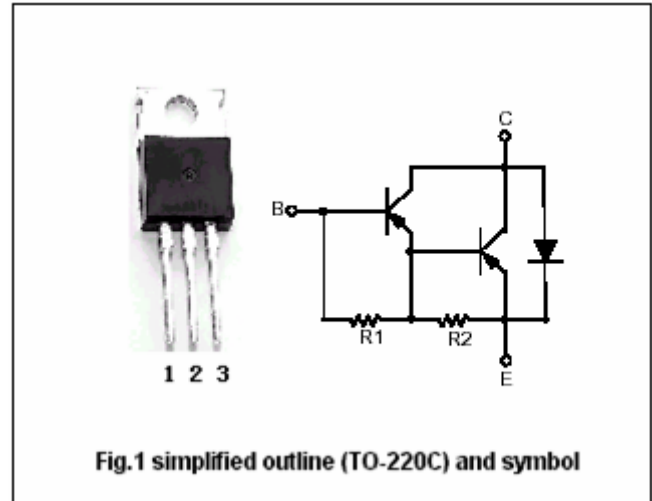
- With TO-220C package
- DARLINGTON
- High DC current gain
- Low collector saturation voltage

## APPLICATIONS

- For low-frequency power amplifier and low-speed switching applications

## PINNING

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

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	-100	V
$V_{CEO}$	Collector-emitter voltage	Open base	-100	V
$V_{EBO}$	Emitter-base voltage	Open collector	-7	V
$I_C$	Collector current-DC		-5	A
$I_{CM}$	Collector current-Pulse		-8	A
$I_B$	Base current-DC		-0.5	A
$P_T$	Total power dissipation	$T_c=25^\circ\text{C}$	30	W
		$T_a=25^\circ\text{C}$	1.5	
$T_j$	Junction temperature		150	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-55~150	$^\circ\text{C}$

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## CHARACTERISTICS

T<sub>j</sub>=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =-3A, I <sub>B1</sub> =-3mA, L=1mH	-100			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-3A, I <sub>B</sub> =-3mA			-1.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-3A, I <sub>B</sub> =-3mA			-2.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =-100V, I <sub>E</sub> =0			-10	μA
I <sub>CEX</sub>	Collector cut-off current	V <sub>CE</sub> =-100V, V <sub>BE</sub> =-1.5V T <sub>a</sub> =25 °C			-10 -1.0	μA mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-3.0	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-3A; V <sub>CE</sub> =-2V	2000		15000	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-5A; V <sub>CE</sub> =-2V	500			
C <sub>ob</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =-10V, f=0.1MHz			300	pF

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =-3A; I <sub>B1</sub> =-I <sub>B2</sub> =-3mA V <sub>CC</sub> =-50V; R <sub>L</sub> =17Ω		0.5		μs
t <sub>stg</sub>	Storage time			1.0		μs
t <sub>f</sub>	Fall time			1.0		μs

◆ h<sub>FE-1</sub> Classifications

M	L	K
2000-5000	3000-7000	5000-15000

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PACKAGE OUTLINE

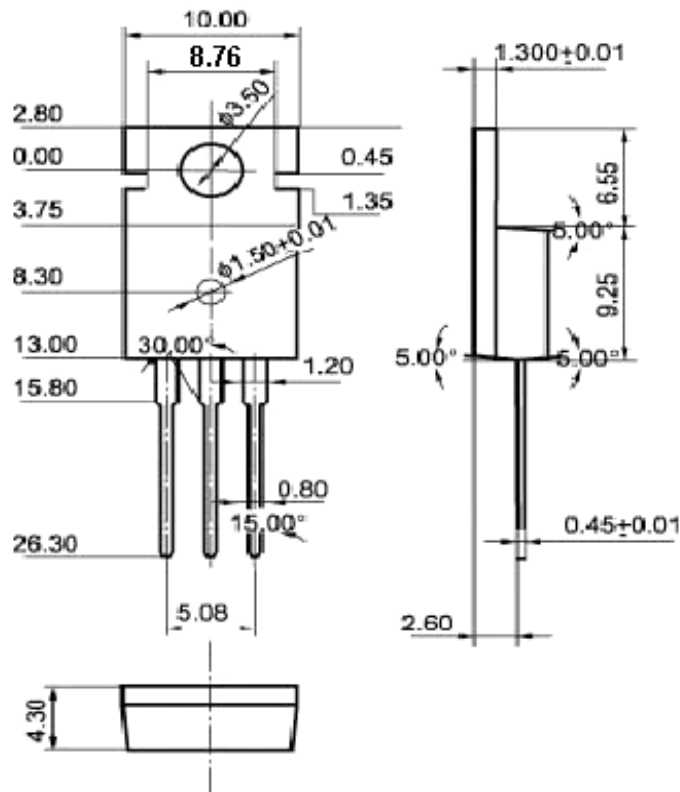


Fig.2 Outline dimensions