

Silicon NPN Power Transistors

2SD686

DESCRIPTION

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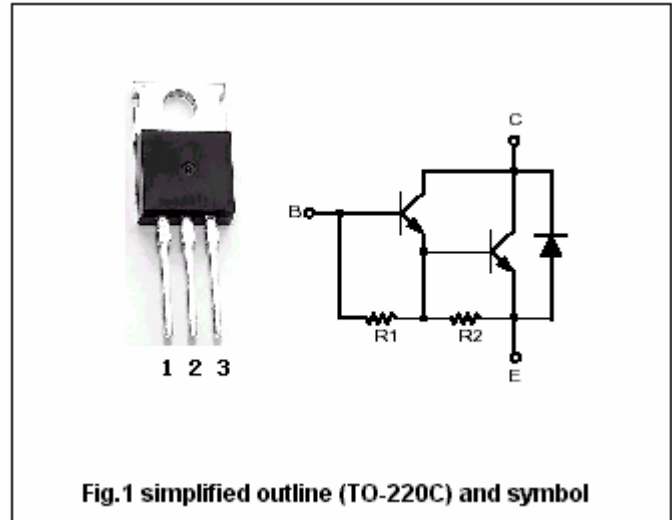
- With TO-220C package
- Complement to type 2SB676
- DARLINGTON
- High DC current gain

APPLICATIONS

- Switching applications
- Hammer drive,pulse motor drive
- 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	100	V
V_{CEO}	Collector-emitter voltage	Open base	80	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		4	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	30	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-50~150	$^\circ\text{C}$

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CHARACTERISTICS

T_j=25°C unless otherwise specified

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =10mA; I _B =0	80			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =3A; I _B =6mA			1.5	V
V _{BEsat}	Base-emitter saturation voltage	I _C =3A; I _B =6mA			2.0	V
I _{CBO}	Collector cut-off current	V _{CB} =100V; I _E =0			20	μA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			2.5	mA
h _{FE-1}	DC current gain	I _C =1A; V _{CE} =2V	2000			
h _{FE-2}	DC current gain	I _C =3A; V _{CE} =2V	1000			

Switching times

t _{on}	Turn-on time	I _{B1} =-I _{B2} =6mA V _{CC} =30V; R _L =10Ω		0.2		μs
t _s	Storage time			1.5		μs
t _f	Fall time			0.6		μs

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PACKAGE OUTLINE

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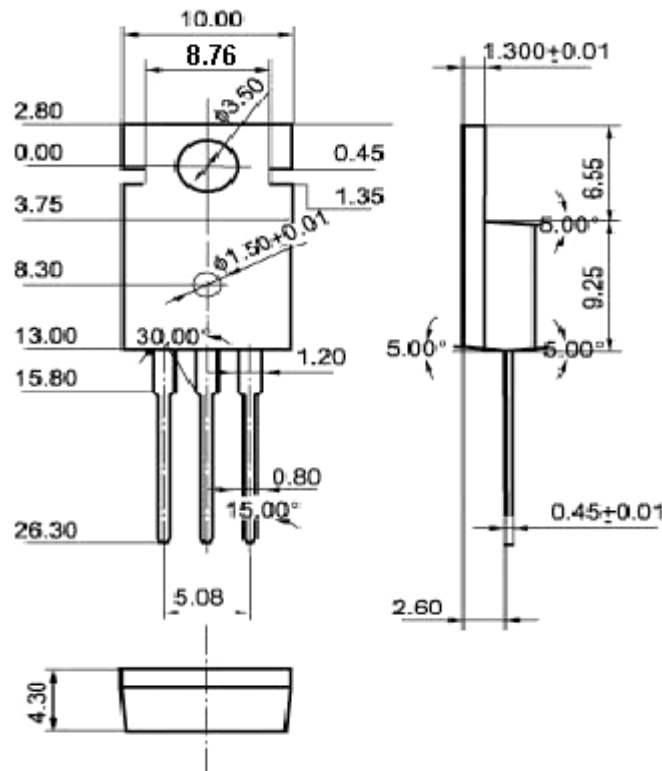


Fig.2 Outline dimensions (unindicated tolerance:±0.10mm)