

Silicon NPN Power Transistors

2SD686

DESCRIPTION

- 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

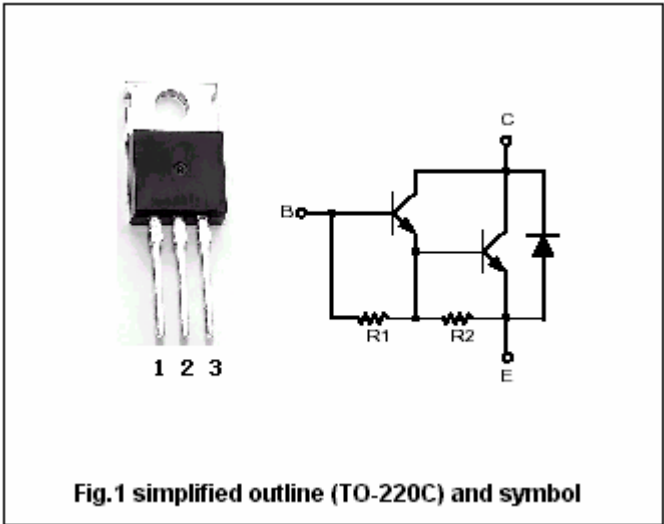


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Ta=25)

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	30	W
T _j	Junction temperature		150	
T _{stg}	Storage temperature		-50~150	

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CHARACTERISTICS

Tj=25 unless otherwise specified

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	$I_{B1}=-I_{B2}=6mA$ $V_{CC}=30V; R_L=10\Omega$		0.2		μs
t_s	Storage time			1.5		μs
t_f	Fall time			0.6		μs

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PACKAGE OUTLINE

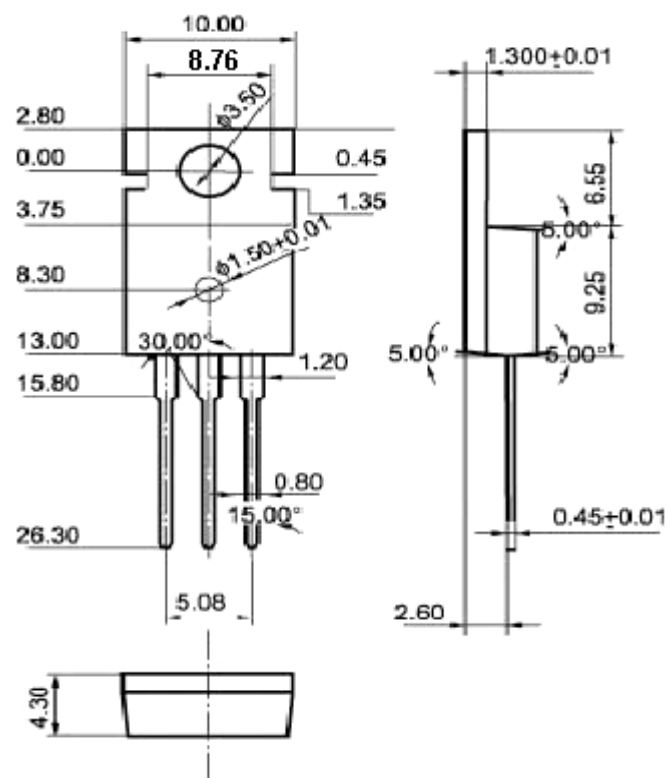


Fig.2 Outline dimensions (unindicated tolerance: $\pm 0.10\text{mm}$)