

Silicon NPN Power Transistors

2SD687

DESCRIPTION

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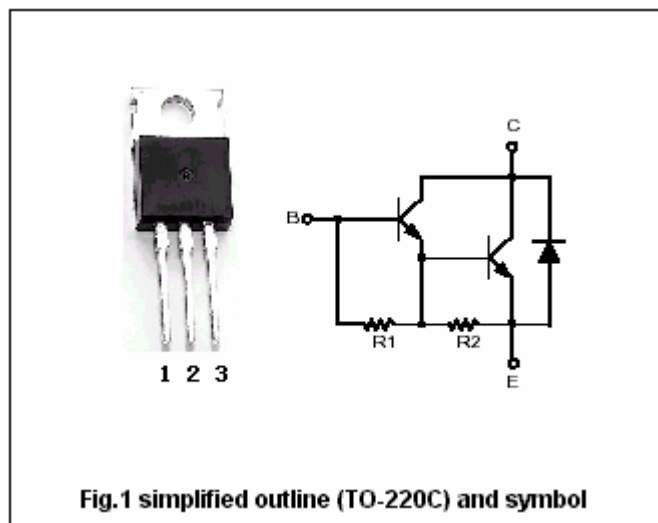
- With TO-220C package
- Low collector saturation voltage
- DARLINGTON
- High DC current gain

APPLICATIONS

- Switching applications
- Hammer drive,pulse motor drive
- Power amplifier applications

PINNING

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

Maximum absolute ratings($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	60	V
V_{CEO}	Collector-emitter voltage	Open base	40	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		3	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	25	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-50~150	$^\circ\text{C}$

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CHARACTERISTICS

Tj=25°C unless otherwise specified

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=25mA; I_B=0$	40			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=2A; I_B=4mA$			1.5	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=2A; I_B=4mA$			2.0	V
I_{CBO}	Collector cut-off current	$V_{CB}=60V; I_E=0$			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	$I_{B1}=-I_{B2}=6mA$ $V_{CC}=30V; R_L=10\Omega$		0.1		μs
t_s	Storage time			1.0		μs
t_f	Fall time			0.2		μs

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PACKAGE OUTLINE

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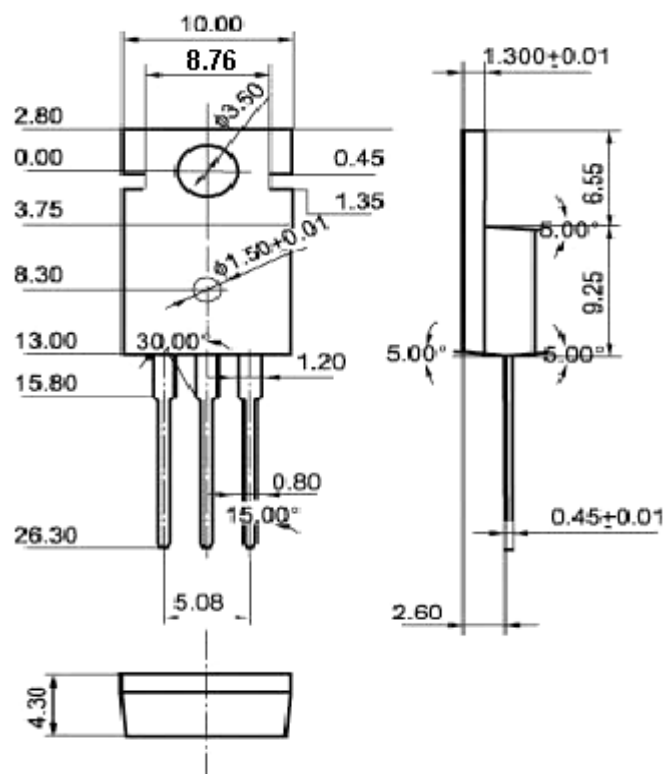


Fig.2 Outline dimensions (unindicated tolerance:±0.10mm)