

Silicon NPN Darlington Power Transistors

BD643

DESCRIPTION

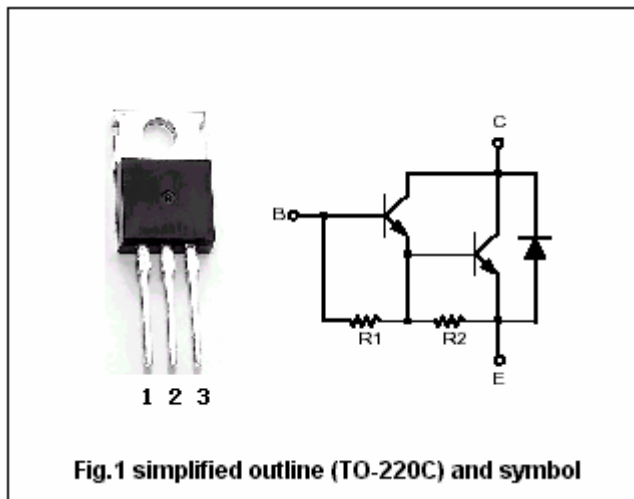
- With TO-220C package
- Complement to type BD644
- DARLINGTON

APPLICATIONS

- For use in output stages in audio equipment ,general amplifier,and analogue switching applications

PINNING

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



Absolute maximum ratings(Ta=25 )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	45	V
$V_{CEO}$	Collector-emitter voltage	Open base	45	V
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current-DC		8	A
$I_{CM}$	Collector current-Pulse		12	A
$I_B$	Base current		150	A
$P_C$	Collector power dissipation	$T_C=25$	62.5	W
$T_j$	Junction temperature		150	
$T_{stg}$	Storage temperature		-55~150	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	1.5	/W

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =0.1A, I <sub>B</sub> =0	45			V
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =5mA, I <sub>E</sub> =0	45			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =2mA, I <sub>C</sub> =0	5			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =3A, I <sub>B</sub> =12mA			2.0	V
V <sub>BE</sub>	Base-emitter voltage	I <sub>C</sub> =3A, V <sub>CE</sub> =3V			2.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =V <sub>CBMax</sub> ; I <sub>E</sub> =0			0.2	mA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =1/2 V <sub>CEMax</sub> ; I <sub>B</sub> =0			0.5	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			5	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =0.5A; V <sub>CE</sub> =3V		1500		
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =3A; V <sub>CE</sub> =3V	750			
h <sub>FE-3</sub>	DC current gain	I <sub>C</sub> =6A; V <sub>CE</sub> =3V		750		
V <sub>F</sub>	Diode forward voltage	I <sub>F</sub> =3A		1.8		V
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =3A; V <sub>CE</sub> =3V; f=1MHz		7		MHz

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PACKAGE OUTLINE

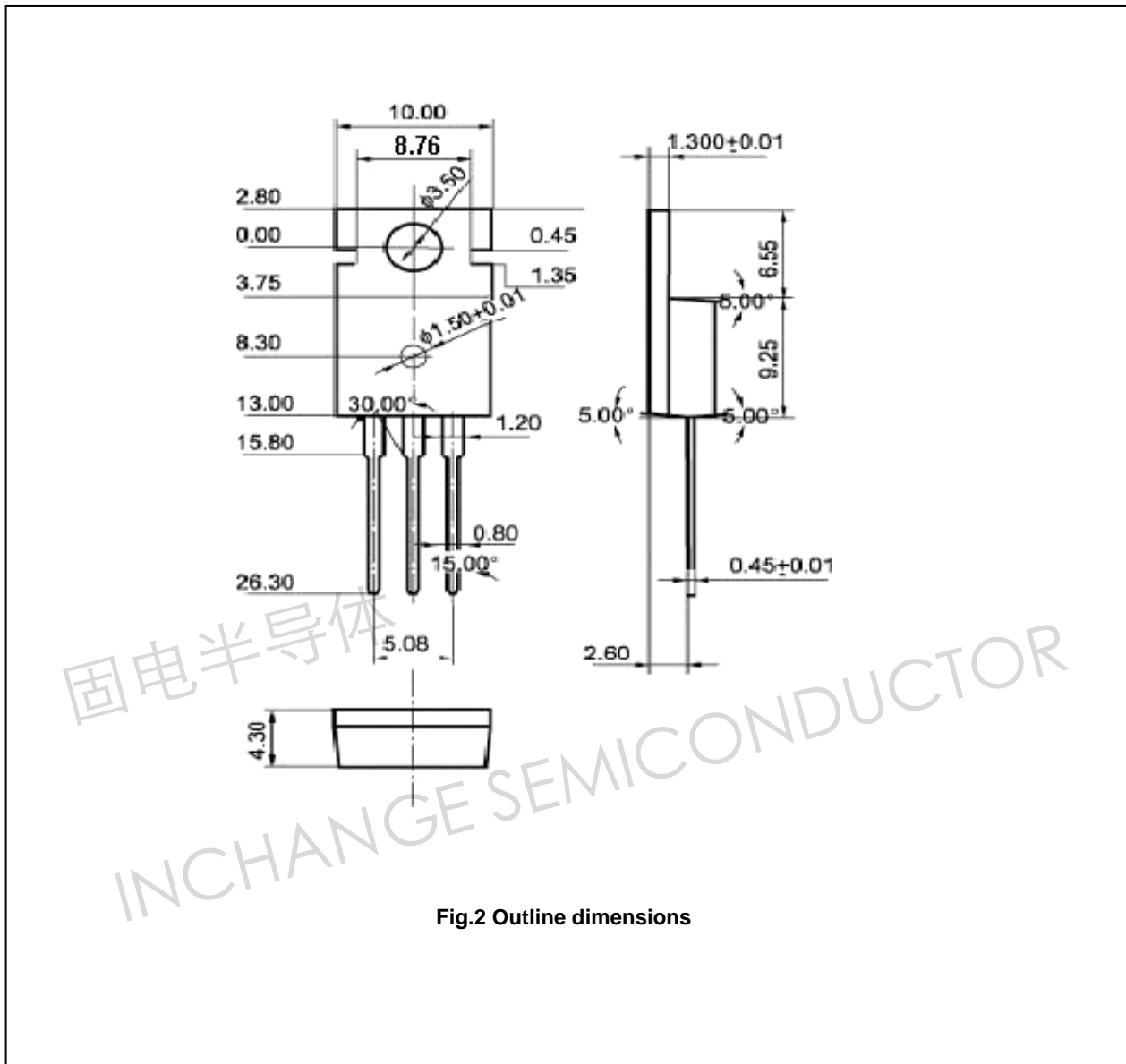


Fig.2 Outline dimensions