

Silicon NPN Power Transistors

BDX33/A/B/C

DESCRIPTION

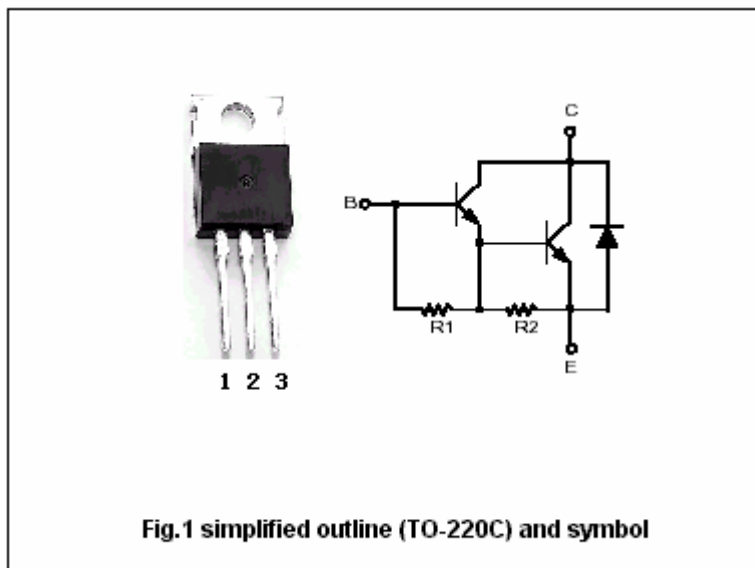
- With TO-220C package
- High DC current gain
- DARLINGTON
- Complement to type BDX34/A/B/C

APPLICATIONS

- For power linear and switching 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	BDX33	45	V
		BDX33A	60	
		BDX33B	80	
		BDX33C	100	
V_{CEO}	Collector-emitter voltage	BDX33	45	V
		BDX33A	60	
		BDX33B	80	
		BDX33C	100	
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current-DC		10	A
I_{CM}	Collector current-Pulse		15	A
I_B	Base current		0.25	A
P_C	Collector power dissipation	$T_C=25$	70	W
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-65~150	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	1.78	/W

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CHARACTERISTICS

Tj=25 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	BDX33	$I_C=0.1A, I_B=0$	45			V
		BDX33A		60			
		BDX33B		80			
		BDX33C		100			
V_{CEsat}	Collector-emitter saturation voltage	BDX33/33A	$I_C=4A, I_B=8mA$			2.5	V
		BDX33B/33C	$I_C=3A, I_B=6mA$				
V_{BE}	Base-emitter on voltage	BDX33/33A	$I_C=4A; V_{CE}=3V$			2.5	V
		BDX33B/33C	$I_C=3A; V_{CE}=3V$				
I_{CBO}	Collector cut-off current	BDX33	$V_{CB}=45V, I_E=0$			0.2	mA
		BDX33A	$V_{CB}=60V, I_E=0$				
		BDX33B	$V_{CB}=80V, I_E=0$				
		BDX33C	$V_{CB}=100V, I_E=0$				
I_{CEO}	Collector cut-off current	BDX33	$V_{CE}=22V, I_B=0$			0.5	mA
		BDX33A	$V_{CE}=30V, I_B=0$				
		BDX33B	$V_{CE}=40V, I_B=0$				
		BDX33C	$V_{CE}=50V, I_B=0$				
I_{EBO}	Emitter cut-off current		$V_{EB}=5V; I_C=0$			5	mA
h_{FE}	DC current gain	BDX33/33A	$I_C=4A; V_{CE}=3V$	750			
		BDX33B/33C	$I_C=3A; V_{CE}=3V$				
V_F	Forward diode voltage		$I_F=8A$			4.0	V

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PACKAGE OUTLINE

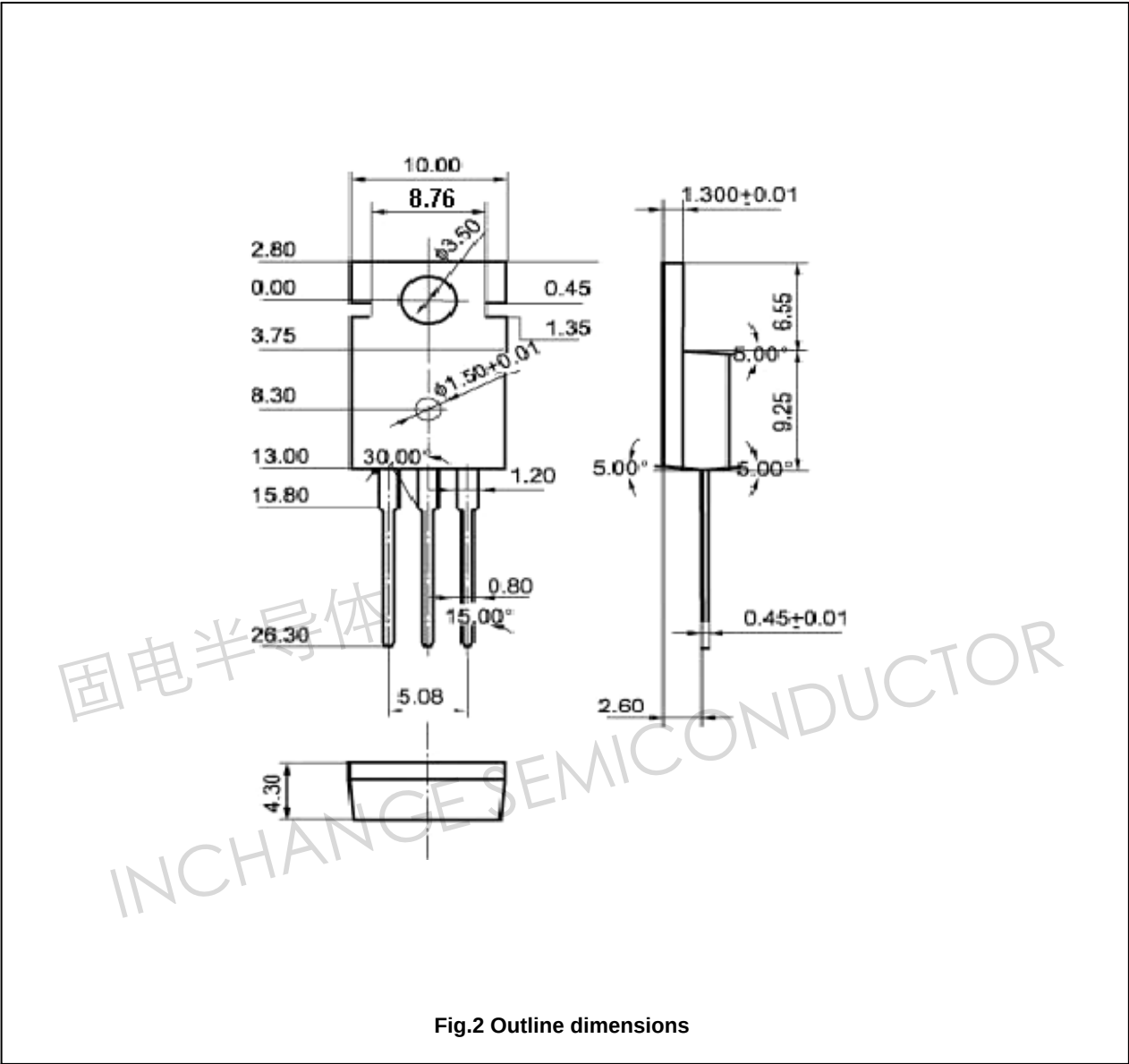


Fig.2 Outline dimensions