Silicon NPN Power Transistors BDX53/A/B/C

DESCRIPTION

- With TO-220C package
- High DC current gain
- DARLINGTON
- Complement to type BDX54/A/B/C

APPLICATIONS

- Power linear and switching applications
- Hammer drivers,audio amplifiers

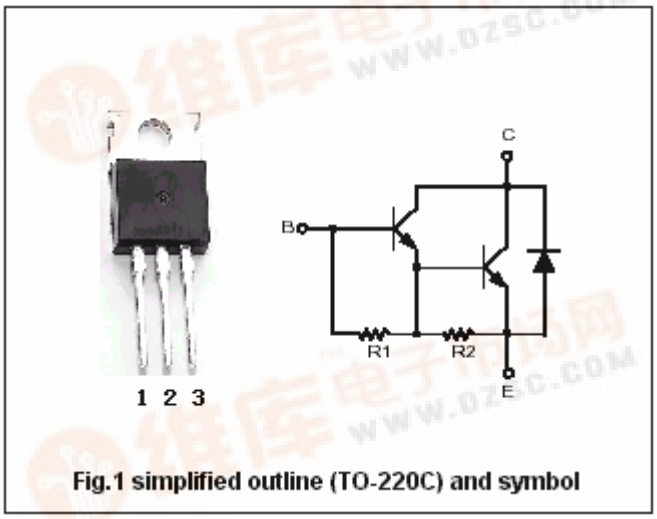

Fig.1 simplified outline (TO-220C) and symbol

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	BDX53	Open emitter	45	V
		BDX53A		60	
		BDX53B		80	
		BDX53C		100	
V_{CEO}	Collector-emitter voltage	BDX53	Open base	45	V
		BDX53A		60	
		BDX53B		80	
		BDX53C		100	
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			0.2	A
P_C	Collector power dissipation		T_C=25℃	60	W
T_j	Junction temperature			150	℃
T_{stg}	Storage temperature			-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal resistance junction to case	2.08	℃/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	BDX53	I_C=0.1A, I_B=0	45			V
		BDX53A		60			
		BDX53B		80			
		BDX53C		100			
V_{CEsat}	Collector-emitter saturation voltage		I_C=3A ,I_B=12mA			2.0	V
$V_{BE\ sat}$	Base-emitter saturation voltage		I_C=3A ,I_B=12mA			2.5	V
I_{CBO}	Collector cut-off current	BDX53	V_{CB}=45V, I_E=0			0.2	mA
		BDX53A	V_{CB}=60V, I_E=0				
		BDX53B	V_{CB}=80V, I_E=0				
		BDX53C	V_{CB}=100V, I_E=0				
I_{CEO}	Collector cut-off current	BDX53	V_{CE}=22V, I_B=0			0.5	mA
		BDX53A	V_{CE}=30V, I_B=0				
		BDX53B	V_{CE}=40V, I_B=0				
		BDX53C	V_{CE}=50V, I_B=0				
I_{EBO}	Emitter cut-off current		V_{EB}=5V; I_C=0			2.0	mA
h_{FE}	DC current gain		I_C=3A ; V_{CE}=3V	750			
V_{F-1}	Forward diode voltage		I_F=3A		1.8	2.5	V
V_{F-2}	Forward diode voltage		I_F=8A		2.5		V

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PACKAGE OUTLINE

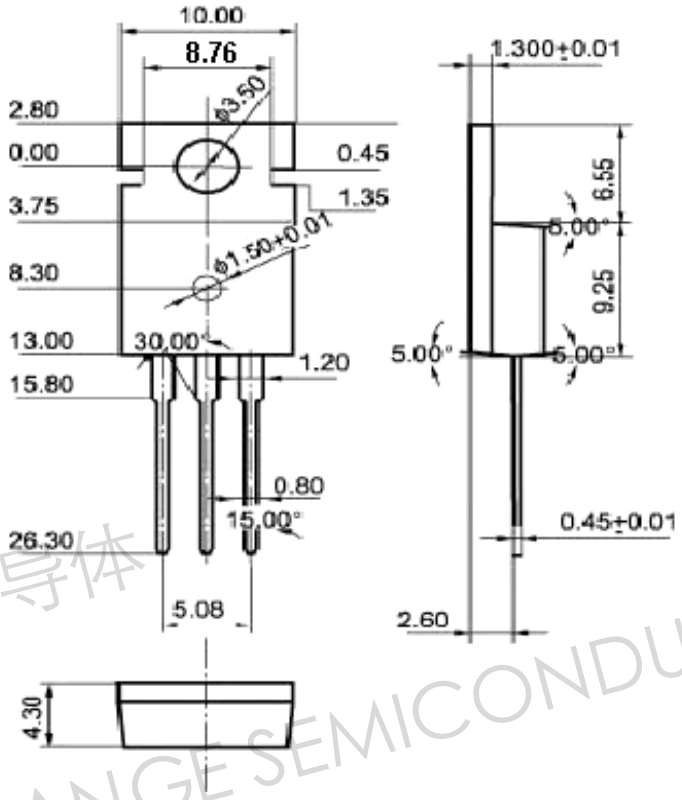

Fig.2 Outline dimensions