

Silicon NPN Power Transistors

BDX53/A/B/C

DESCRIPTION

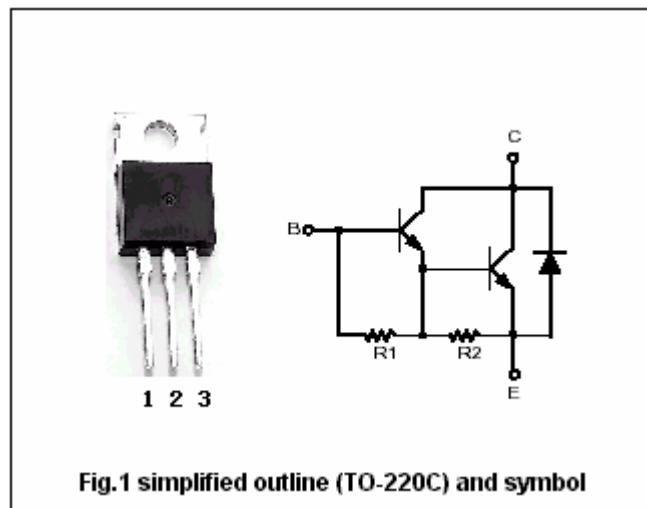
- With TO-220C package
- High DC current gain
- DARLINGTON
- Complement to type BDX54/A/B/C

APPLICATIONS

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

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	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		$T_C=25^\circ\text{C}$	60	W
T_j	Junction temperature			150	$^\circ\text{C}$
T_{stg}	Storage temperature			-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	2.08	$^\circ\text{C}/\text{W}$

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CHARACTERISTICS

T_j=25°C 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

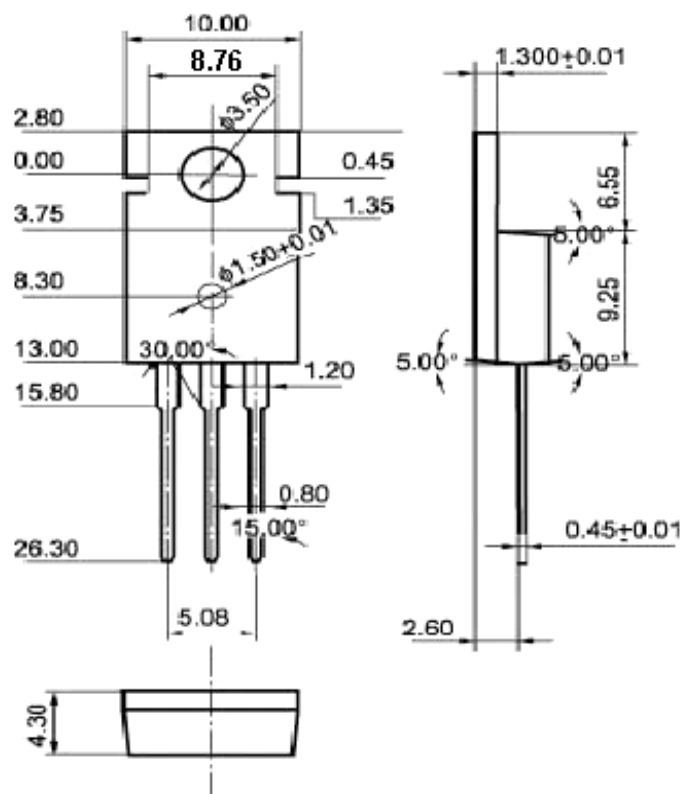


Fig.2 Outline dimensions