

Silicon NPN Power Transistors

BDW93/A/B/C

DESCRIPTION

- With TO-220C package
- High DC Current Gain
- DARLINGTON
- Complement to type BDW94/A/B/C

APPLICATIONS

- Hammer drivers,
- Audio amplifiers applications

PINNING

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

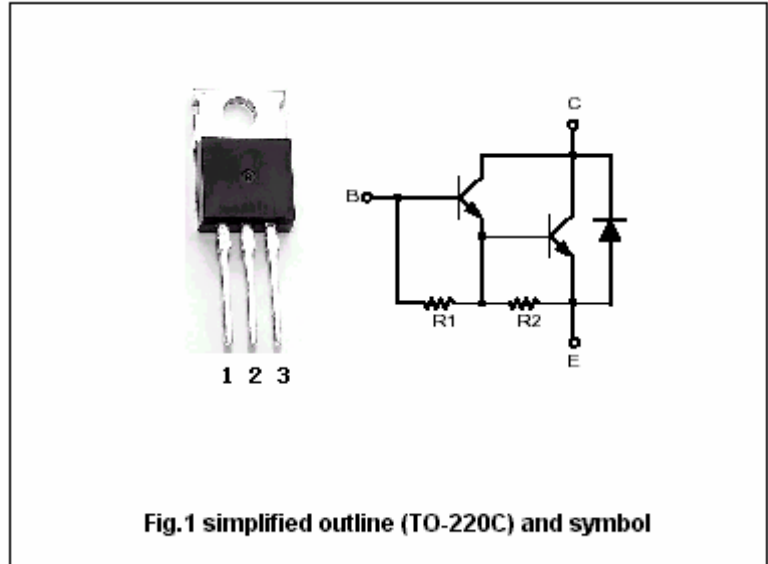


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	BDW93	45	V
		BDW93A	60	
		BDW93B	80	
		BDW93C	100	
V_{CEO}	Collector-emitter voltage	BDW93	45	V
		BDW93A	60	
		BDW93B	80	
		BDW93C	100	
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current-DC		12	A
I_{CM}	Collector current-Pulse		15	A
I_B	Base current		0.2	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	80	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	1.5	$^\circ\text{C}/\text{W}$

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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	BDW93	I _C =0.1A, I _B =0	45			V
		BDW93A		60			
		BDW93B		80			
		BDW93C		100			
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =5A, I _B =20mA			2.0	V	
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =10A, I _B =0.1A			3.0	V	
V _{BEsat-1}	Base-emitter saturation voltage	I _C =5A, I _B =20mA			2.5	V	
V _{BEsat-2}	Base-emitter saturation voltage	I _C =10A, I _B =0.1A			4.0	V	
I _{CBO}	Collector cut-off current	BDW93	V _{CB} =45V, I _E =0			0.1	mA
		BDW93A		V _{CB} =60V, I _E =0			
		BDW93B		V _{CB} =80V, I _E =0			
		BDW93C		V _{CB} =100V, I _E =0			
I _{CEO}	Collector cut-off current	BDW93	V _{CE} =45V, I _B =0			1.0	mA
		BDW93A		V _{CE} =60V, I _B =0			
		BDW93B		V _{CE} =80V, I _B =0			
		BDW93C		V _{CE} =100V, I _B =0			
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			2	mA	
h _{FE-1}	DC current gain	I _C =3A; V _{CE} =3V	1000				
h _{FE-2}	DC current gain	I _C =5A; V _{CE} =3V	750		20000		
h _{FE-3}	DC current gain	I _C =10A; V _{CE} =3V	100				
V _{F-1}	Forward diode voltage	I _F =5A			2.0	V	
V _{F-2}	Forward diode voltage	I _F =10A			4.0	V	

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PACKAGE OUTLINE

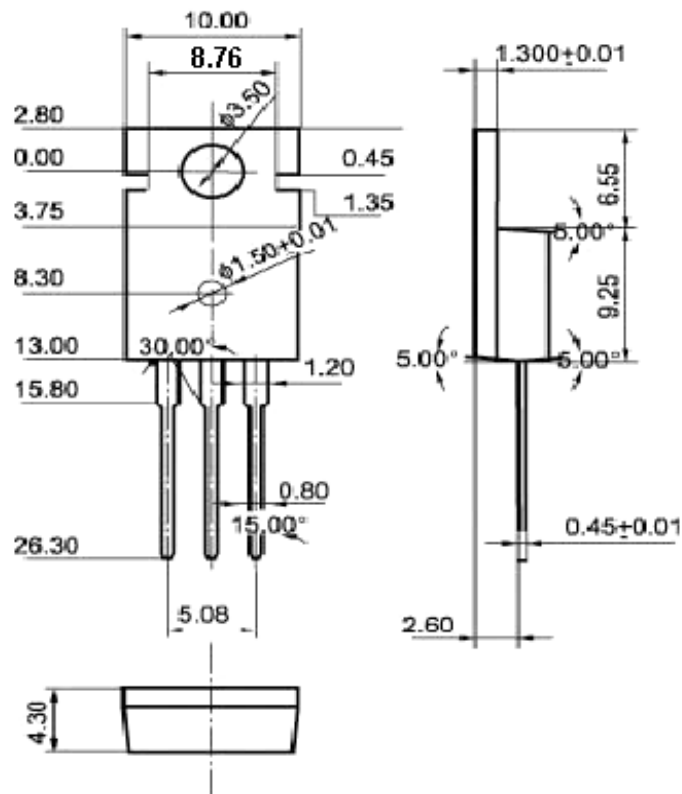


Fig.2 Outline dimensions