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

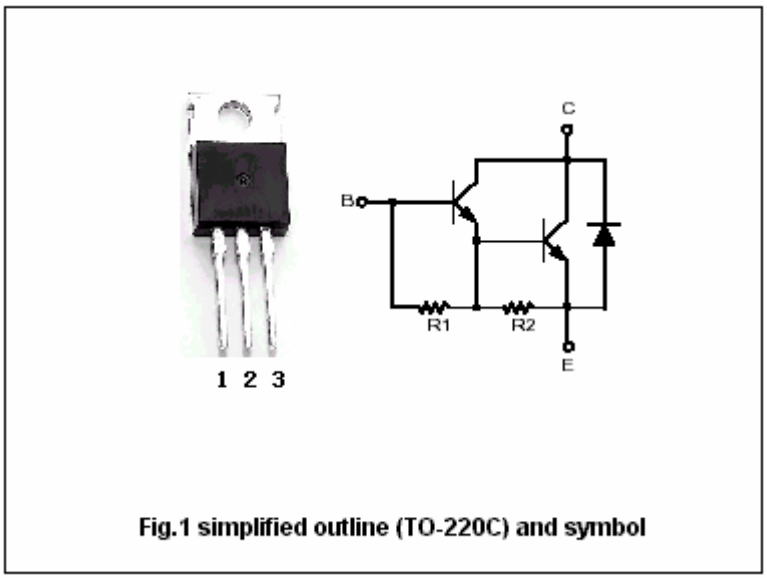

Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Ta=25℃)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	BDW93	Open emitter	45	V
		BDW93A		60	
		BDW93B		80	
		BDW93C		100	
V_{CEO}	Collector-emitter voltage	BDW93	Open base	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℃	80	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	1.5	℃/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	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

PACKAGE OUTLINE

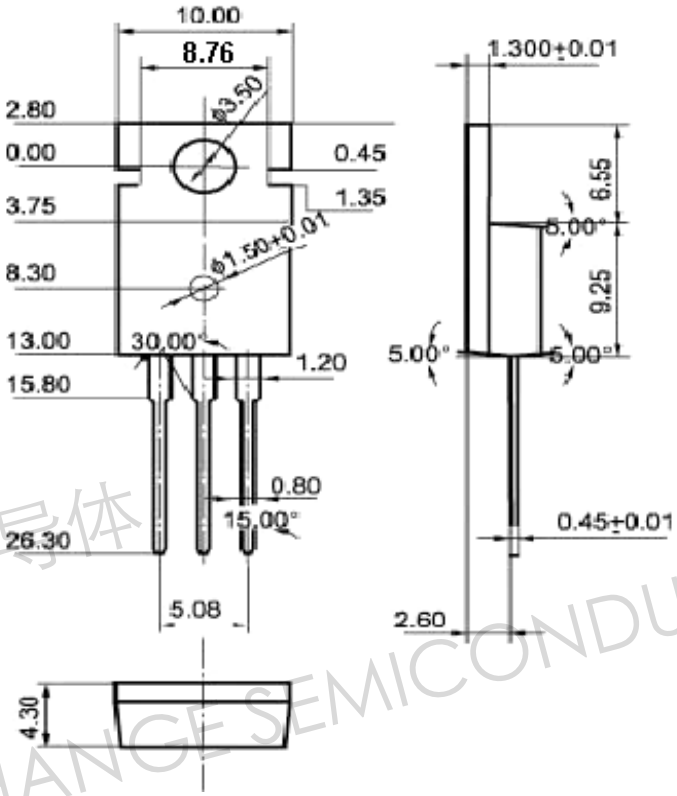

Fig.2 Outline dimensions