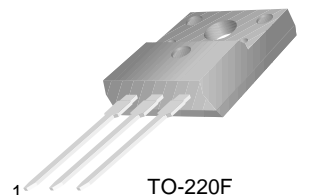


# BDW93CF

## Hammer Drivers, Audio Amplifiers Applications

- Power Darlington TR
- Complement to BDW94CF respectively



TO-220F  
1.Base 2.Collector 3.Emitter

## NPN Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	100	V
$V_{CEO}$	Collector-Emitter Voltage	100	V
$I_C$	Collector Current (DC)	12	A
$I_{CP}$	*Collector Current (Pulse)	15	A
$I_B$	Base Current	0.2	A
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	30	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 65 ~ 150	$^\circ\text{C}$

### Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CEO(sus)}$	* Collector-Emitter Sustaining Voltage	$I_C = 100\text{mA}, I_B = 0$	100			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = 100\text{V}, I_E = 0$			100	$\mu\text{A}$
$I_{CEO}$	Collector Cut-off Current	$V_{CE} = 100\text{V}, I_B = 0$			1	mA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 5\text{V}, I_C = 0$			2	mA
$h_{FE}$	* DC Current Gain	$V_{CE} = 3\text{V}, I_C = 3\text{A}$ $V_{CE} = 3\text{V}, I_C = 5\text{A}$ $V_{CE} = 3\text{V}, I_C = 10\text{A}$	1000 750 100		20000	
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = 5\text{A}, I_B = 20\text{mA}$ $I_C = 10\text{A}, I_B = 100\text{mA}$			2 3	V V
$V_{BE(sat)}$	* Base-Emitter Saturation Voltage	$I_C = 5\text{A}, I_B = 20\text{mA}$ $I_C = 10\text{A}, I_B = 100\text{mA}$			2.5 4	V V
$V_F$	* Parallel Diode Forward Voltage	$I_F = 5\text{A}$ $I_F = 10\text{A}$		1.3 1.8	2 4	V V

\* Pulse Test: PW=300 $\mu\text{s}$ , duty Cycle =1.5% Pulsed

# Typical characteristics

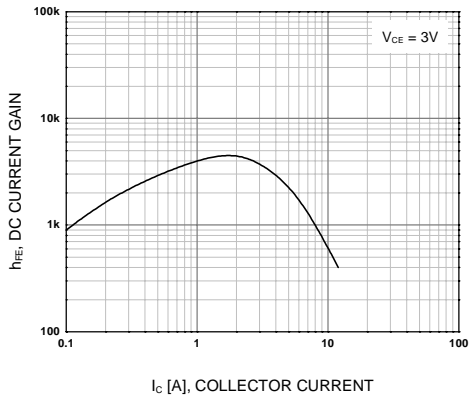


Figure 1. DC Current Gain

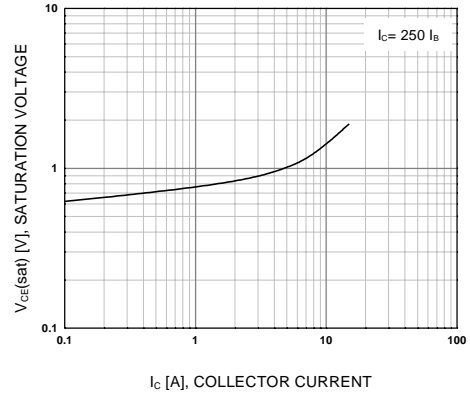


Figure 2. Collector-Emitter Saturation Voltage

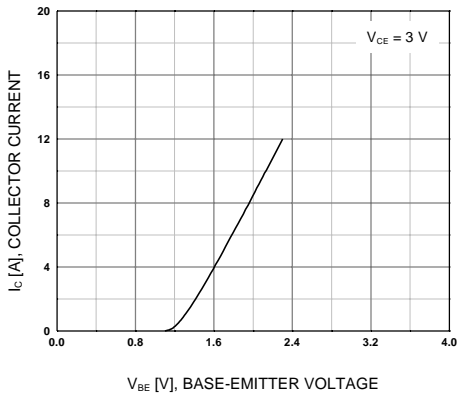


Figure 3. Base-Emitter On Voltage

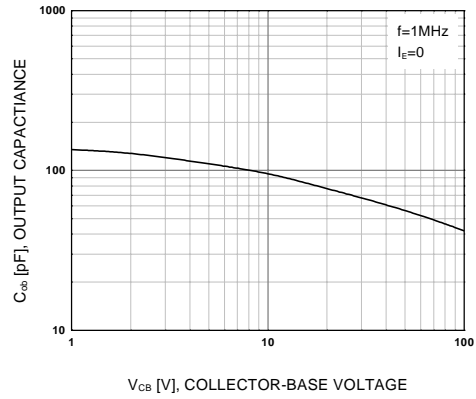


Figure 4. Collector Output Capacitance

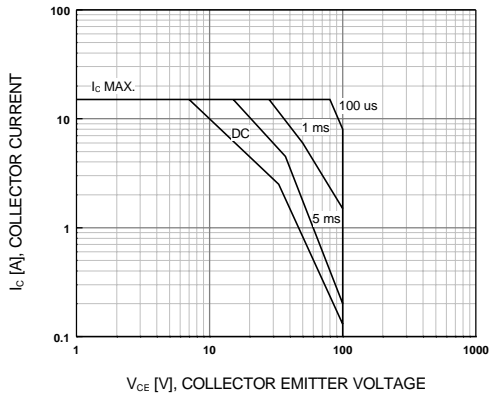


Figure 5. Safe Operating Area

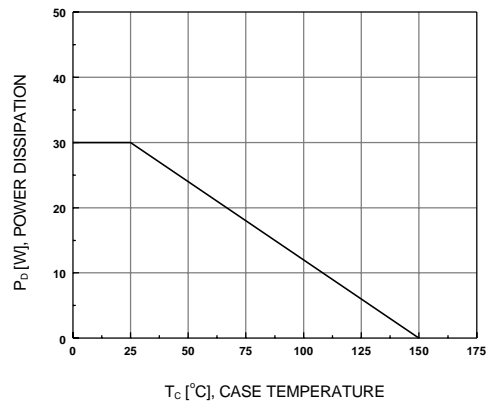
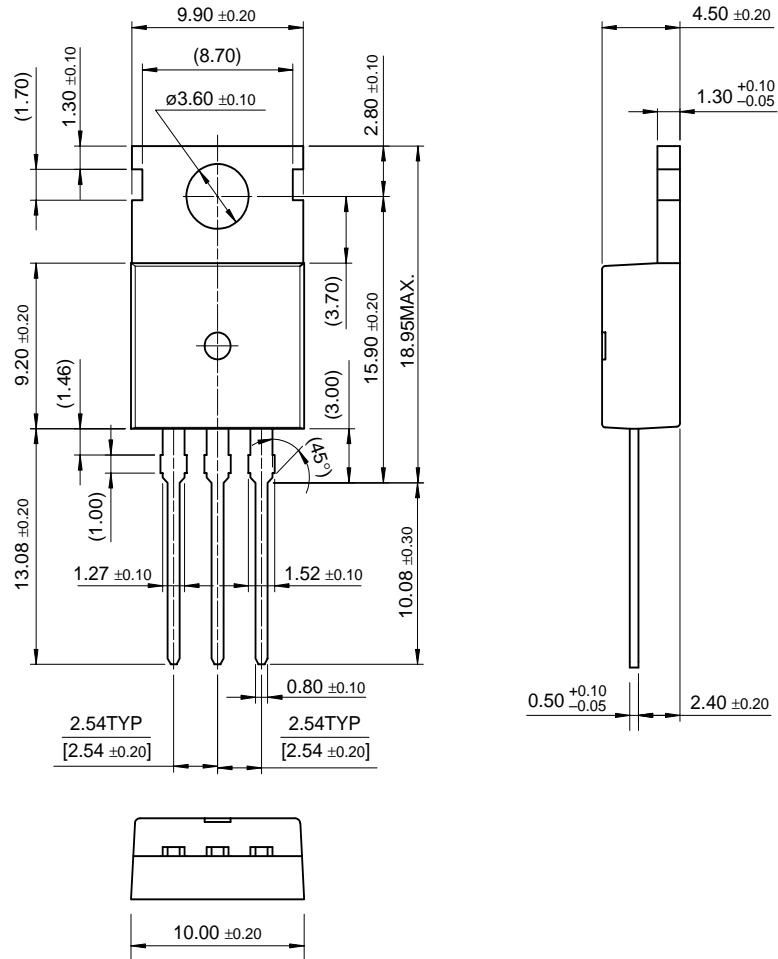


Figure 6. Power Derating

# Package Dimensions

BDW93CF

## TO-220



Dimensions in Millimeters

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E <sup>2</sup> CMOS™	PowerTrench®	VCX™
FACT™	QFET™	
FACT Quiet Series™	QS™	
FAST®	Quiet Series™	
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