

**isc Silicon NPN Power Transistor**

**BDW93/A/B/C**

**DESCRIPTION**

- Collector Current  $-I_C = 12A$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 45V(\text{Min})$ - BDW93;  $60V(\text{Min})$ - BDW93A  
80V(Min)- BDW93B;  $100V(\text{Min})$ - BDW93C
- Complement to Type BDW94/A/B/C

**APPLICATIONS**

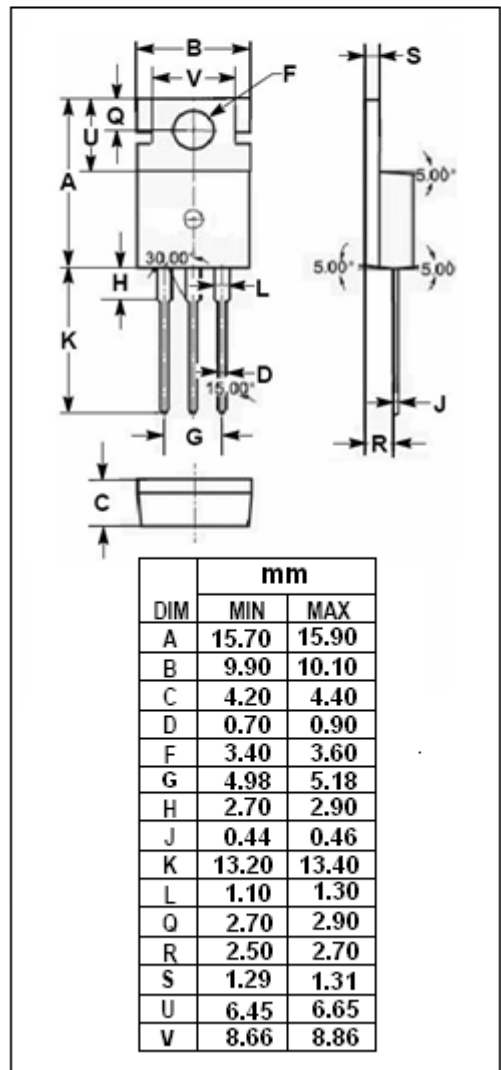
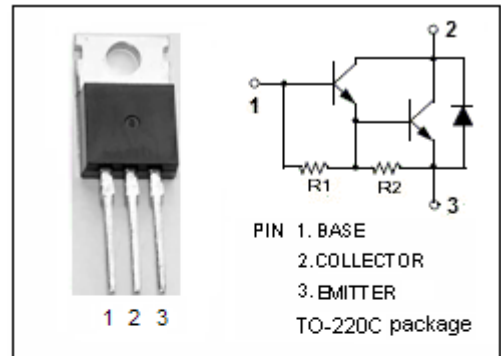
- Designed for hammer drivers, audio amplifier applications.

**ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )**

SYMBOL	PARAMETER	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	5	V	
$I_C$	Collector Current-Continuous	12	A	
$I_{CM}$	Collector Current-Peak	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 Range	-65~150	$^\circ\text{C}$	

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.5	$^\circ\text{C/W}$



## isc Silicon NPN Power Transistor

## BDW93/A/B/C

## ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	BDW93	$I_C=100\text{mA}; I_B=0$	45			V
		BDW93A		60			
		BDW93B		80			
		BDW93C		100			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=20\text{mA}$			2.0	V	
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=0.1\text{A}$			3.0	V	
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=20\text{mA}$			2.5	V	
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=0.1\text{A}$			4.0	V	
$I_{CBO}$	Collector Cutoff Current	BDW93	$V_{CB}=45\text{V}; I_E=0$			0.1	mA
		BDW93A		$V_{CB}=60\text{V}; I_E=0$			
		BDW93B		$V_{CB}=80\text{V}; I_E=0$			
		BDW93C		$V_{CB}=100\text{V}; I_E=0$			
$I_{CEO}$	Collector Cutoff Current	BDW93	$V_{CE}=45\text{V}; I_B=0$			1.0	mA
		BDW93A		$V_{CE}=60\text{V}; I_B=0$			
		BDW93B		$V_{CE}=80\text{V}; I_B=0$			
		BDW93C		$V_{CE}=100\text{V}; I_B=0$			
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			2.0	mA	
$h_{FE-1}$	DC Current Gain	$I_C=3\text{A}; V_{CE}=3\text{V}$	1000				
$h_{FE-2}$	DC Current Gain	$I_C=5\text{A}; V_{CE}=3\text{V}$	750		20000		
$h_{FE-3}$	DC Current Gain	$I_C=10\text{A}; V_{CE}=3\text{V}$	100				
$V_{ECF-1}$	C-E Diode Forward Voltage	$I_F=5\text{A}$			2.0	V	
$V_{ECF-2}$	C-E Diode Forward Voltage	$I_F=10\text{A}$			4.0	V	