

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
 $80V(\text{Min})$ - BDW93B; $100V(\text{Min})$ - BDW93C
- Complement to Type BDW94/A/B/C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

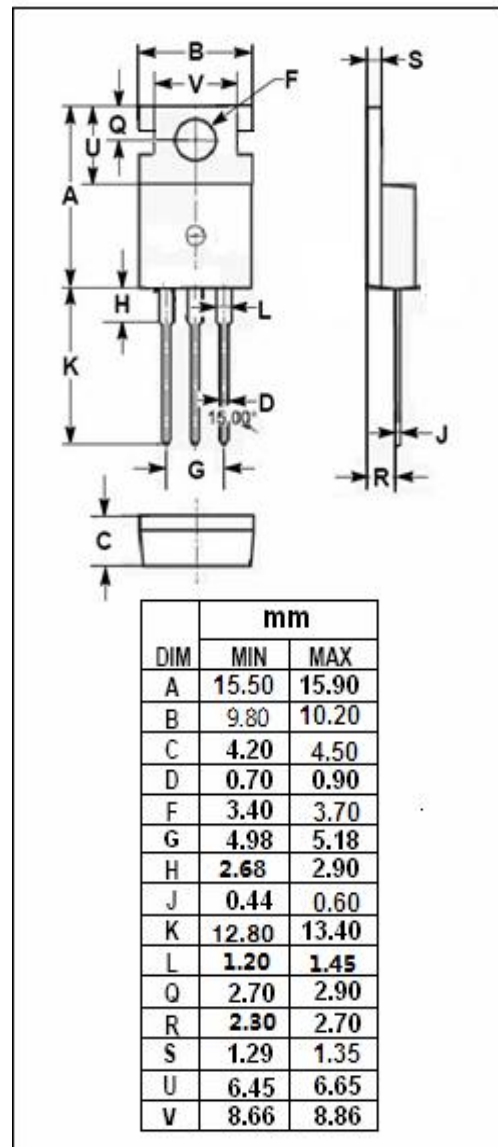
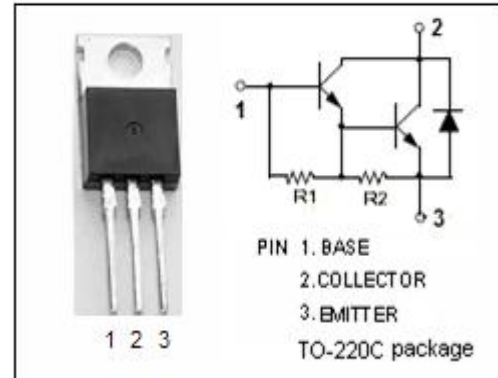
- Designed for hammer drivers, audio amplifier applications.

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	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

 T_C=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	BDW93	I _C = 50mA; I _B = 0	45			V
		BDW93A		60			
		BDW93B		80			
		BDW93C		100			
V _{CE(sat)-1}	Collector-Emitter Voltage	Saturation	I _C = 5A; I _B = 20mA			2.0	V
V _{CE(sat)-2}	Collector-Emitter Voltage	Saturation	I _C = 10A; I _B = 0.1A			3.0	V
V _{BE(sat)-1}	Base-Emitter Saturation Voltage		I _C = 5A; I _B = 20mA			2.5	V
V _{BE(sat)-1}	Base-Emitter Saturation Voltage		I _C = 10A; I _B = 0.1A			4.0	V
I _{CBO}	Collector Cutoff 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 Cutoff 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 Cutoff Current		V _{EB} = 5V; I _C = 0			2.0	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		2000 0	
h _{FE-3}	DC Current Gain		I _C = 10A; V _{CE} = 3V	100			
V _{ECF-1}	C-E Diode Forward Voltage		I _F = 5A			2.0	V
V _{ECF-2}	C-E Diode Forward Voltage		I _F = 10A			4.0	V

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