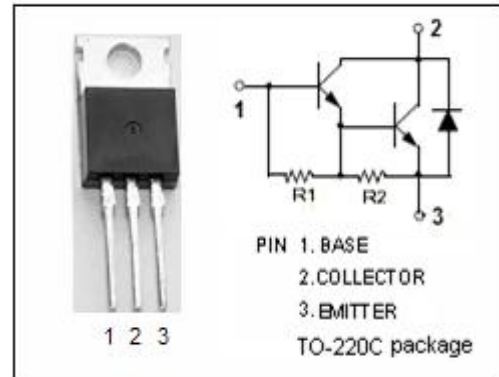


**isc Silicon NPN Darlington Power Transistor**
**BDW23/A/B/C**
**DESCRIPTION**

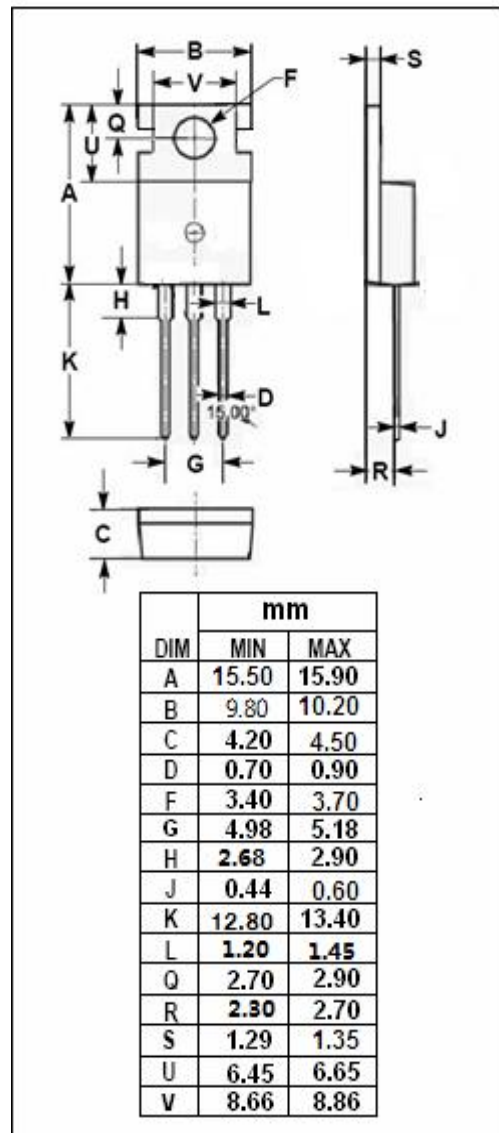
- Collector Current  $-I_C = 6A$
- High DC Current Gain  $-h_{FE} = 750(\text{Min}) @ I_C = 2A$
- Complement to Type BDW24/A/B/C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for hammer drivers, audio amplifiers applications


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

SYMBOL	PARAMETER	VALUE	UNIT	
$V_{CEr}$	Collector-Emitter Voltage	BDW23	45	V
		BDW23A	60	
		BDW23B	80	
		BDW23C	100	
$V_{CE0}$	Collector-Emitter Voltage	BDW23	45	V
		BDW23A	60	
		BDW23B	80	
		BDW23C	100	
$V_{EBo}$	Emitter-Base Voltage	5	V	
$I_C$	Collector Current-Continuous	6	A	
$I_{CM}$	Collector Current-Peak	8	A	
$I_B$	Base Current-Continuous	0.2	A	
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	50	W	
$T_J$	Junction Temperature	150	$^\circ\text{C}$	
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$	



**isc Silicon NPN Darlington Power Transistor**
**BDW23/A/B/C**
**ELECTRICAL CHARACTERISTICS**

 T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	BDW23	I <sub>C</sub> = 50mA ; I <sub>B</sub> =0			V	
		BDW23A		45			
		BDW23B		60			
		BDW23C		80			
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 2A; I <sub>B</sub> = 8mA			2	V	
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 6A; I <sub>B</sub> = 60mA			3	V	
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 2A; I <sub>B</sub> = 8mA			2.5	V	
V <sub>BE(on)-1</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 1A ; V <sub>CE</sub> = 3V			2.5	V	
V <sub>BE(on)-2</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 6A ; V <sub>CE</sub> = 3V			3	V	
V <sub>ECF</sub>	C-E Diode Forward Voltage	I <sub>F</sub> = 2A			1.8	V	
I <sub>CEO</sub>	Collector Cutoff Current	BDW23	V <sub>CE</sub> = 30V; I <sub>B</sub> = 0			0.5	mA
		BDW23A		V <sub>CE</sub> = 30V; I <sub>B</sub> = 0			
		BDW23B		V <sub>CE</sub> = 40V; I <sub>B</sub> = 0			
		BDW23C		V <sub>CE</sub> = 50V; I <sub>B</sub> = 0			
I <sub>CBO</sub>	Collector Cutoff Current	BDW23	V <sub>CB</sub> = 45V; I <sub>E</sub> = 0			0.2	mA
		BDW23A		V <sub>CB</sub> = 60V; I <sub>E</sub> = 0			
		BDW23B		V <sub>CB</sub> = 80V; I <sub>E</sub> = 0			
		BDW23C		V <sub>CB</sub> = 100V; I <sub>E</sub> = 0			
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> =0			2	mA	
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 1A ; V <sub>CE</sub> = 3V	1000				
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 2A ; V <sub>CE</sub> = 3V	750		20000		
h <sub>FE-3</sub>	DC Current Gain	I <sub>C</sub> = 6A ; V <sub>CE</sub> = 3V	100				

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