

isc Silicon NPN Darlington Power Transistor

BDW23/A/B/C

DESCRIPTION

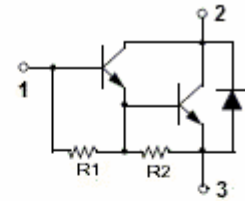
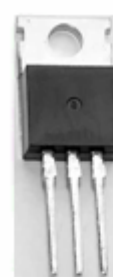
- Collector Current $-I_C = 6A$
- High DC Current Gain $-h_{FE} = 750(\text{Min}) @ I_C = 2A$
- Complement to Type BDW24/A/B/C

APPLICATIONS

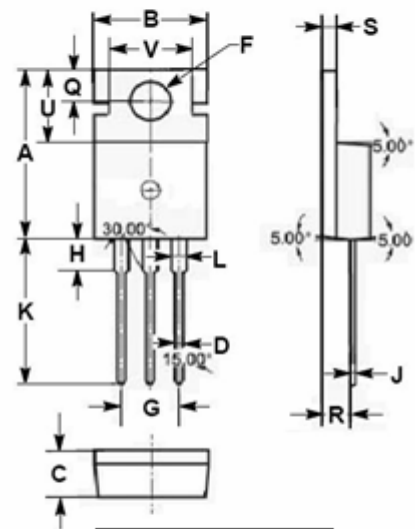
- Designed for hammer drivers, audio amplifiers applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CER}	Collector-Emitter Voltage	BDW23	45
		BDW23A	60
		BDW23B	80
		BDW23C	100
V_{CEO}	Collector-Emitter Voltage	BDW23	45
		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	$^\circ\text{C}$



PIN 1. BASE
2. COLLECTOR
3. EMITTER
TO-220C package



DIM	mm	
	MIN	MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
U	6.45	6.65
V	8.66	8.86

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	BDW23	$I_C=100\text{mA}; I_B=0$	45			V
		BDW23A		60			
		BDW23B		80			
		BDW23C		100			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		$I_C=2\text{A}; I_B=8\text{mA}$			2	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		$I_C=6\text{A}; I_B=60\text{mA}$			3	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		$I_C=2\text{A}; I_B=8\text{mA}$			2.5	V
$V_{BE(on)-1}$	Base-Emitter On Voltage		$I_C=1\text{A}; V_{CE}=3\text{V}$			2.5	V
$V_{BE(on)-2}$	Base-Emitter On Voltage		$I_C=6\text{A}; V_{CE}=3\text{V}$			3	V
V_{ECF}	C-E Diode Forward Voltage		$I_F=2\text{A}$			1.8	V
I_{CEO}	Collector Cutoff Current	BDW23	$V_{CE}=22\text{V}; I_B=0$			0.5	mA
		BDW23A	$V_{CE}=30\text{V}; I_B=0$				
		BDW23B	$V_{CE}=40\text{V}; I_B=0$				
		BDW23C	$V_{CE}=50\text{V}; I_B=0$				
I_{CBO}	Collector Cutoff Current	BDW23	$V_{CB}=45\text{V}; I_E=0$			0.2	mA
		BDW23A	$V_{CB}=60\text{V}; I_E=0$				
		BDW23B	$V_{CB}=80\text{V}; I_E=0$				
		BDW23C	$V_{CB}=100\text{V}; I_E=0$				
I_{EBO}	Emitter Cutoff Current		$V_{EB}=5\text{V}; I_C=0$			2	mA
h_{FE-1}	DC Current Gain		$I_C=1\text{A}; V_{CE}=3\text{V}$	1000			
h_{FE-2}	DC Current Gain		$I_C=2\text{A}; V_{CE}=3\text{V}$	750		20000	
h_{FE-3}	DC Current Gain		$I_C=6\text{A}; V_{CE}=3\text{V}$	100			