

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

APPLICATIONS

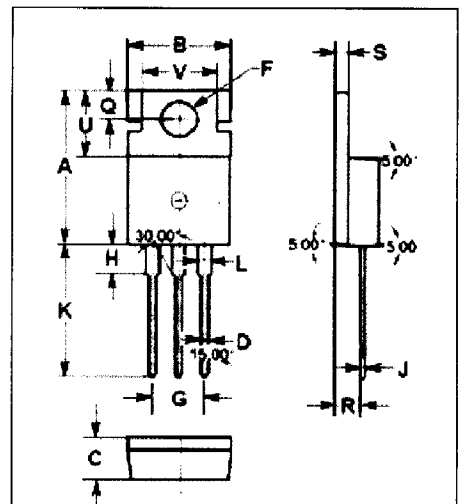
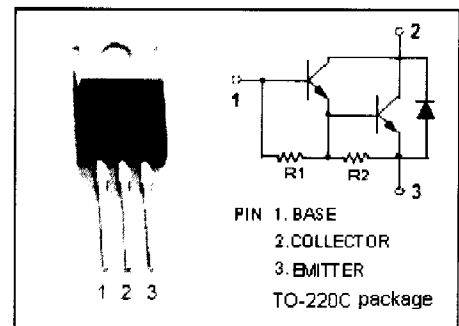
- Designed for hammer drivers, audio amplifier applications.

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

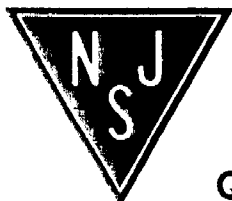
SYMBOL	PARAMETER	VALUE	UNIT	
V_{CBO}	Collector-Base Voltage	BDW93	45	V
		BDW93A	60	
		BDW93B	80	
		BDW93C	100	
V_{CEO}	Collector-Emitter Voltage	BDW93	45	V
		BDW93A	60	
		BDW93B	80	
		BDW93C	100	
V_{EBO}	Emitter-Base Voltage	5	V	
I_C	Collector Current-Continuous	12	A	
I_{CM}	Collector Current-Peak	15	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	$^\circ\text{C/W}$



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
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	BDW93	100mA; $I_B=0$			V
		BDW93A				
		BDW93B				
		BDW93C				
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=5A; I_B=20mA$			2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=10A; I_B=0.1A$			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			0.1	mA
		BDW93A				
		BDW93B				
		BDW93C				
I_{CEO}	Collector Cutoff Current	BDW93			1.0	mA
		BDW93A				
		BDW93B				
		BDW93C				
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		20000	
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