

isc Silicon NPN Darlington Power Transistor

BDW73/A/B/C/D

DESCRIPTION

- Collector Current - I_C = 8A
- High DC Current Gain- h_{FE} = 750(Min.)@ I_C = 3A
- Complement to Type BDW74/A/B/C/D

APPLICATIONS

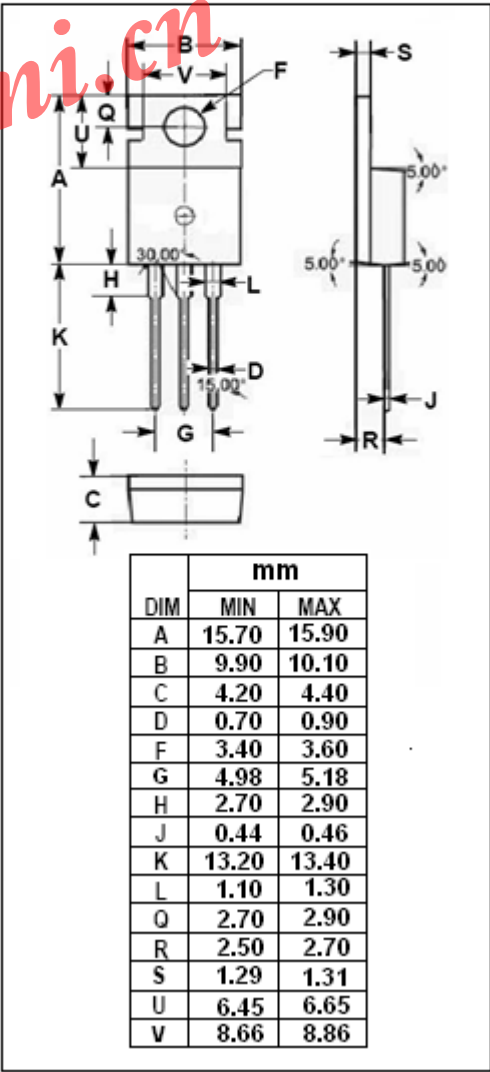
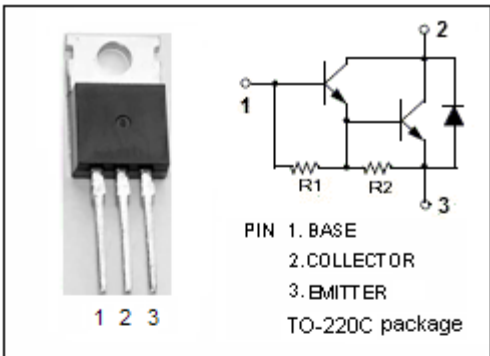
- Designed for audio output stages and general amplifier and switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BDW73	45
		BDW73A	60
		BDW73B	80
		BDW73C	100
		BDW73D	120
V_{CEO}	Collector-Emitter Voltage	BDW73	45
		BDW73A	60
		BDW73B	80
		BDW73C	100
		BDW73D	120
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	8	A
I_B	Base Current-Continuous	0.3	A
P_C	Collector Power Dissipation @ $T_a=25^{\circ}\text{C}$	2	W
	Collector Power Dissipation @ $T_C=25^{\circ}\text{C}$	80	
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	1.56	$^{\circ}\text{C/W}$
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	62.5	$^{\circ}\text{C/W}$



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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	BDW73	$I_C= 30mA; I_B=0$	45			V
		BDW73A		60			
		BDW73B		80			
		BDW73C		100			
		BDW73D		120			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		$I_C= 3A; I_B= 12mA$			2.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		$I_C= 8A; I_B= 80mA$			4.0	V
$V_{BE(on)}$	Base-Emitter On Voltage		$I_C= 3A; V_{CE}= 3V$			2.5	V
V_{ECF}	C-E Diode Forward Voltage		$I_F= 8A$			3.5	V
I_{CEO}	Collector Cutoff Current	BDW73	$V_{CE}= 30V; I_B= 0$			0.5	mA
		BDW73A	$V_{CE}= 30V; I_B= 0$				
		BDW73B	$V_{CE}= 40V; I_B= 0$				
		BDW73C	$V_{CE}= 50V; I_B= 0$				
		BDW73D	$V_{CE}= 60V; I_B= 0$				
I_{CBO}	Collector Cutoff Current	BDW73	$V_{CB}= 45V; I_E= 0$ $V_{CB}= 45V; I_E= 0; T_J= 150^{\circ}C$			0.2 5.0	mA
		BDW73A	$V_{CB}= 60V; I_E= 0$ $V_{CB}= 60V; I_E= 0; T_J= 150^{\circ}C$			0.2 5.0	
		BDW73B	$V_{CB}= 80V; I_E= 0$ $V_{CB}= 80V; I_E= 0; T_J= 150^{\circ}C$			0.2 5.0	
		BDW73C	$V_{CB}= 100V; I_E= 0$ $V_{CB}= 100V; I_E= 0; T_J= 150^{\circ}C$			0.2 5.0	
		BDW73D	$V_{CB}= 120V; I_E= 0$ $V_{CB}= 120V; I_E= 0; T_J= 150^{\circ}C$			0.2 5.0	
I_{EBO}	Emitter Cutoff Current		$V_{EB}= 5V; I_C= 0$			2.0	mA
h_{FE-1}	DC Current Gain		$I_C= 3A; V_{CE}= 3V$	750		20000	
h_{FE-2}	DC Current Gain		$I_C= 8A; V_{CE}= 3V$	100			
Switching times							
t_{on}	Turn-on Time		$I_C= 3A; I_{B1}= -I_{B2}= 12mA;$ $V_{BE(off)}= -3.5V, R_L=10\Omega$		1.0		μS
t_{off}	Turn-off Time				5.0		μS