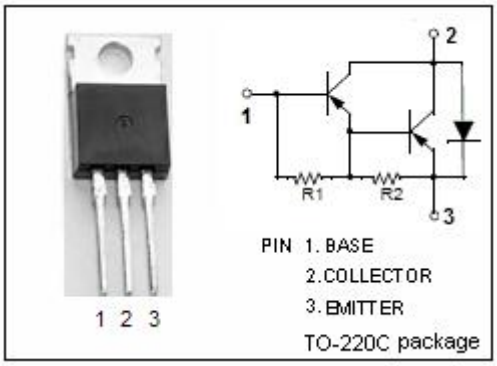
isc Silicon PNP Darlington Power Transistor BDW74/A/B/C/D

DESCRIPTION

- Collector Current -I_C= -8A
- High DC Current Gain-h_{FE}= 750(Min.)@ I_C= -3A
- Complement to Type BDW73/A/B/C/D
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

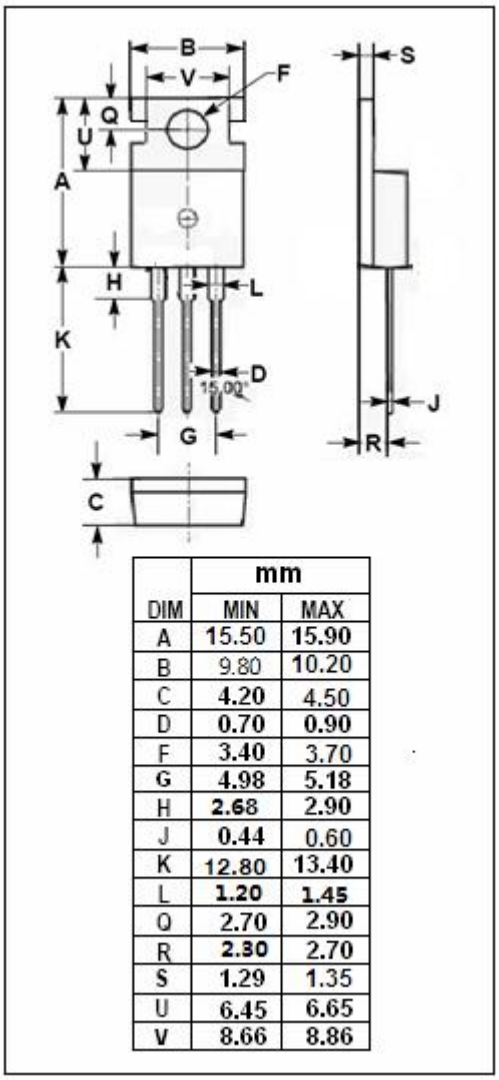


APPLICATIONS

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

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BDW74	-45	V
		BDW74A	-60	
		BDW74B	-80	
		BDW74C	-100	
		BDW74D	-120	
V_{CEO}	Collector-Emitter Voltage	BDW74	-45	V
		BDW74A	-60	
		BDW74B	-80	
		BDW74C	-100	
		BDW74D	-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℃		2	W
	Collector Power Dissipation @ T_C=25℃		80	
T_J	Junction Temperature		150	℃
T_{stg}	Storage Temperature Range		-65~150	℃



DIM	mm MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	1.56	℃/W
Rth j-c	Thermal Resistance, Junction to Case	62.5	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	BDW74	I_C= -30mA; I_B= 0	-45			V
		BDW74A		-60			
		BDW74B		-80			
		BDW74C		-100			
		BDW74D		-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	BDW74	V_{CE}= -30V; I_B= 0			-0.5	mA
		BDW74A	V_{CE}= -30V; I_B= 0				
		BDW74B	V_{CE}= -40V; I_B= 0				
		BDW74C	V_{CE}= -50V; I_B= 0				
		BDW74D	V_{CE}= -60V; I_B= 0				
I_{CBO}	Collector Cutoff Current	BDW74	V_{CB}= -45V; I_E= 0 V_{CB}= -45V; I_E= 0; T_J= 150℃			-0.2 -5.0	mA
		BDW74A	V_{CB}= -60V; I_E= 0 V_{CB}= -60V; I_E= 0; T_J= 150℃			-0.2 -5.0	
		BDW74B	V_{CB}= -80V; I_E= 0 V_{CB}= -80V; I_E= 0; T_J= 150℃			-0.2 -5.0	
		BDW74C	V_{CB}= -100V; I_E= 0 V_{CB}= -100V; I_E= 0; T_J= 150℃			-0.2 -5.0	
		BDW74D	V_{CB}= -120V; I_E= 0 V_{CB}= -120V; I_E= 0; T_J= 150℃			-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=10Ω		1.0		μs
t_{off}	Turn-off Time				5.0		μs

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