

Silicon PNP Power Transistors

BDW84/84A/84B/84C/84D

DESCRIPTION

- With TO-3PN package
- Complement to type BDW83/83A/83B/83C/83D
- DARLINGTON
- High DC current gain

APPLICATIONS

- For use in power linear and switching applications.

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

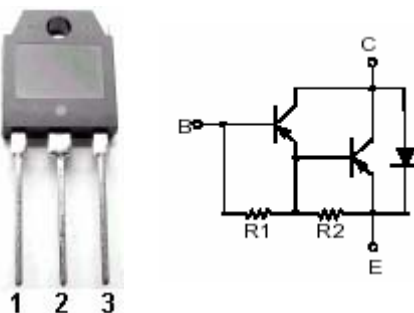


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings($T_c=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	-45	V
			-60	
			-80	
			-100	
			-120	
V_{CEO}	Collector-emitter voltage	Open base	-45	V
			-60	
			-80	
			-100	
			-120	
V_{EBO}	Emitter-base voltage	Open collector	-5	V
I_C	Collector current		-15	A
I_B	Base current		-0.5	A
P_C	Collector power dissipation	$T_c=25$	150	W
		$T_a=25$	3.5	
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-65~150	

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	BDW84	$I_C=-30mA, I_B=0$	-45			V
		BDW84A		-60			
		BDW84B		-80			
		BDW84C		-100			
		BDW84D		-120			
$V_{CEsat-1}$	Collector-emitter saturation voltage		$I_C=-6A, I_B=-12mA$			-2.5	V
$V_{CEsat-2}$	Collector-emitter saturation voltage		$I_C=-15A, I_B=-150mA$			-4.0	V
V_{BE}	Base-emitter on voltage		$I_C=-6A; V_{CE}=-3V$			-2.5	V
I_{CBO}	Collector cut-off current	BDW84	$V_{CB}=-45V, I_E=0$ $T_C=150$			-0.5 -5.0	mA
		BDW84A	$V_{CB}=-60V, I_E=0$ $T_C=150$			-0.5 -5.0	
		BDW84B	$V_{CB}=-80V, I_E=0$ $T_C=150$			-0.5 -5.0	
		BDW84C	$V_{CB}=-100V, I_E=0$ $T_C=150$			-0.5 -5.0	
		BDW84D	$V_{CB}=-120V, I_E=0$ $T_C=150$			-0.5 -5.0	
I_{CEO}	Collector cut-off current	BDW84	$V_{CE}=-30V, I_B=0$			-1	mA
		BDW84A	$V_{CE}=-30V, I_B=0$				
		BDW84B	$V_{CE}=-40V, I_B=0$				
		BDW84C	$V_{CE}=-50V, I_B=0$				
		BDW84D	$V_{CE}=-60V, I_B=0$				
I_{EBO}	Emitter cut-off current		$V_{EB}=-5V; I_C=0$			-2	mA
h_{FE-1}	DC current gain		$I_C=-6A; V_{CE}=-3V$	750		20000	
h_{FE-2}	DC current gain		$I_C=-15A; V_{CE}=-3V$	100			
V_{EC}	Diode forward voltage		$I_E=-15A$			-3.5	V
t_{on}	Turn-on time		$I_C=-10A, I_{B1}=-I_{B2}=-40mA$ $R_L=3\Omega; V_{BE(off)}=4.2V$ Duty Cycle $\leq 2\%$		0.9		μs
t_{off}	Turn-off time				7.0		μs

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal resistance junction to case	0.83	/W

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Fig.2 Outline dimensions(unindicated tolerance: $\pm 0.1\text{mm}$)