

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

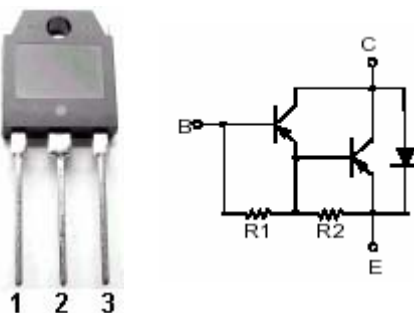


Fig.1 simplified outline (TO-3PN) and symbol

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

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	BDW84	Open emitter	-45	V
		BDW84A		-60	
		BDW84B		-80	
		BDW84C		-100	
		BDW84D		-120	
V_{CEO}	Collector-emitter voltage	BDW84	Open base	-45	V
		BDW84A		-60	
		BDW84B		-80	
		BDW84C		-100	
		BDW84D		-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 =-10 A, I _{B1} =-I _{B2} =-40 mA R _L =3Ω ; V _{BE(off)} =4.2V Duty Cycle ≤ 2%		0.9		μ s
t _{off}	Turn-off time				7.0		μ s

THERMAL CHARACTERISTICS

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

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PACKAGE OUTLINE

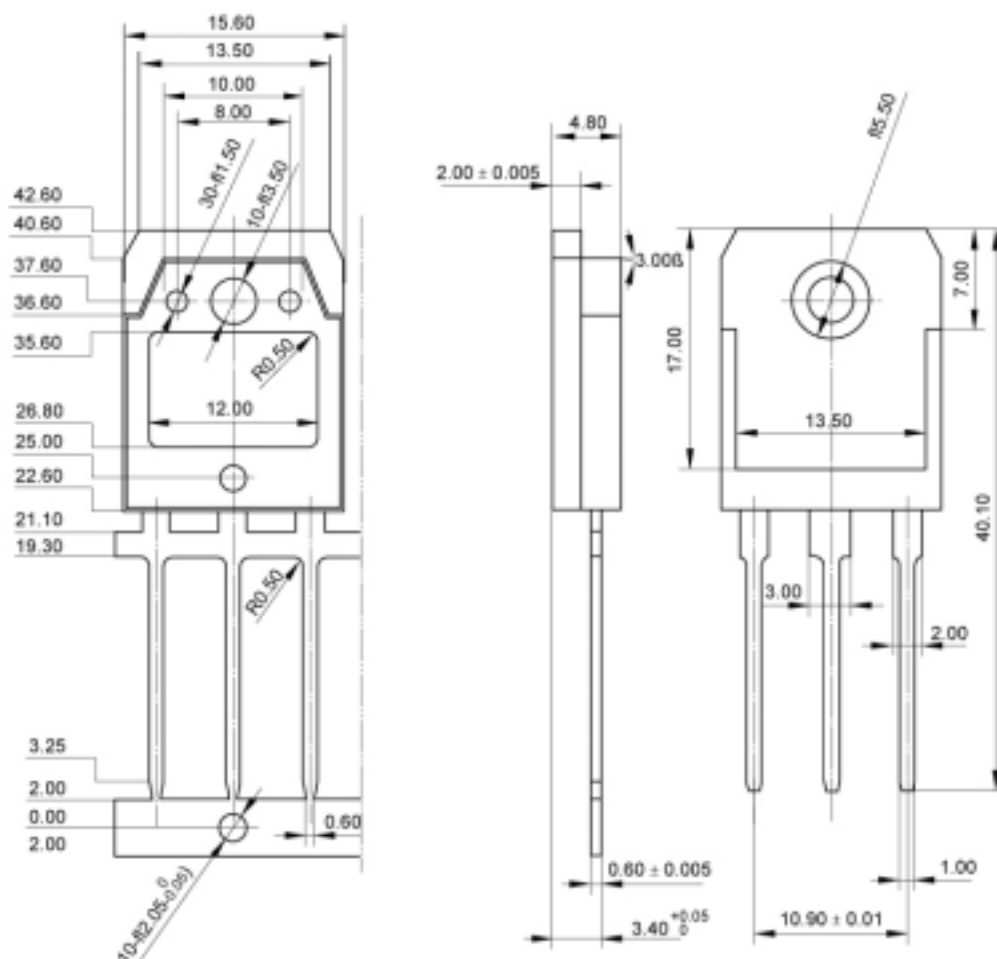


Fig.2 Outline dimensions(unindicated tolerance: $\pm 0.1\text{mm}$)