

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

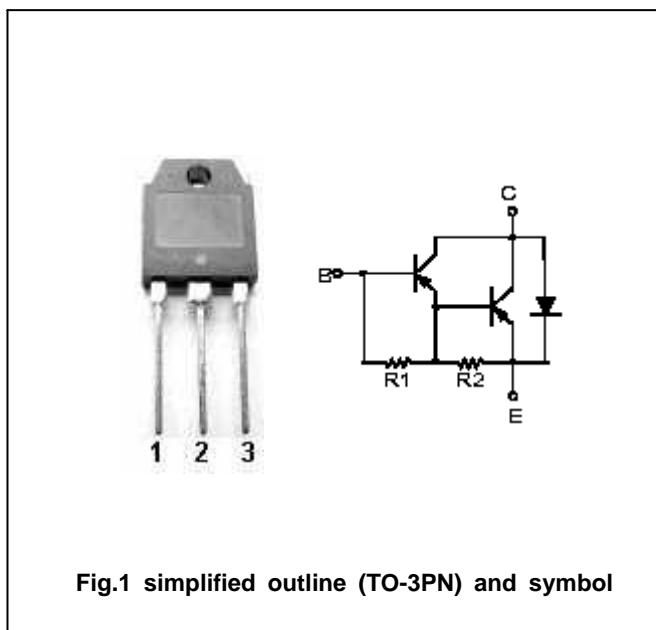


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings(Tc=25 )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT	
V <sub>CBO</sub>	Collector-base voltage	Open emitter	BDW84	-45	V
			BDW84A	-60	
			BDW84B	-80	
			BDW84C	-100	
			BDW84D	-120	
V <sub>CEO</sub>	Collector-emitter voltage	Open base	BDW84	-45	V
			BDW84A	-60	
			BDW84B	-80	
			BDW84C	-100	
			BDW84D	-120	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-5	V	
I <sub>C</sub>	Collector current		-15	A	
I <sub>B</sub>	Base current		-0.5	A	
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25	150	W	
		T <sub>a</sub> =25	3.5		
T <sub>j</sub>	Junction temperature		150		
T <sub>stg</sub>	Storage temperature		-65~150		

## Silicon PNP Power Transistors

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

## CHARACTERISTICS

T<sub>j</sub>=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	BDW84	I <sub>C</sub> =-30mA, I <sub>B</sub> =0			V
		BDW84A				
		BDW84B				
		BDW84C				
		BDW84D				
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-6A, I <sub>B</sub> =-12mA			-2.5	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-15A, I <sub>B</sub> =-150mA			-4.0	V
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =-6A; V <sub>CE</sub> =-3V			-2.5	V
I <sub>CBO</sub>	Collector cut-off current	BDW84	V <sub>CB</sub> =-45V, I <sub>E</sub> =0 T <sub>C</sub> =150			mA
		BDW84A				
		BDW84B				
		BDW84C				
		BDW84D				
I <sub>CEO</sub>	Collector cut-off current	BDW84	V <sub>CE</sub> =-30V, I <sub>B</sub> =0			mA
		BDW84A				
		BDW84B				
		BDW84C				
		BDW84D				
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-2	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-6A; V <sub>CE</sub> =-3V	750		20000	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-15A; V <sub>CE</sub> =-3V	100			
V <sub>EC</sub>	Diode forward voltage	I <sub>E</sub> =-15A			-3.5	V
t <sub>on</sub>	Turn-on time	I <sub>C</sub> = -10 A, I <sub>B1</sub> = -I <sub>B2</sub> = -40 mA R <sub>L</sub> = 3 Ω; V <sub>BE(off)</sub> = 4.2V		0.9		μs
t <sub>off</sub>	Turn-off time	Duty Cycle 2%		7.0		μs

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal resistance junction to case	0.83	/W

