PNP BDW84 – BDW84A – BDW84B
BDW84C – BDW84D

PNP SILICON DARLINGTONS POWER TRANSISTORS

They are silicon epitaxial-base PNP power monolithic Darlington transistor mounted in Jedec TO-218 plastic package.
They are intended for use in power linear and switching applications.
The complementary are BDW83, BDW83A, BDW83B, BDW83C, BDW83D
Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings			Value	Unit
V_{CEO}	Collector-Emitter Voltage	$I_B = 0$	BDW84	-45	V
			BDW84A	-60	
			BDW84B	-80	
			BDW84C	-100	
			BDW84D	-120	
V_{CBO}	Collector- Emitter Voltage	$I_E = 0$	BDW84	-45	V
			BDW84A	-60	
			BDW84B	-80	
			BDW84C	-100	
			BDW84D	-120	
V_{EBO}	Emitter-Base Voltage	$I_C = 0$		-5	V
I_C	Collector Current			-15	A
I_B	Base Current			-0.5	A
P_t	Total Power Dissipation	25°C case temperatur		150	W
		25°C free aire temperatur		3.5	
T_J	*Junction Temperature*			-65 to +150	°C
T_{Stg}	Storage Temperature			-65 to +150	°C

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJC}	Junction to Case Thermal Resistance	0.83	°C/W
R_{thJA}	Junction to Free Air Thermal Resistance	35.7	

PNP BDW84 – BDW84A – BDW84B
BDW84C – BDW84D

ELECTRICAL CHARACTERISTICS

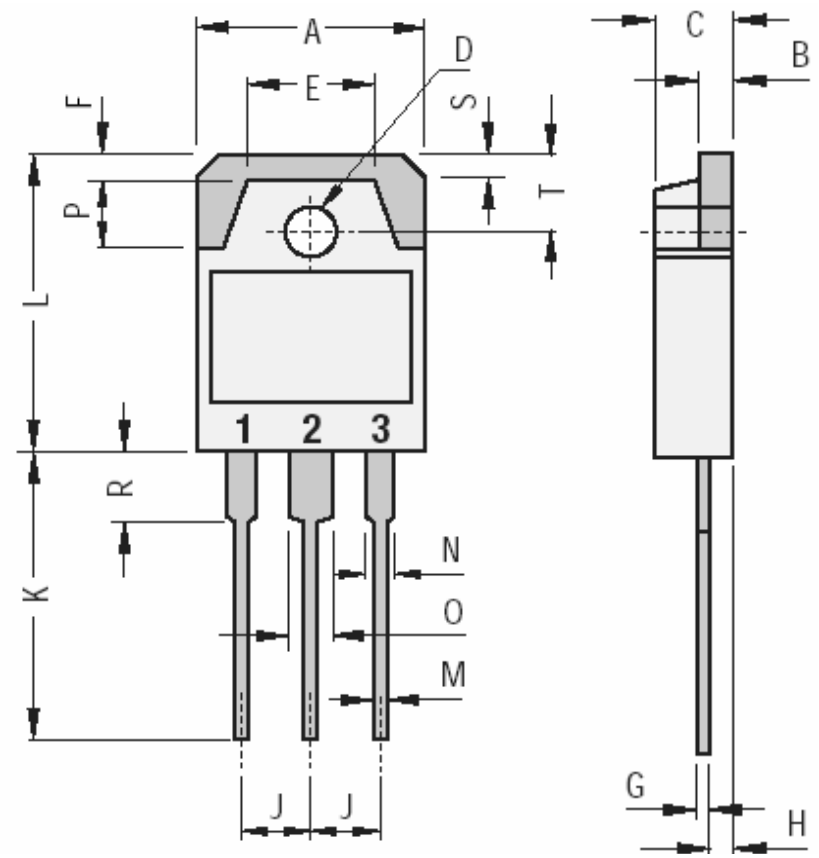
TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	Max	Unit
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage (*)	I_C=30 mA I_B=0	BDW84	-45	-	-	V
			BDW84A	-60	-	-	
			BDW84B	-80	-	-	
			BDW84C	-100	-	-	
			BDW84D	-120	-	-	
I_{CEO}	Collector Cutoff Current	I_B=0, V_{CE}=-30 V	BDW84	-	-	-1	mA
		I_B=0, V_{CE}=-30 V	BDW84A				
		I_B=0, V_{CE}=-40 V	BDW84B				
		I_B=0, V_{CE}=-50 V	BDW84C				
		I_B=0, V_{CE}=-60 V	BDW84D				
I_{CBO}	Collector Cutoff Current	I_E= 0, V_{CB}=-45 V	BDW84	-	-	-0.5	mA
		I_E= 0, V_{CB}=-60 V	BDW84A				
		I_E= 0, V_{CB}=-80 V	BDW84B				
		I_E= 0, V_{CB}=-100 V	BDW84C				
		I_E= 0, V_{CB}=-120 V	BDW84D				
		V_{CB}=-45 V, I_E= 0 T_{case} = 150°C	BDW84	-	-	-5	
		V_{CB}=-60 V, I_E= 0 T_{case} = 150°C	BDW84A				
		V_{CB}=-80 V, I_E= 0 T_{case} = 150°C	BDW84B				
		V_{CB}=-100 V, I_E= 0 T_{case} = 150°C	BDW84C				
		V_{CB}=-120 V, I_E= 0 T_{case} = 150°C	BDW84D				
I_{EBO}	Emitter Cutoff Current	V_{EB}=-5.0 V, I_C=0		-	-	-2	mA
h_{FE}	DC Current Gain (*)	I_C=-6 A , V_{CE}=-3.0 V		750	-	20 K	-
		I_C=-15 A , V_{CE}=-3.0 V		100	-	-	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C=-6 A , I_B=-12 mA		-	-	-2.5	V
		I_C=-15 A , I_B=-150 mA		-	-	-4	
$V_{BE(on)}$	Base-Emitter Voltage (*)	I_C=-6 A , I_B=-3 A		-	-	-2.5	V
V_{EC}	Parallel Diode Forward Voltage	I_E =-15 A , I_E= 0		-	-	-3.5	V
t_{on}	Turn-on time	IC = -10 A, IB1 =-IB2=-40 mA RL=3Ω; VBE(off) = 4.2V Duty Cycle≤2%		-	0.9	-	µs
t_{off}	Turn-off time			-	7	-	

(*) Pulse Duration = 300 µs, Duty Cycle <= 2%

PNP BDW84 – BDW84A – BDW84B
BDW84C – BDW84D

MECHANICAL DATA CASE TO3PN Non Isolated Plastic Package



DIMENSIONS (mm)		
	Min.	Max.
A	15.20	1600
B	1.90	2.10
C	4.60	5.00
D	3.10	3.30
E		9.60
F		2.00
G	0.35	0.55
H		1.40
J	5.35	5.55
K	20.00	
L	19.60	20.20
M	0.95	1.25
N		2.00
O		3.00
P		4.00
R		4.00
S		1.80
T	4.80	5.20

Pin 1 :	Base
Pin 2 :	Collector
Pin 3 :	Emitter

The centre pin is in electrical contact with the mounting tab.

Revised August 2012