

Silicon NPN Power Transistors

BDW42

DESCRIPTION

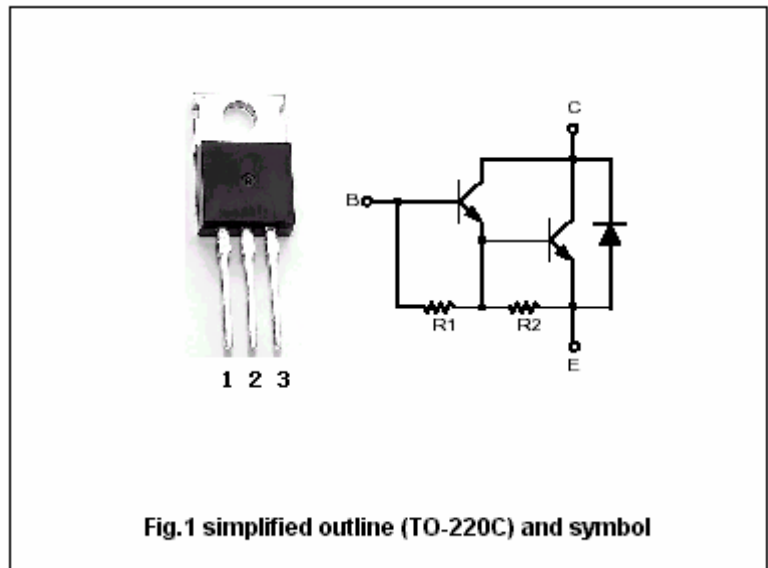
- With TO-220C package
- Complement to type BDW47
- DARLINGTON
- High DC current gain
- Low collector saturation voltage

APPLICATIONS

- For general purpose and low speed switching applications

PINNING

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

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	100	V
V_{CEO}	Collector-emitter voltage	Open base	100	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current-DC		15	A
I_B	Base current		0.5	A
P_D	Total power dissipation	$T_C=25^\circ\text{C}$	85	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	1.47	$^\circ\text{C}/\text{W}$

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE0(SUS)}	Collector-emitter sustaining voltage	I _C =30mA, I _B =0	100			V
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =5A, I _B =10mA			2.0	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =10A, I _B =50mA			3.0	V
V _{BE}	Base-emitter on voltage	I _C =10A; V _{CE} =4V			3.0	V
I _{CBO}	Collector cut-off current	V _{CB} =100V, I _E =0			1.0	mA
I _{CEO}	Collector cut-off current	V _{CE} =50V, I _B =0			2.0	mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			2.0	mA
h _{FE-1}	DC current gain	I _C =5A; V _{CE} =4V	1000			
h _{FE-2}	DC current gain	I _C =10A; V _{CE} =4V	250			
f _T	Transition frequency	I _C =3A; V _{CE} =3V; f=1MHz	4.0			MHz
C _{OB}	Output capacitance	I _E =0; V _{CB} =10V; f=0.1MHz			200	pF

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PACKAGE OUTLINE

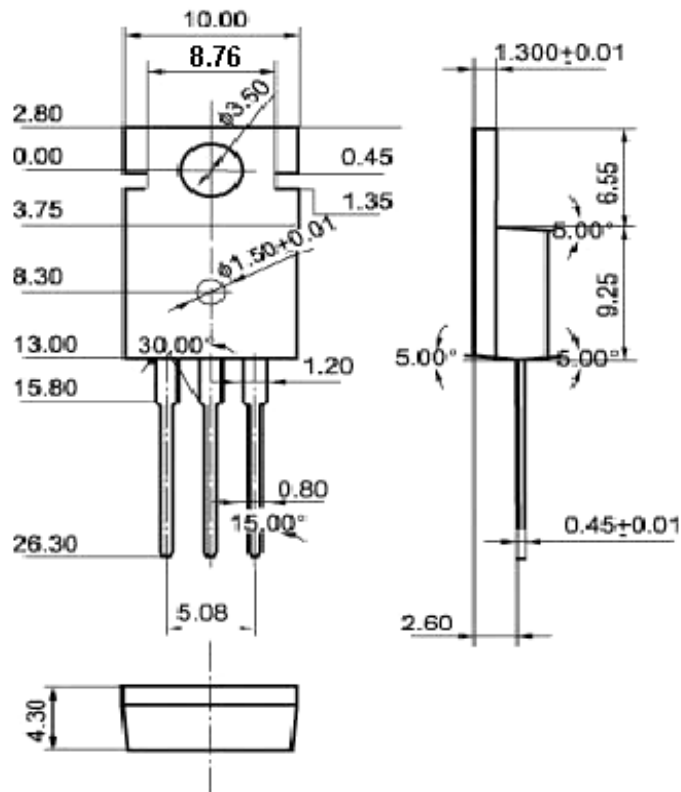


Fig.2 Outline dimensions