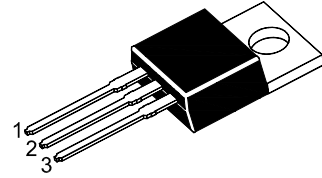


BDW42

NPN Silicon Planar Darlington Power Transistors

General Purpose and Low Speed Switching
Application



1.Base 2.Collector 3.Emitter
TO-220 Plastic Package

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Emitter Voltage	V_{CEO}	100	V
Collector Base Voltage	V_{CBO}	100	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current – Continuous	I_C	15	A
Base Current	I_B	0.5	A
Total Power Dissipation @ $T_C = 25\text{ }^\circ\text{C}$ Derate above $25\text{ }^\circ\text{C}$	P_D	85 0.68	W W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_s	-55 to +150	$^\circ\text{C}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.47	$^\circ\text{C/W}$

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Characteristics at $T_C = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 4\text{ V}$, $I_C = 5\text{ A}$ at $V_{CE} = 4\text{ V}$, $I_C = 10\text{ A}$	h_{FE} h_{FE}	1000 250	- -	- -
Collector Emitter Sustaining Voltage at $I_C = 30\text{ mA}$	$V_{CEO(sus)}$	100	-	V
Collector Cutoff Current at $V_{CE} = 50\text{ V}$ at $V_{CE} = 100\text{ V}$	I_{CEO} I_{CEO}	- -	2 1	mA mA
Emitter Cutoff Current at $V_{EB} = 5\text{ V}$	I_{EBO}	-	2	mA
Collector Emitter Saturation Voltage at $I_C = 5\text{ A}$, $I_B = 10\text{ mA}$ at $I_C = 10\text{ A}$, $I_B = 50\text{ mA}$	$V_{CE(sat)}$ $V_{CE(sat)}$	- -	2 3	V V
Base Emitter on Voltage at $I_C = 10\text{ A}$, $V_{CE} = 4\text{ V}$	$V_{BE(on)}$	-	3	V
Second Breakdown Collector Current With Base Forward Biased ¹⁾ at $V_{CE} = 28.4\text{ V}$ at $V_{CE} = 40\text{ V}$	$I_{S/b}$	3 1.2		A A
Current Gain Bandwidth Product at $V_{CE} = 3\text{ V}$, $I_C = 3\text{ A}$, $f = 1\text{ MHz}$	f_T	4	-	MHz
Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 0.1\text{ MHz}$	C_{ob}	-	200	pF

¹⁾ Pulse Test non repetitive: Pulse Width = 250 ms

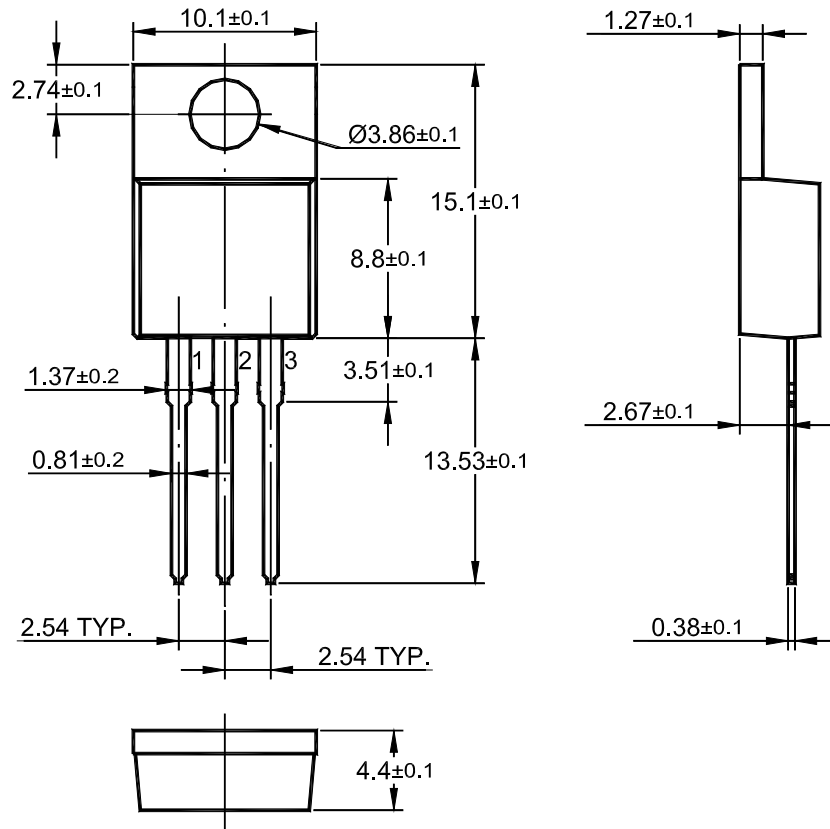
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TO-220 PACKAGE OUTLINE



Dimensions in mm

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