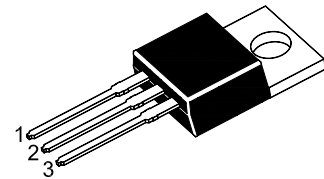


BDW42

NPN Silicon Planar Darlington Power Transistors

General Purpose and Low Speed Switching

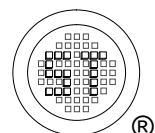
Application



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 @ $T_C = 25\text{ }^{\circ}\text{C}$	P_D	85	W
Derate above $25\text{ }^{\circ}\text{C}$		0.68	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	$^{\circ}\text{C/W}$

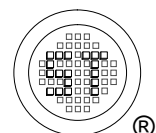


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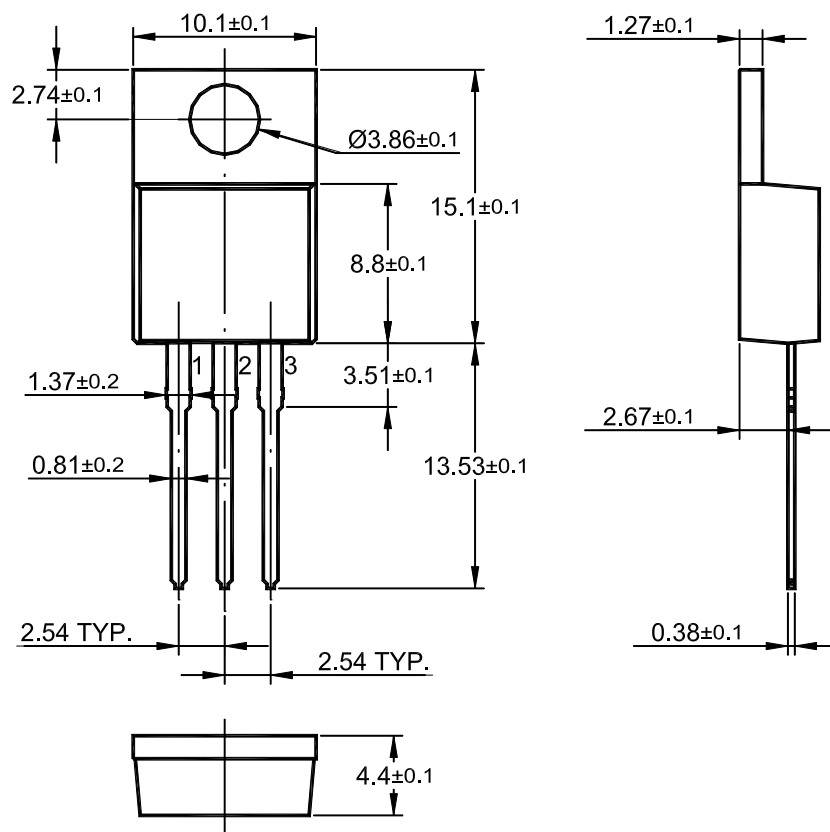
Characteristics at $T_c = 25\text{ }^{\circ}\text{C}$

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain				
at $V_{CE} = 4\text{ V}$, $I_C = 5\text{ A}$	h_{FE}	1000	-	-
at $V_{CE} = 4\text{ V}$, $I_C = 10\text{ A}$	h_{FE}	250	-	-
Collector Emitter Sustaining Voltage				
at $I_C = 30\text{ mA}$	$V_{CEO(sus)}$	100	-	V
Collector Cutoff Current				
at $V_{CE} = 50\text{ V}$	I_{CEO}	-	2	mA
at $V_{CE} = 100\text{ V}$	I_{CEO}	-	1	mA
Emitter Cutoff Current				
at $V_{EB} = 5\text{ V}$	I_{EBO}	-	2	mA
Collector Emitter Saturation Voltage				
at $I_C = 5\text{ A}$, $I_B = 10\text{ mA}$	$V_{CE(sat)}$	-	2	V
at $I_C = 10\text{ A}$, $I_B = 50\text{ mA}$	$V_{CE(sat)}$	-	3	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 $V_{CE} = 28.4\text{ V}$	$I_{S/b}$	3		A
at $V_{CE} = 40\text{ V}$	$I_{S/b}$	1.2		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



TO-220 PACKAGE OUTLINE



Dimensions in mm

