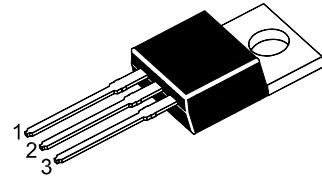


ST BDW47

PNP Silicon Planar Darlington Power Transistor

General purpose and low speed switching application

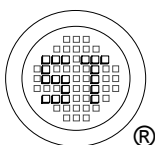


1.Base 2.Collector 3.Emitter

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_{tot}	85 0.68	W W/ $^\circ\text{C}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.47	$^\circ\text{C/W}$
Operating and Storage Junction Temperature Range	T_J, T_S	-55 to +150	$^\circ\text{C}$



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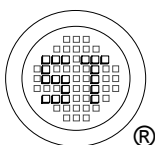
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Characteristics at $T_C = 25\text{ }^\circ\text{C}$

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
Collector Cutoff Current at $-V_{CB} = 100\text{ V}$	$-I_{CBO}$	-	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 $-V_{CE} = 22.5\text{ V}$	$I_{S/b}$	3.8	-	A
at $-V_{CE} = 36\text{ V}$		1.2	-	A
Transition Frequency 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}	-	300	pF

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



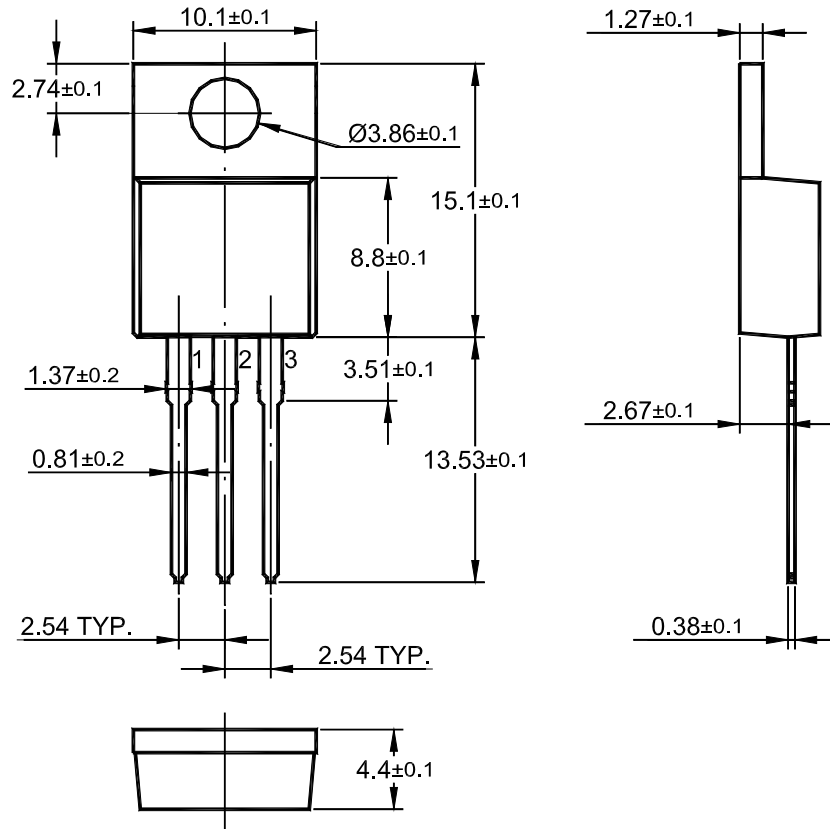
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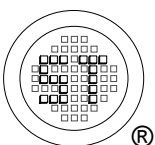
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TO-220 PACKAGE OUTLINE



Dimensions in mm



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