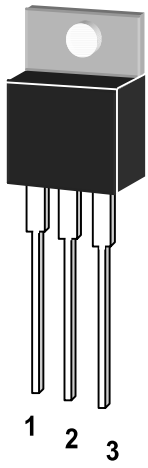
ST BDW42

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°C)

	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°C Derate above 25°C	P_D	85 0.68	Watts W/°C
Operating and Storage Junction Temperature Range	T_J, T_s	-55 to +150	°C
Thermal Resistance, Junction to Case	R_{YJC}	1.47	°C/W

G S P FORM A IS AVAILABLE

®

РАДИОТЕХ

Тел.: (495) 795-0805
Факс: (495) 234-1603
Эл. почта: info@rct.ru
Веб: www.rct.ru

ST BDW42

Characteristics at Tc=25 ^{o}C

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain					
at V_{CE}=4V, I_C=5A	h_{FE}	1000	-	-	-
at V_{CE}=4V, I_C=10A	h_{FE}	250	-	-	-
Collector Emitter Sustaining Voltage					
at I_C=30mA	$V_{CEO(sus)}$	100	-	-	V
Collector Cutoff Current					
at V_{CE}=50V,	$I_{CE\ 0}$	-	-	2	mA
at V_{CB}=100V,	$I_{CE\ 0}$	-	-	1	mA
Emitter Cutoff Current					
at V_{BE}=5V	I_{EBO}	-	-	2	mA
Collector Emitter Saturation Voltage					
at I_C=5A, I_B=10mA	$V_{CE(sat)}$	-	-	2	V
at I_C=10A, I_B=50mA	$V_{CE(sat)}$	-	-	3	V
Base Emitter on Voltage					
at I_C=10A,V_{CE}=4V	$V_{BE(on)}$	-	-	3	V
Second Breakdown Collector Current					
With Base Forward Biased					
at V_{CE}=28.4V	*$I_{S/b}$	3			A
at VCE=40V		1.2			A
Current Gain Bandwidth Product					
at V_{CE}=3V, I_C=3A,f=1MHz	f_T	4	-	-	MHz
Output Capacitance					
at V_{CB}=10V, f=0.1MHz	C_{ob}	-	-	200	pF
Small –Signal Current Gain	h_{fe}				
at =Ic=3A, V_{CE}=3V, f=1kHz		300			

Pulse Test: Pulse Width=300μs, Duty Cycle=2%.

* Pulse Test non repetitive: Pulse Width =250ms

G S P FORM A IS AVAILABLE