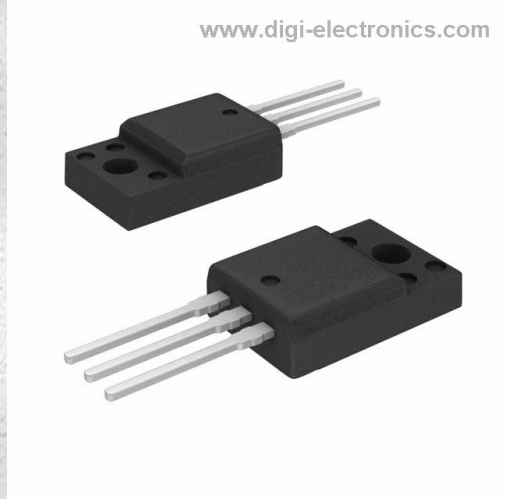
BDW94CFTU Datasheet



DiGi Electronics Part Number	BDW94CFTU-DG
Manufacturer	onsemi
Manufacturer Product Number	BDW94CFTU
Description	TRANS PNP DARL 100V 12A TO220F-3
Detailed Description	Bipolar (BJT) Transistor PNP - Darlington 100 V 12 A 80 W Through Hole TO-220F-3

https://www.DiGi-Electronics.com

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
BDW94CFTU	onsemi
Series:	Product Status:
-	Active
Transistor Type:	Current - Collector (Ic) (Max):
PNP - Darlington	12 A
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
100 V	3V @ 100mA, 10A
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
1mA	750 @ 5A, 3V
Power - Max:	Frequency - Transition:
80 W	-
Operating Temperature:	Mounting Type:
150°C (TJ)	Through Hole
Package / Case:	Supplier Device Package:
TO-220-3 Full Pack	TO-220F-3
Base Product Number:	
BDW94	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	Not Applicable
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.29.0095	

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Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

FAIRCHILD SEMICONDUCTOR®

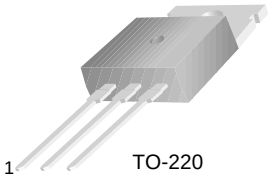
January 2005

BDW94/C

PNP Epitaxial Silicon Transistor

Power Linear and Switching Application

- Power Darlington TR
- Complement to BDW93 and BDW93C Respectively



TO-220

1.Base 2.Collector 3.Emitter

Absolute Maximum Ratings T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage : BDW94 : BDW94C	 -45 -100	 V V
V_{CEO}	Collector-Emitter Voltage : BDW94 : BDW94C	 -45 -100	 V V
I_C	Collector Current (DC)	-12	A
I_{CP}	Collector Current (Pulse) *	-15	A
I_B	Base Current	-0.2	A
P_C	Collector Dissipation (T_C = 25°C)	80	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-65 ~ 150	°C

Electrical Characteristics T_C = 25°C unless otherwise noted

Symbol	Parameter	Conditions	Min.	Typ.	Max	Units
$V_{CEO(sus)}$	Collector-Emitter Sustaining Voltage : BDW94 : BDW94C	I_C = -100mA, I_B = 0	 -45 -100			 V V
I_{CBO}	Collector Cut-off Current : BDW94 : BDW94C	 V_{CB} = -45V, I_E = 0 V_{CB} = -100V, I_E = 0			 -100 -100	 µA µA
I_{CEO}	Collector Cut-off Current : BDW94 : BDW94C	 V_{EB} = -45V, I_B = 0 V_{CE} = -100V, I_B = 0			 -1 -1	 mA mA
I_{EBO}	Emitter Cut-off Current	V_{EB} = -5V, I_C = 0			-2	mA
h_{FE}	DC Current Gain *	V_{CE} = -3V, I_C = -3A V_{CE} = -3V, I_C = -5A V_{CE} = -3V, I_C = -10A	1000 750 100		 20000 	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage *	I_C = -5A, I_B = -20mA I_C = -10A, I_B = -100mA			-2 -3	V V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage *	I_C = -5A, I_B = -20mA I_C = -10A, I_B = -100mA			-2.5 -4	V V
V_F	Parallel Diode Forward Voltage *	I_F = -5A I_F = -10A		-1.3 -1.8	-2 -4	V V

* Pulse Test: PW = 300µs, Duty Cycle = 1.5% Pulsed

Typical Performance Characteristics

Figure 1. DC Current Gain

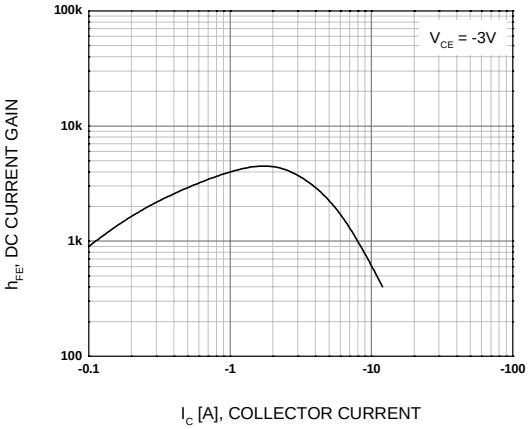


Figure 2. Collector-Emitter Saturation Voltage

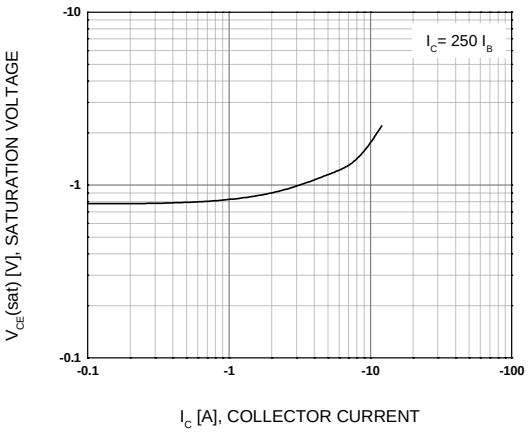


Figure 3. Base-Emitter On Voltage

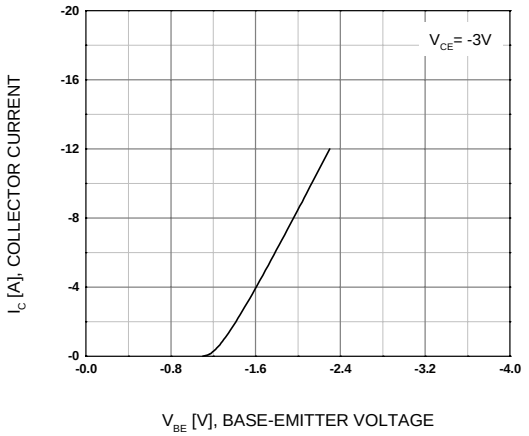


Figure 4. Output Capacitance

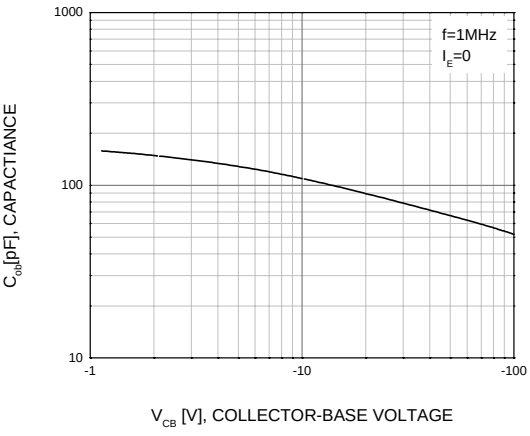


Figure 5. Safe Operating Area

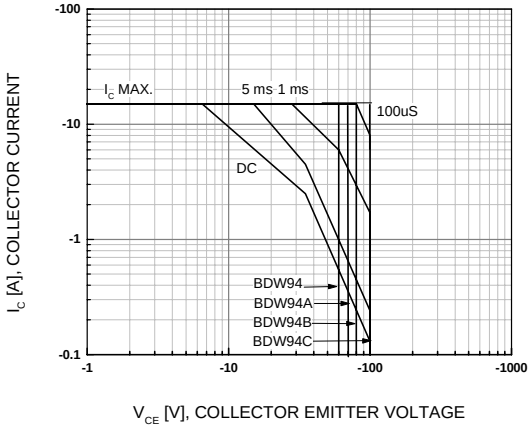
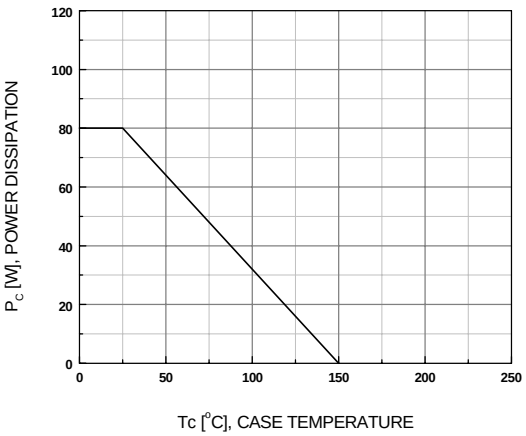
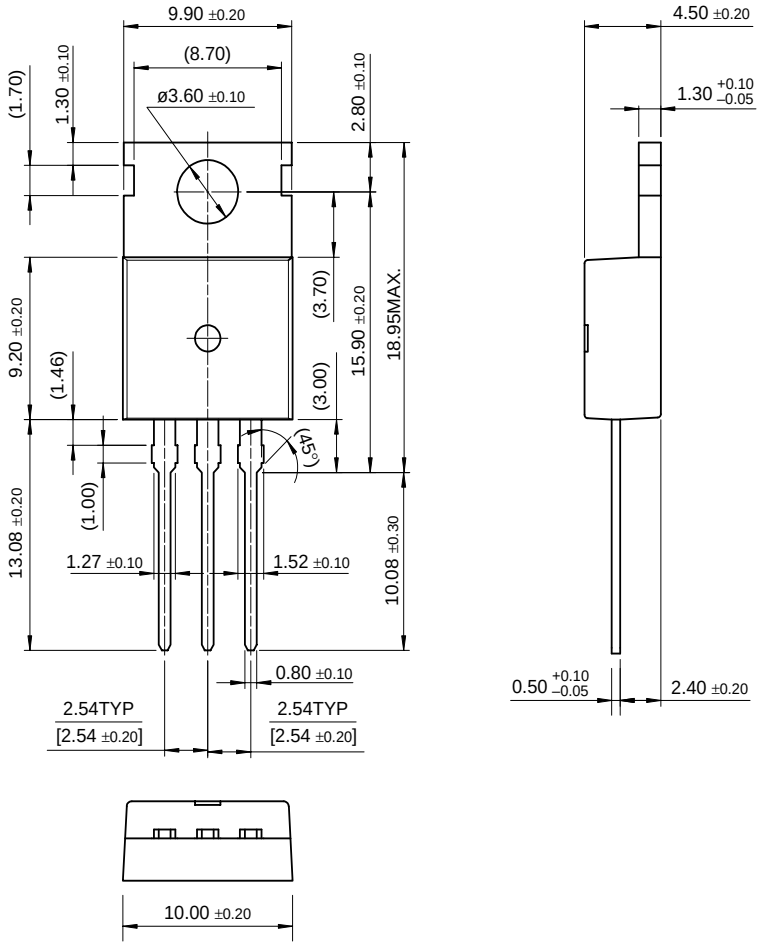


Figure 6. Power Derating



Mechanical Dimensions

TO-220



Dimensions in Millimeters

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Rev. I15

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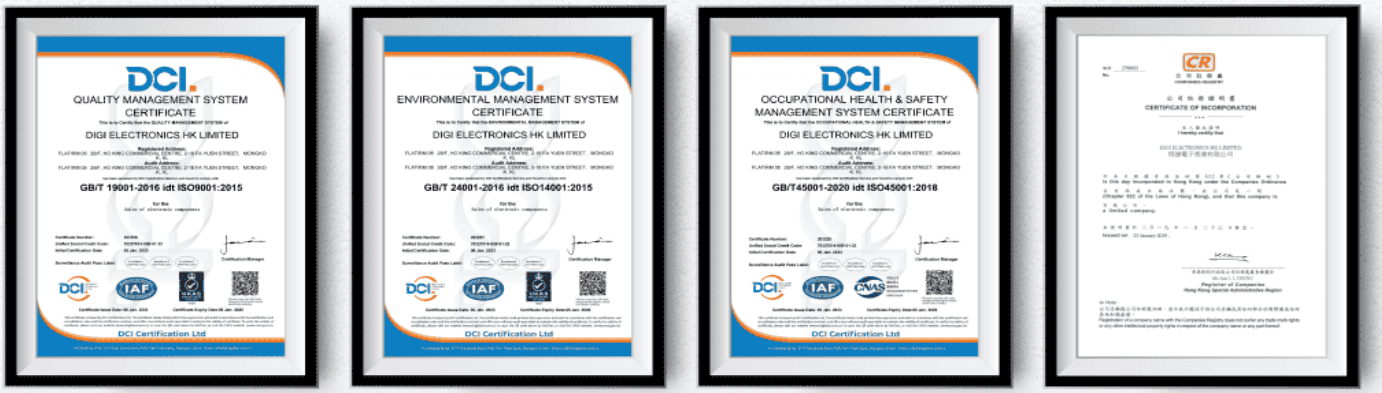

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