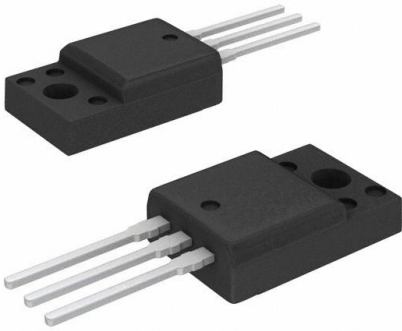


BDW94CFTU Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

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



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

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Purchase and inquiry

Manufacturer Product Number:

BDW94CFTU

Series:

-

Transistor Type:

PNP - Darlington

Voltage - Collector Emitter Breakdown (Max):

100 V

Current - Collector Cutoff (Max):

1mA

Power - Max:

80 W

Operating Temperature:

150°C (TJ)

Package / Case:

TO-220-3 Full Pack

Base Product Number:

BDW94

Manufacturer:

onsemi

Product Status:

Active

Current - Collector (Ic) (Max):

12 A

Vce Saturation (Max) @ Ib, Ic:

3V @ 100mA, 10A

DC Current Gain (hFE) (Min) @ Ic, Vce:

750 @ 5A, 3V

Frequency - Transition:

-

Mounting Type:

Through Hole

Supplier Device Package:

TO-220F-3

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.29.0095

Moisture Sensitivity Level (MSL):

Not Applicable

ECCN:

EAR99



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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.

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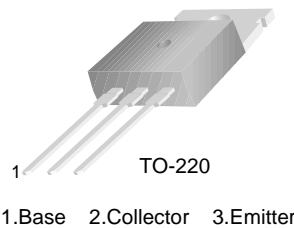
January 2005

BDW94/C

PNP Epitaxial Silicon Transistor

Power Linear and Switching Application

- Power Darlington TR
- Complement to BDW93 and BDW93C Respectively



Absolute Maximum Ratings T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage		
	: BDW94	-45	V
	: BDW94C	-100	V
V _{CEO}	Collector-Emitter Voltage		
	: BDW94	-45	V
	: BDW94C	-100	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

BDW94/C PNP Epitaxial Silicon Transistor

Electrical Characteristics $T_C = 25^\circ\text{C}$ unless otherwise noted

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

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

Typical Performance Characteristics

Figure 1. DC Current Gain

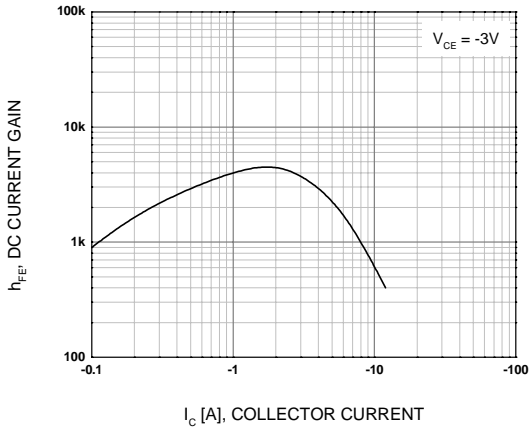


Figure 2. Collector-Emitter Saturation Voltage

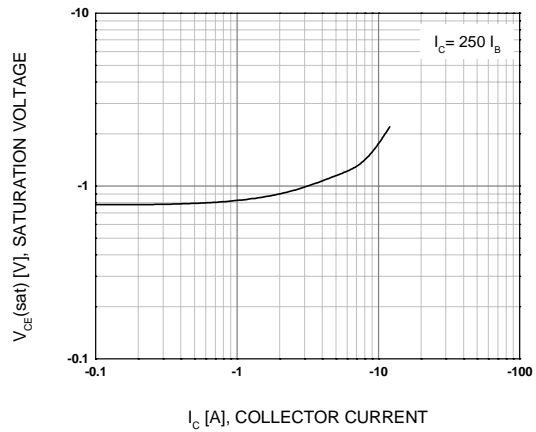


Figure 3. Base-Emitter On Voltage

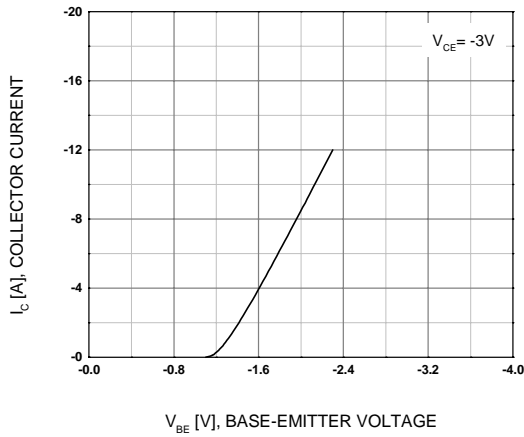


Figure 4. Output Capacitance

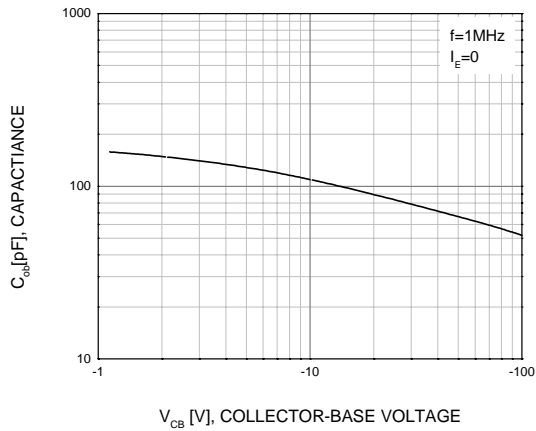


Figure 5. Safe Operating Area

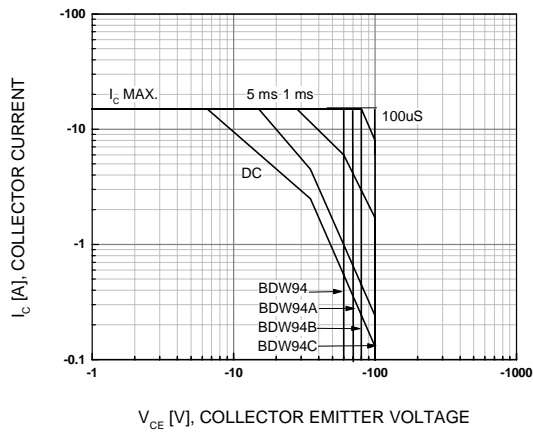
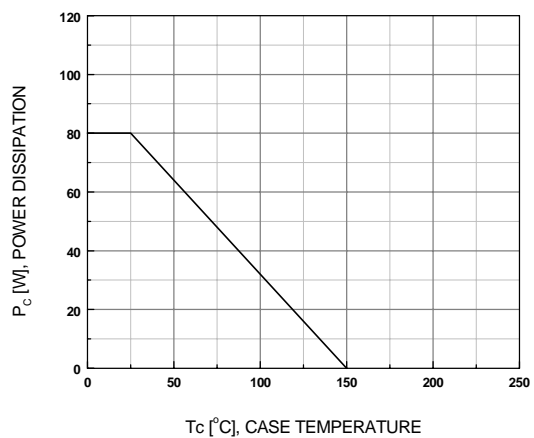
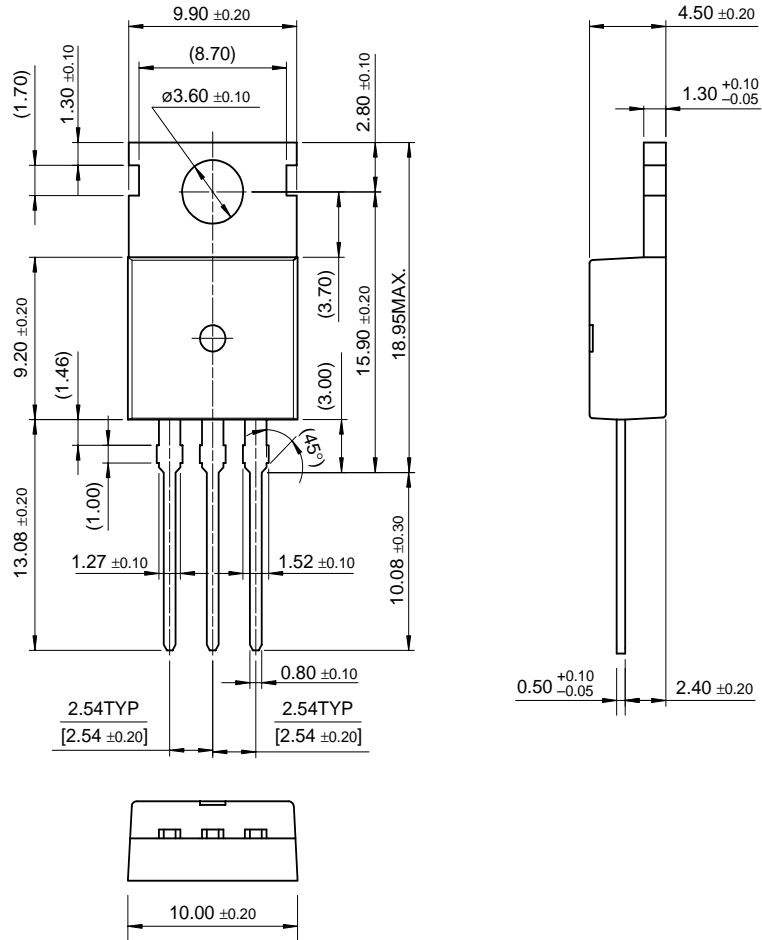


Figure 6. Power Derating



Mechanical Dimensions

TO-220



Dimensions in Millimeters

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