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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.

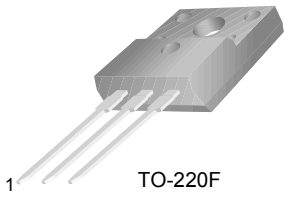
FAIRCHILD SEMICONDUCTOR®

July 2005

BDW94CF
PNP Epitaxial Silicon Transistor

Power Linear and Switching Application

- Power Darlington TR
- Complement to BDW93CF Respectively



TO-220F

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	-100	V
V_{CEO}	Collector-Emitter Voltage	-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)	30	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	I_C -100mA, I_B = 0	-100			V
I_{CBO}	Collector Cut-off Current	V_{CB} = -100V, I_E = 0			-100	μA
I_{CEO}	Collector Cut-off Current	VV_{CE} = -100V, I_B = 0			-1	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

Package Marking and Ordering Information

Device Marking	Device	Package	Reel Size	Tape Width	Quantity
BDW94CF	BDW94CF	TO-220F	-	-	50

Typical Performance Characteristics

Figure 1. DC Current Gain

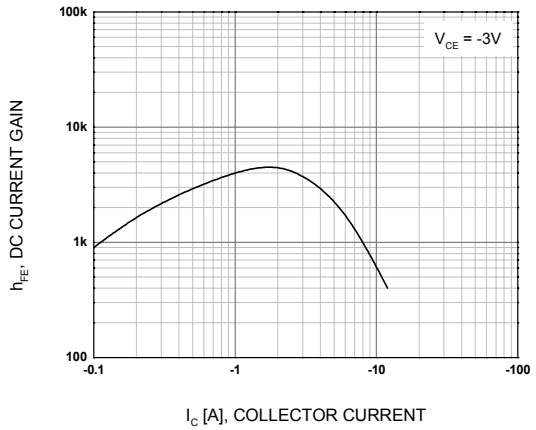


Figure 2. Collector-Emitter Saturation Voltage

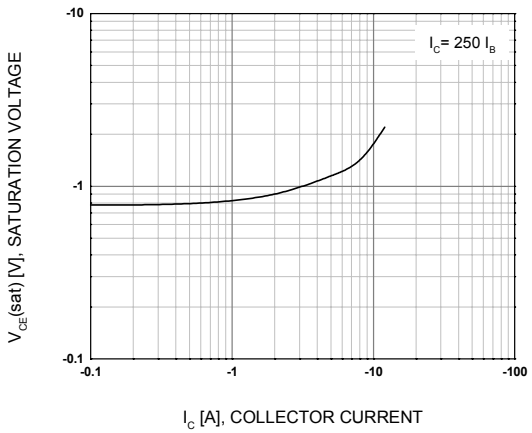


Figure 3. Base-Emitter On Voltage

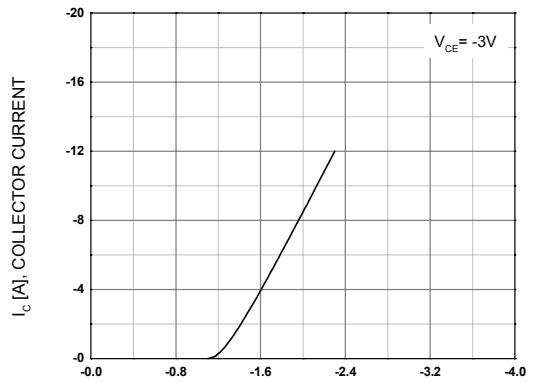
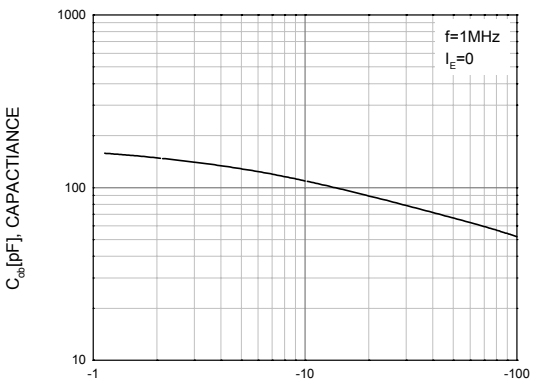
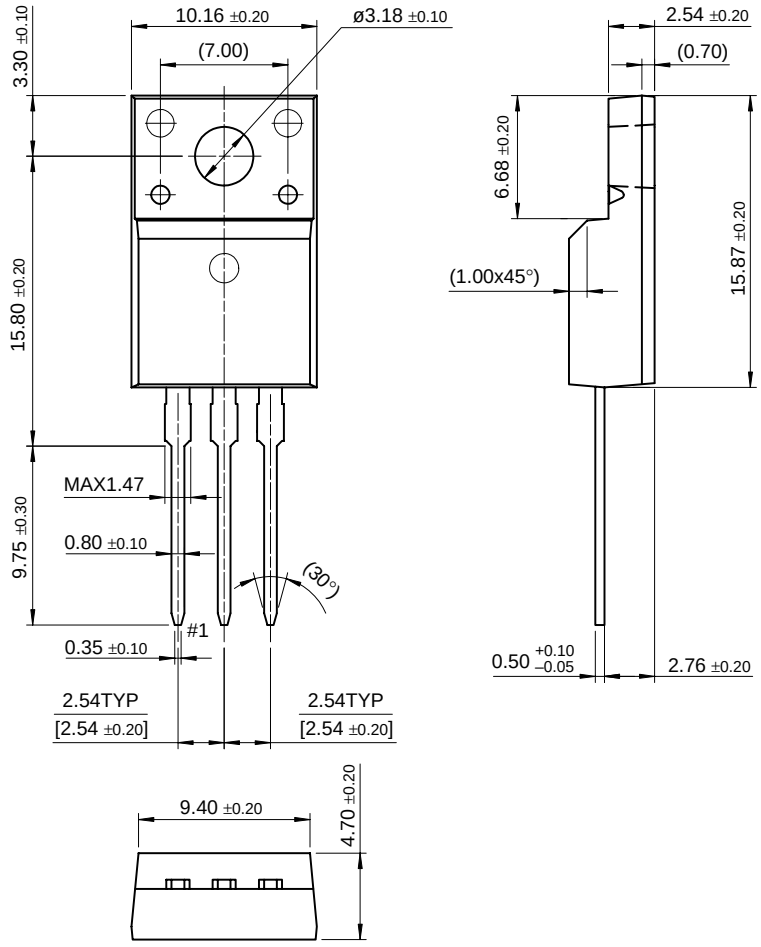


Figure 4. Output Capacitance



Mechanical Dimensions

TO-220F



Dimensions in Millimeters

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Rev. I16

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