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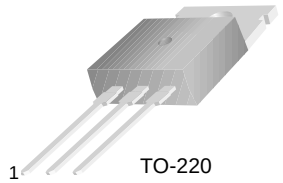
Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes 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™

BDX34/A/B/C

Power Linear and Switching Applications

- High Gain General Purpose
- Power Darlington TR
- Complement to BDX33/33A/33B/33C respectively



TO-220

1.Base 2.Collector 3.Emitter

PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage		
	: BDX34	- 45	V
	: BDX34A	- 60	V
	: BDX34B	- 80	V
	: BDX34C	- 100	V
V_{CEO}	Collector-Emitter Voltage		
	: BDX34	- 45	V
	: BDX34A	- 60	V
	: BDX34B	- 80	V
	: BDX34C	- 100	V
I_C	Collector Current (DC)	- 10	A
I_{CP}	*Collector Current (Pulse)	- 15	A
I_B	Base Current	- 0.25	A
P_C	Collector Dissipation (T_C=25°C)	70	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	Test Condition	Min.	Typ.	Max.	Units
V_{CEO}(sus)	* Collector-Emitter Sustaining Voltage					
	: BDX34	I_C = -100mA, I_B = 0	- 45			V
	: BDX34A		- 60			V
	: BDX34B		- 80			V
	: BDX34C		- 100			V
V_{CER}(sus)	* Collector-Emitter Sustaining Voltage					
	: BDX34	I_C = -1 00mA, I_B = 0	- 45			V
	: BDX34A	R_{BE} = 100Ω	- 60			V
	: BDX34B		- 80			V
	: BDX34C		- 100			V
V_{CEV}(sus)	* Collector-Emitter Sustaining Voltage					
	: BDX34	I_C = - 100mA, I_B = 0	- 45			V
	: BDX34A	V_{BE} = - 1.5V	- 60			V
	: BDX34B		- 80			V
	: BDX34C		- 100			V
I_{CBO}	Collector Cut-off Current					
	: BDX34	V_{CB} = - 45V, I_E = 0			- 0.2	mA
	: BDX34A	V_{CB} = - 60V, I_E = 0			- 0.2	mA
	: BDX34B	V_{CB} = - 80V, I_E = 0			- 0.2	mA
	: BDX34C	V_{CB} = - 100V, I_E = 0			- 0.2	mA
I_{CEO}	Collector Cut-off Current					
	: BDX34	V_{CE} = - 22V, I_B = 0			- 0.5	mA
	: BDX34A	V_{CE} = - 30V, I_B = 0			- 0.5	mA
	: BDX34B	V_{CE} = - 40V, I_B =0			- 0.5	mA
	: BDX34C	V_{CE} = - 50V, I_B = 0			- 0.5	mA
I_{EBO}	Emitter Cut-off Current	V_{EB} = - 5V, I_C = 0			- 5	mA
h_{FE}	* DC Current Gain					
	: BDX34/34A	V_{CE} = - 3V, I_C = - 4A	750			
	: BDX34B/34C	V_{CE} = - 3V, I_C = - 3A	750			
V_{CE}(sat)	* Collector-Emitter Saturation Voltage					
	: BDX34/34A	I_C = - 4A, I_B = - 8mA			- 2.5	V
	: BDX34B/34C	I_C = - 3A, I_B = - 6mA			- 2.5	V
V_{BE}(on)	* Base-Emitter ON Voltage					
	: BDX34/34A	V_{CE} = - 3V, I_C = - 4A			- 2.5	V
	: BDX34B/34C	V_{CE} = - 3V, I_C = - 3A			- 2.5	V
V_F	* Parallel Diode Forward Voltage	I_F = - 8A			- 4	V

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

Typical Characteristics

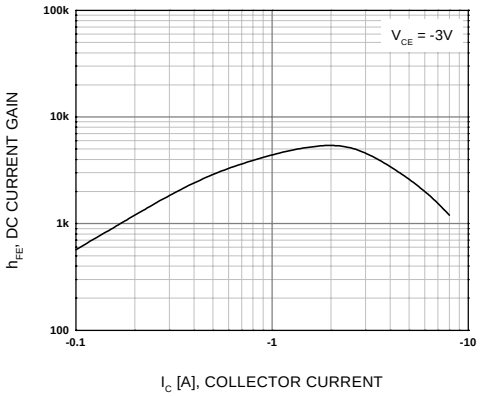


Figure 1. DC Current Gain

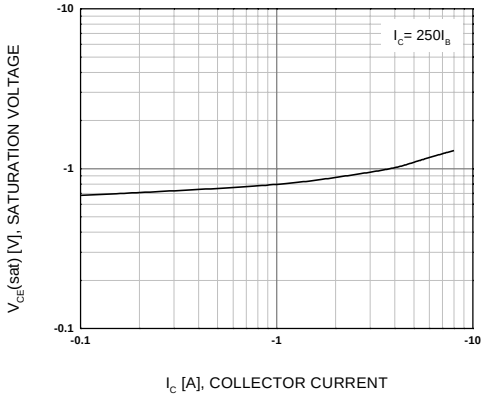


Figure 2. Collector-Emitter Saturation Voltage

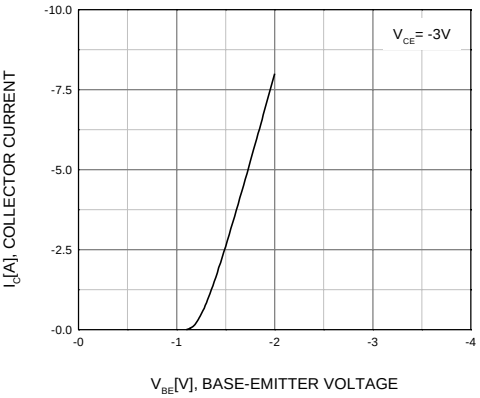


Figure 3. Base-Emitter On Voltage

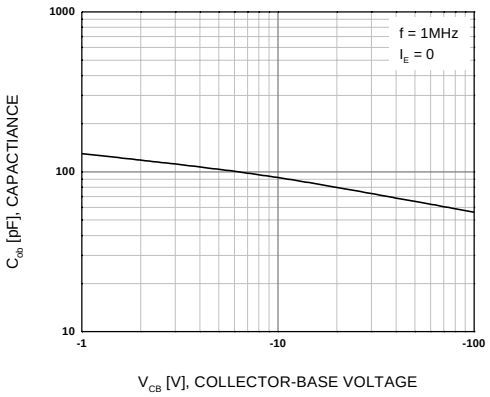


Figure 4. Output Capacitance

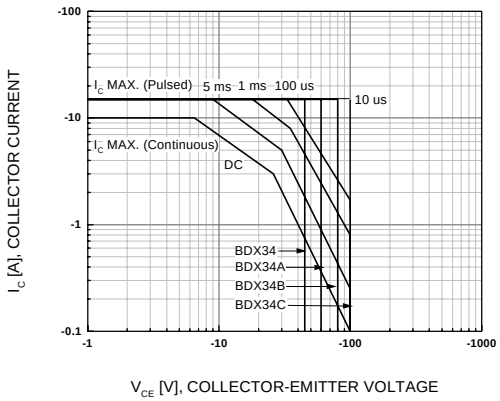


Figure 5. Safe Operating Area

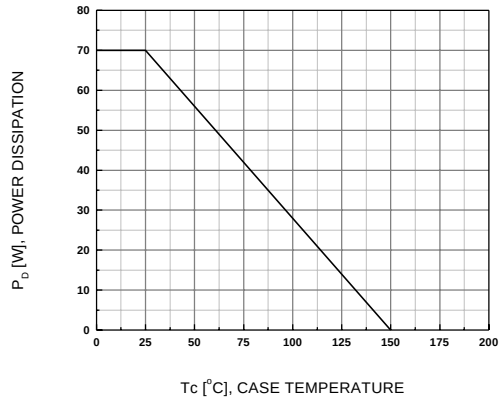
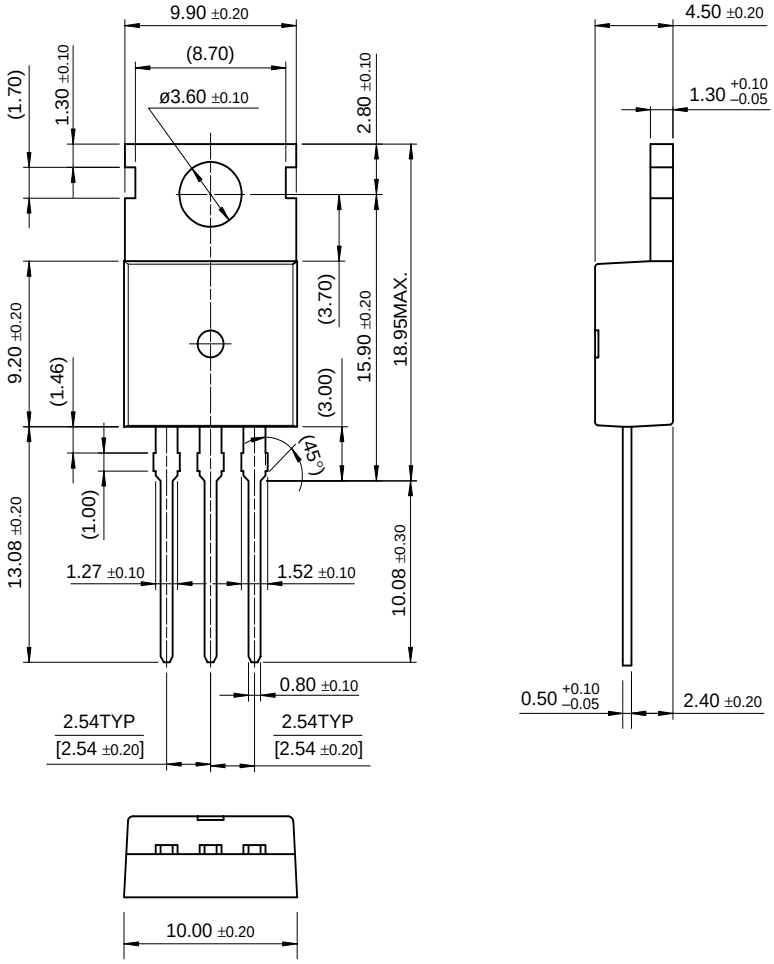


Figure 6. Power Derating

Package Demensions

TO-220



Dimensions in Millimeters

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