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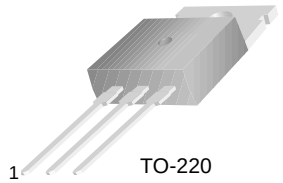
FAIRCHILD SEMICONDUCTOR™

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

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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

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Typical Characteristics

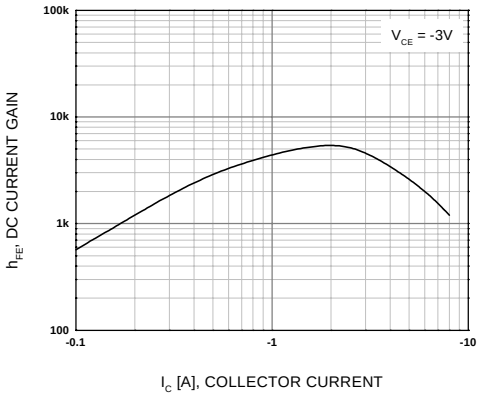

Figure 1. DC Current Gain

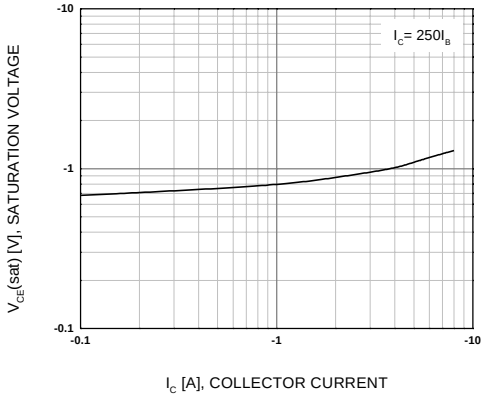

Figure 2. Collector-Emitter Saturation Voltage

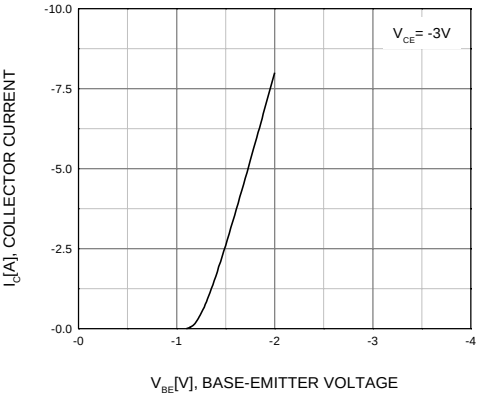

Figure 3. Base-Emitter On Voltage

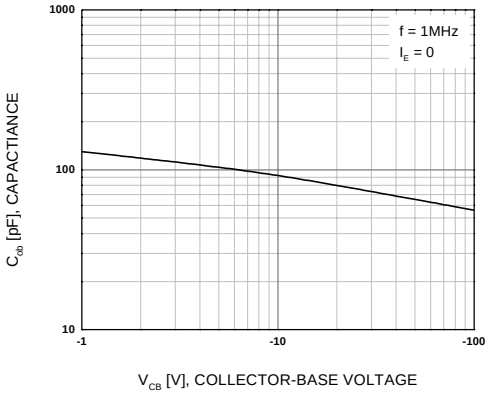

Figure 4. Output Capacitance

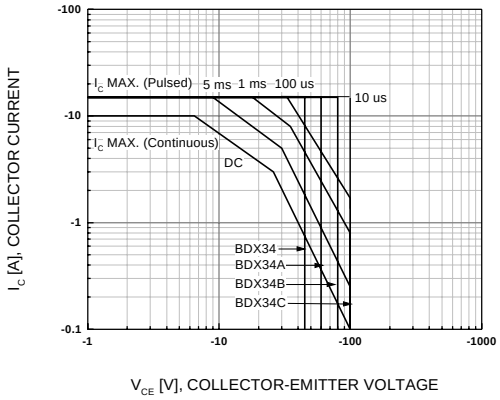

Figure 5. Safe Operating Area

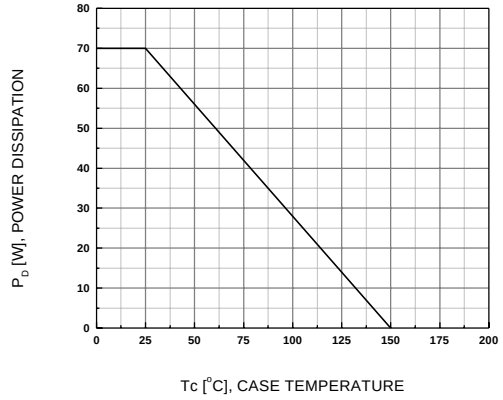

Figure 6. Power Derating

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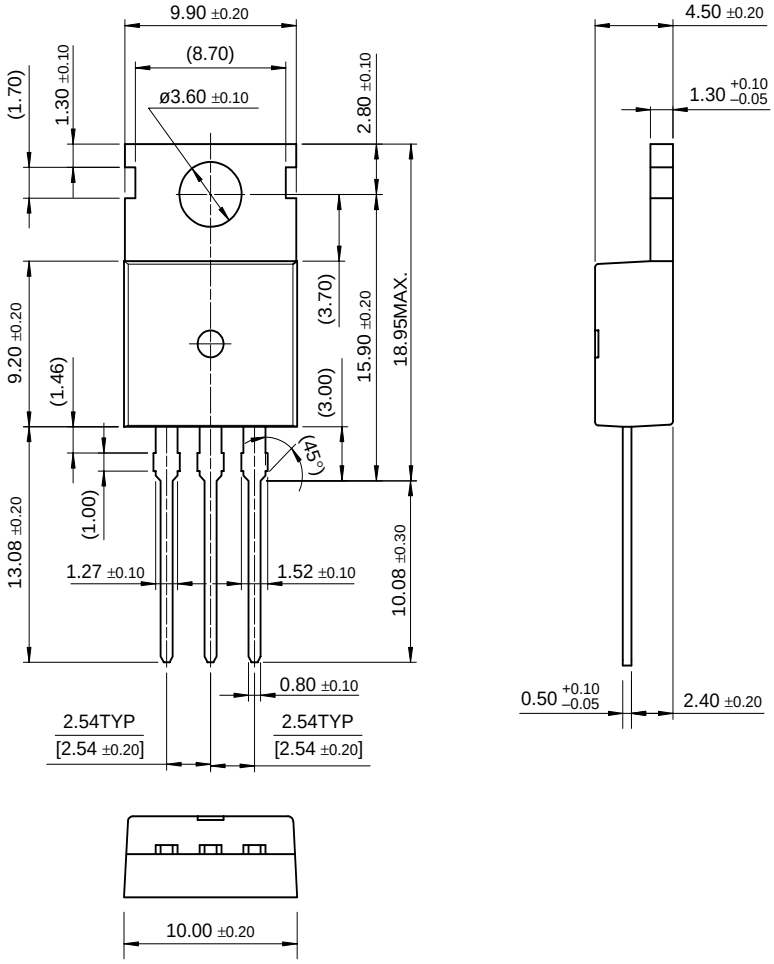
Package Demensions

TO-220



Dimensions in Millimeters

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