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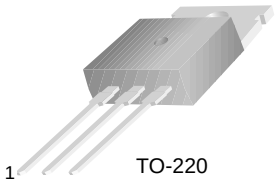
FAIRCHILD SEMICONDUCTOR™

BDX54/A/B/C

Hammer Drivers, Audio Amplifiers Applications
Power Liner and Switching Applications

- Power Darlington TR
- Complement to BDX53, BDX53A, BDX53B and BDX53C 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 : BDX54	- 45	V
	: BDX54A	- 60	V
	: BDX54B	- 80	V
	: BDX54C	- 100	V
V_{CEO}	Collector-Emitter Voltage : BDX54	- 45	V
	: BDX54A	- 60	V
	: BDX54B	- 80	V
	: BDX54C	- 100	V
V_{EBO}	Emitter-Base Voltage	- 5	V
I_C	Collector Current (DC)	- 8	A
I_{CP}	*Collector Current (Pulse)	- 12	A
I_B	Base Current	- 0.2	A
P_C	Collector Dissipation (T_C=25°C)	60	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					
	: BDX54	I_C = - 100mA, I_B = 0	- 45			V
	: BDX54A		- 60			V
	: BDX54B		- 80			V
	: BDX54C		- 100			V
I_{CBO}	Collector Cut-off Current : BDX54	V_{CB} = - 45V, I_E = 0			- 200	µA
	: BDX54A	V_{CB} = - 60V, I_E = 0			- 200	µA
	: BDX54B	V_{CB} = - 80V, I_E = 0			- 200	µA
	: BDX54C	V_{CB} = - 100V, I_E = 0			- 200	µA
I_{CEO}	Collector Cut-off Current : BDX54	V_{CE} = - 22V, I_B = 0			- 500	µA
	: BDX54A	V_{CE} = - 30V, I_B = 0			- 500	µA
	: BDX54B	V_{CE} = - 40V, I_B = 0			- 500	µA
	: BDX54C	V_{CE} = - 50V, I_B = 0			- 500	µA
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	750			
V_{CE}(sat)	* Collector-Emitter Saturation Voltage	I_C = - 3A, I_B = - 12mA			- 2	V
V_{BE}(sat)	* Base-Emitter Saturation Voltage	I_C = - 3A, I_B = - 12mA			- 2.5	V
V_F	* Parallel Diode Forward Voltage	I_F = - 3A		- 1.8	- 2.5	V
		I_F = - 8A		- 2.5		V

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

Typical Characteristics

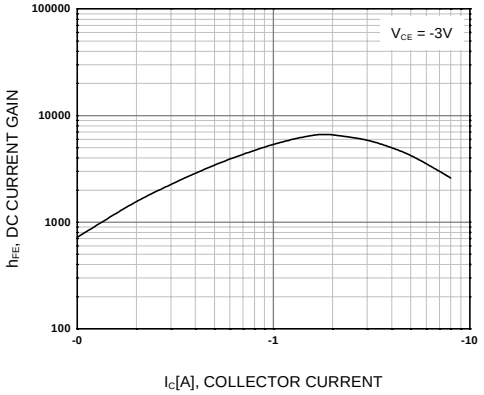


Figure 1. DC current Gain

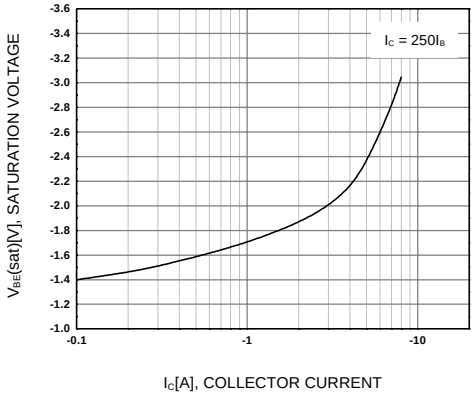


Figure 2. Base-Emitter Saturation Voltage

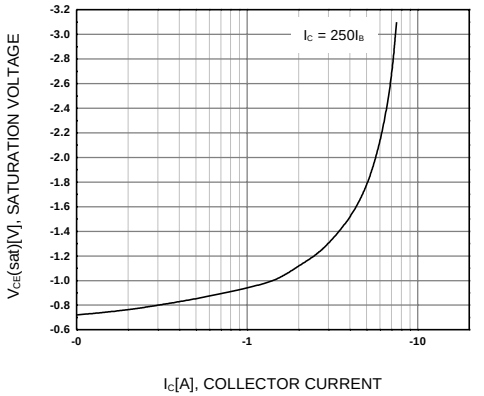


Figure 3. Collector-Emitter Saturation Voltage

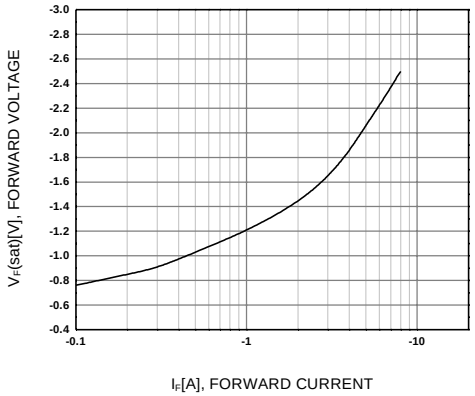


Figure 4. Damper Diode Forward Voltage

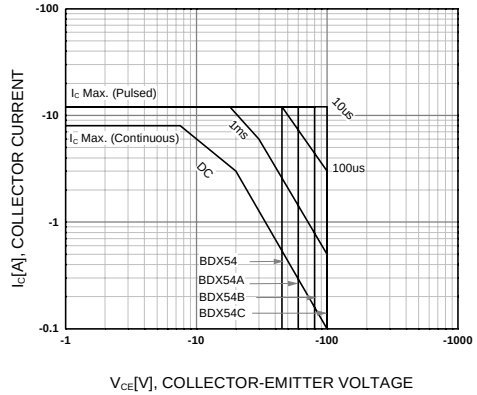


Figure 5. Safe Operating Area

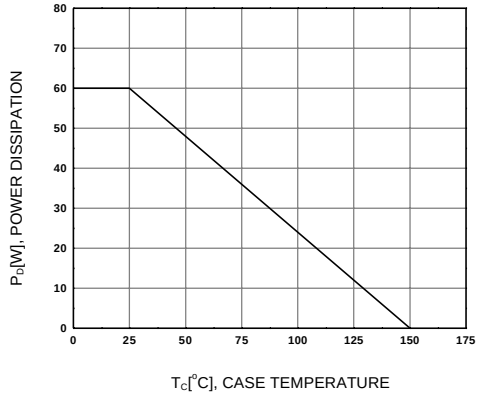
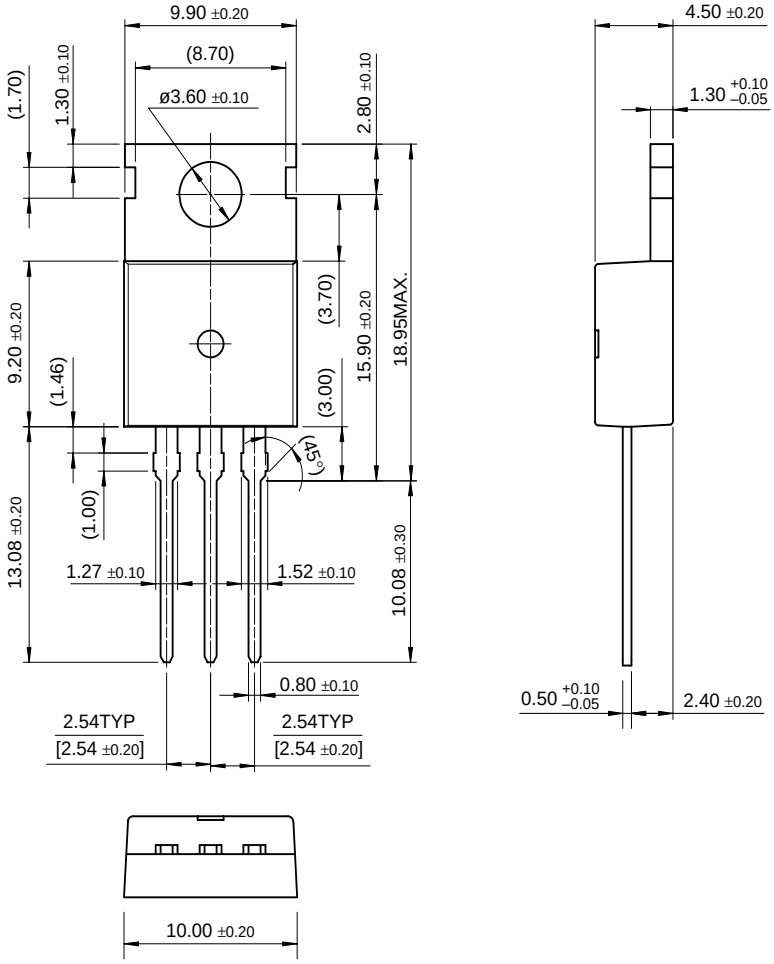


Figure 6. Power Derating

Package Demensions

TO-220



Dimensions in Millimeters

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