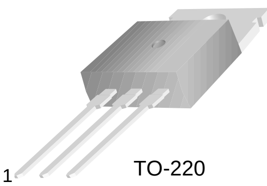
FAIRCHILD
SEMICONDUCTOR ™

BDX53/A/B/C

Hammer Drivers, Audio Amplifiers Applications
Power Liner and Switching Applications

- Power Darlington TR
- Complement to BDX54, BDX54A, BDX54B and BDX54C respectively



1 TO-220

1.Base 2.Collector 3.Emitter

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage : BDX53 : BDX53A : BDX53B : BDX53C	45 60 80 100	V V V V
V_{CEO}	Collector-Emitter Voltage : BDX53 : BDX53A : BDX53B : BDX53C	45 60 80 100	V V V 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 : BDX53 : BDX53A : BDX53B : BDX53C	I_C = 100mA, I_B = 0	45 60 80 100			V V V V
I_{CBO}	Collector Cut-off Current : BDX53 : BDX53A : BDX53B : BDX53C	V_{CB} = 45V, I_E = 0 V_{CB} = 60V, I_E = 0 V_{CB} = 80V, I_E = 0 V_{CB} = 100V, I_E = 0			200 200 200 200	μA μA μA μA
I_{CEO}	Collector Cut-off Current : BDX53 : BDX53A : BDX53B : BDX53C	V_{CE} = 22V, I_B = 0 V_{CE} = 30V, I_B = 0 V_{CE} = 40V, I_B = 0 V_{CE} = 50V, I_B = 0			500 500 500 500	μA μA μA 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 I_F= 8A		1.8 2.5	2.5	V V

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

Typical Characteristics

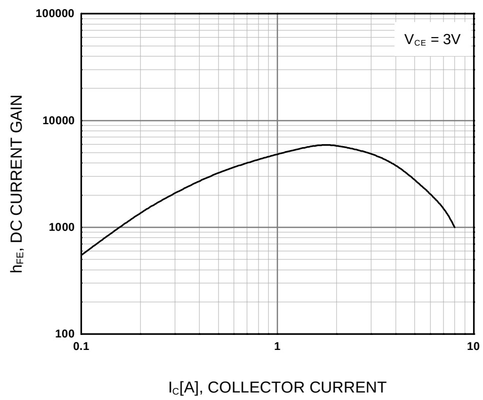


Figure 1. DC current Gain

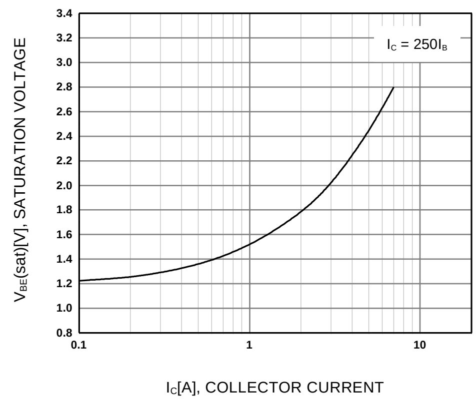


Figure 2. Base-Emitter Saturation Voltage

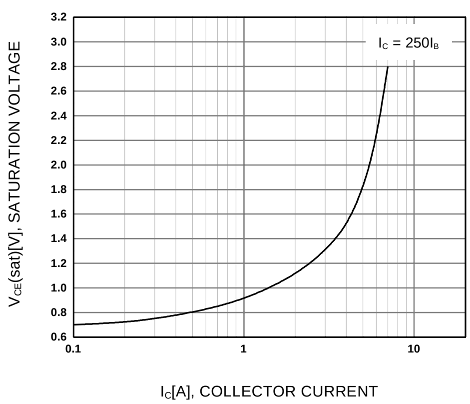


Figure 3. Collector-Emitter Saturation Voltage

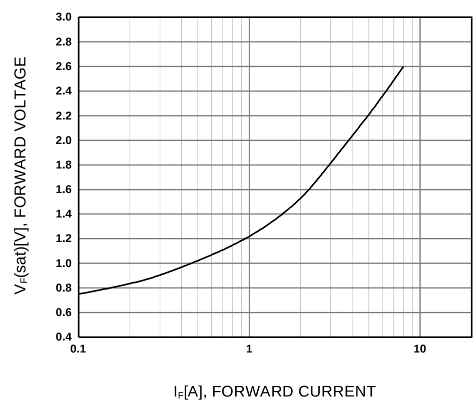


Figure 4. Damper Diode Forward Voltage

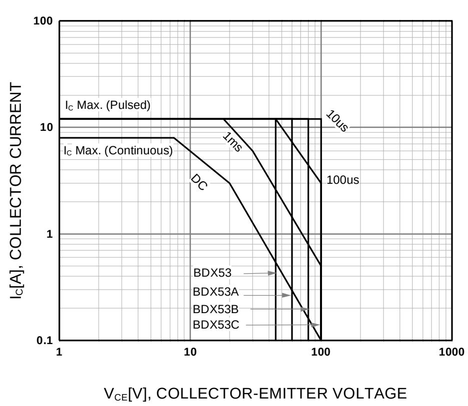


Figure 5. Safe Operating Area

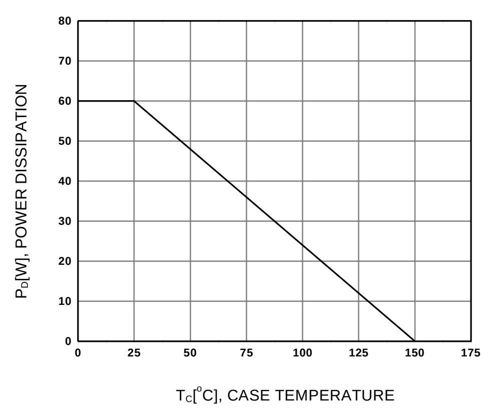
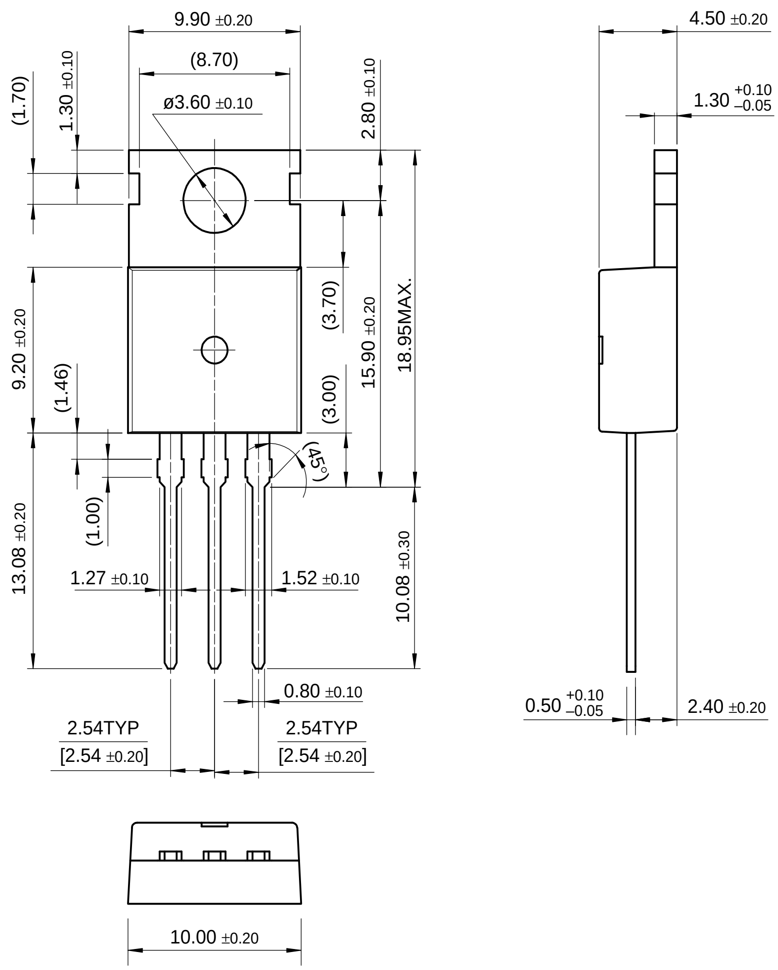


Figure 6. Power Derating

Package Demensions

TO-220



Dimensions in Millimeters

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