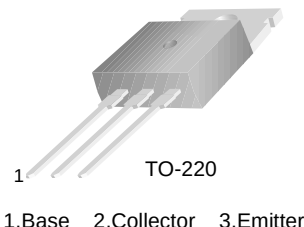


BDX54/A/B/C

Hammer Drivers, Audio Amplifiers Applications Power Liner and Switching Applications

- Power Darlington TR
- Complement to BDX53, BDX53A, BDX53B and BDX53C respectively



PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_C=25^\circ\text{C}$ 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 ($T_C=25^\circ\text{C}$)	60	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	- 65 ~ 150	$^\circ\text{C}$

Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$V_{CEO(SUS)}$	* Collector-Emitter Sustaining Voltage : BDX54	$I_C = - 100\text{mA}, I_B = 0$	- 45			V
	: BDX54A		- 60			V
	: BDX54B		- 80			V
	: BDX54C		- 100			V
I_{CBO}	Collector Cut-off Current : BDX54	$V_{CB} = - 45\text{V}, I_E = 0$			- 200	μA
	: BDX54A	$V_{CB} = - 60\text{V}, I_E = 0$			- 200	μA
	: BDX54B	$V_{CB} = - 80\text{V}, I_E = 0$			- 200	μA
	: BDX54C	$V_{CB} = - 100\text{V}, I_E = 0$			- 200	μA
I_{CEO}	Collector Cut-off Current : BDX54	$V_{CE} = - 22\text{V}, I_B = 0$			- 500	μA
	: BDX54A	$V_{CE} = - 30\text{V}, I_B = 0$			- 500	μA
	: BDX54B	$V_{CE} = - 40\text{V}, I_B = 0$			- 500	μA
	: BDX54C	$V_{CE} = - 50\text{V}, I_B = 0$			- 500	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = - 5\text{V}, I_C = 0$			- 2	mA
h_{FE}	* DC Current Gain	$V_{CE} = - 3\text{V}, I_C = - 3\text{A}$	750			
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = - 3\text{A}, I_B = - 12\text{mA}$			- 2	V
$V_{BE(sat)}$	* Base-Emitter Saturation Voltage	$I_C = - 3\text{A}, I_B = - 12\text{mA}$			- 2.5	V
V_F	* Parallel Diode Forward Voltage	$I_F = - 3\text{A}$		- 1.8	- 2.5	V
		$I_F = - 8\text{A}$		- 2.5		V

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

Typical Characteristics

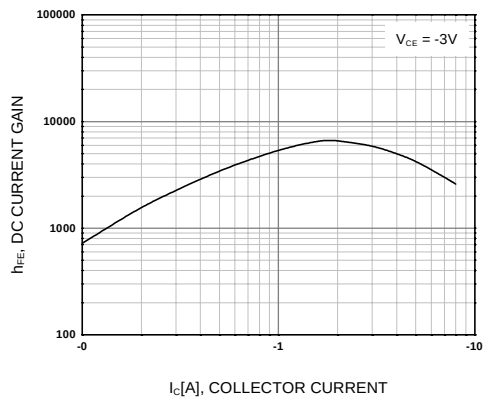


Figure 1. DC current Gain

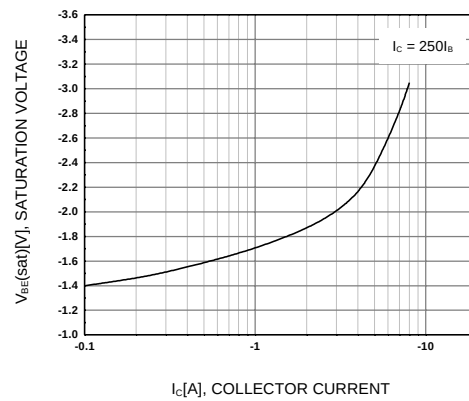


Figure 2. Base-Emitter Saturation Voltage

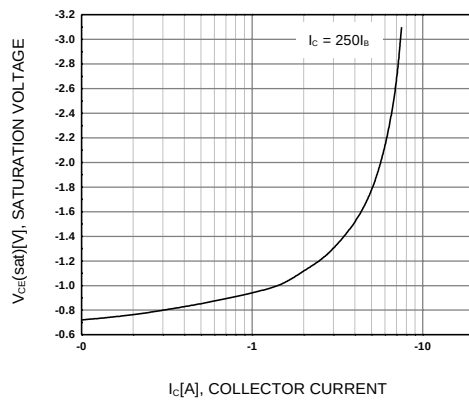


Figure 3. Collector-Emitter Saturation Voltage

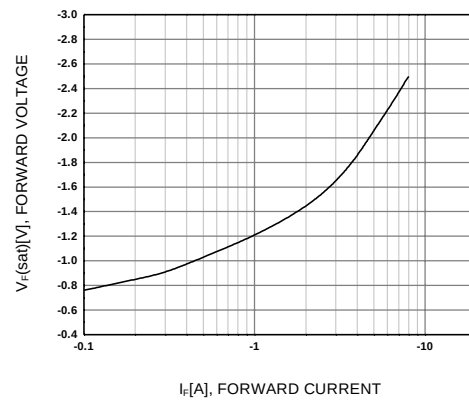


Figure 4. Damper Diode Forward Voltage

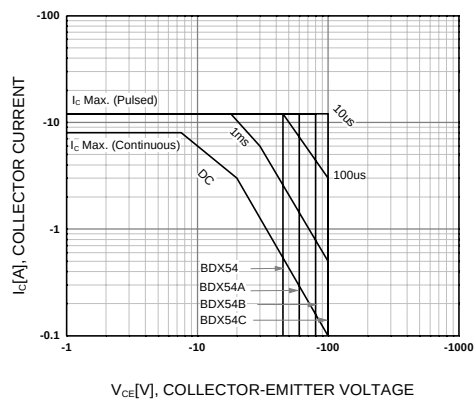


Figure 5. Safe Operating Area

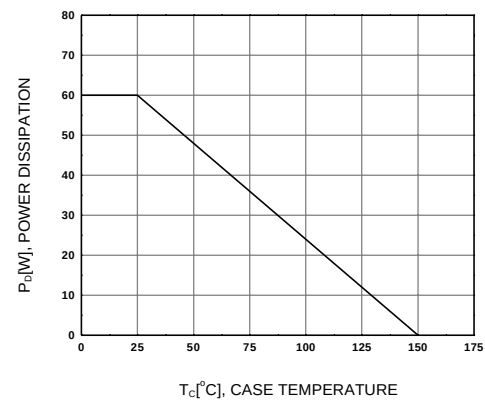


Figure 6. Power Derating

Technical drawing of a mechanical part, likely a connector or probe, showing front and side views with dimensions in millimeters.

Front View Dimensions:

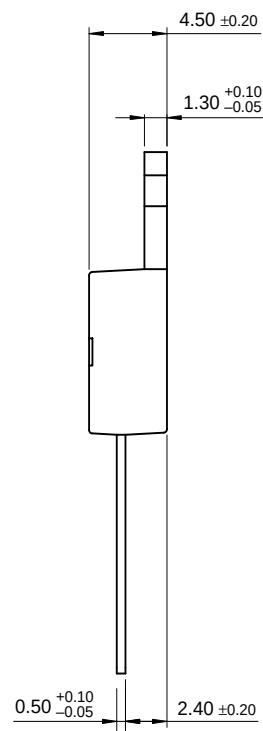
- Overall width: 9.90 ± 0.20
- Central hole diameter: $\varnothing 3.60 \pm 0.10$
- Top flange height: 1.30 ± 0.10
- Top flange width: (8.70)
- Side flange height: 2.80 ± 0.10
- Central body height: 15.90 ± 0.20
- Central body width: (3.70)
- Overall height: 18.95 MAX.
- Bottom flange height: (3.00)
- Bottom flange width: (1.46)
- Bottom flange height: 9.20 ± 0.20
- Bottom flange width: (1.70)

Side View Dimensions:

- Overall width: 10.00 ± 0.20
- Central body width: 1.27 ± 0.10
- Central body height: 1.52 ± 0.10
- Bottom flange height: 10.08 ± 0.30
- Bottom flange width: 0.80 ± 0.10
- Chamfer angle: 45°

Material Specification:

2.54TYP
[2.54 ±0.20]



Rev. A, February 2000

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