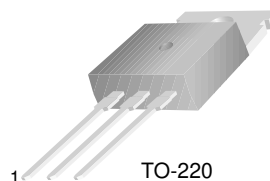


## BDX54/A/B/C

### 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 $T_C=25^\circ\text{C}$ 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	$I_C = - 100\text{mA}, I_B = 0$	: BDX54	- 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	$\mu\text{A}$
		: BDX54A	$V_{CB} = - 60\text{V}, I_E = 0$		- 200	$\mu\text{A}$
		: BDX54B	$V_{CB} = - 80\text{V}, I_E = 0$		- 200	$\mu\text{A}$
		: BDX54C	$V_{CB} = - 100\text{V}, I_E = 0$		- 200	$\mu\text{A}$
$I_{CEO}$	Collector Cut-off Current	: BDX54	$V_{CE} = - 22\text{V}, I_B = 0$		- 500	$\mu\text{A}$
		: BDX54A	$V_{CE} = - 30\text{V}, I_B = 0$		- 500	$\mu\text{A}$
		: BDX54B	$V_{CE} = - 40\text{V}, I_B = 0$		- 500	$\mu\text{A}$
		: BDX54C	$V_{CE} = - 50\text{V}, I_B = 0$		- 500	$\mu\text{A}$
$I_{EBO}$	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 $\mu\text{s}$ , duty Cycle =1.5% Pulsed

# Typical Characteristics

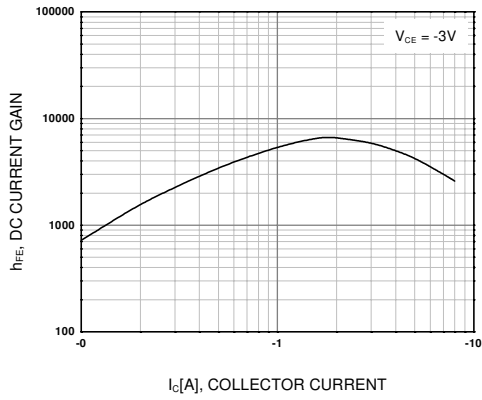


Figure 1. DC current Gain

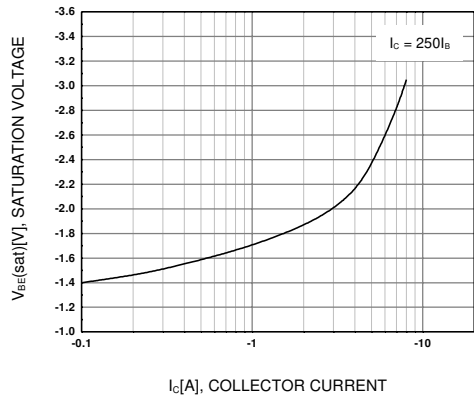


Figure 2. Base-Emitter Saturation Voltage

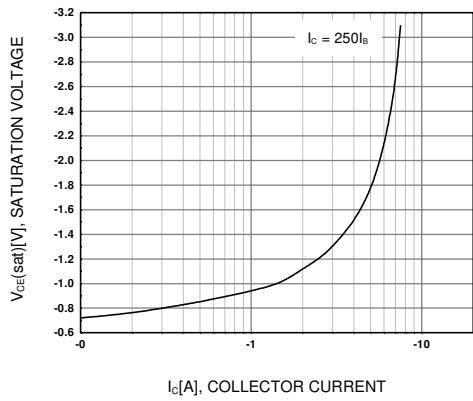


Figure 3. Collector-Emitter Saturation Voltage

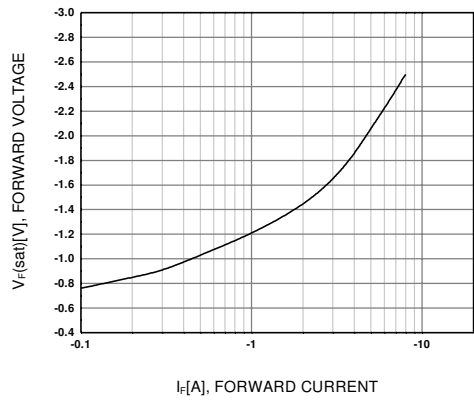


Figure 4. Damper Diode Forward Voltage

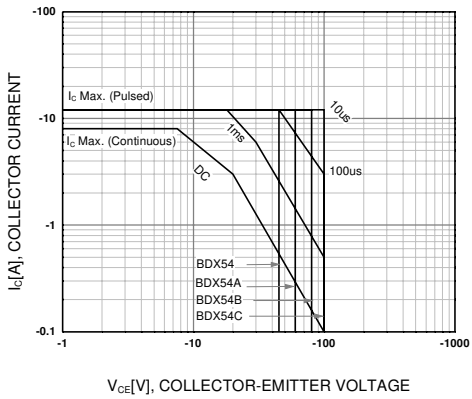


Figure 5. Safe Operating Area

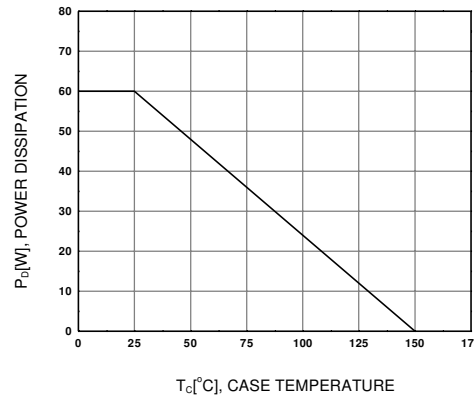
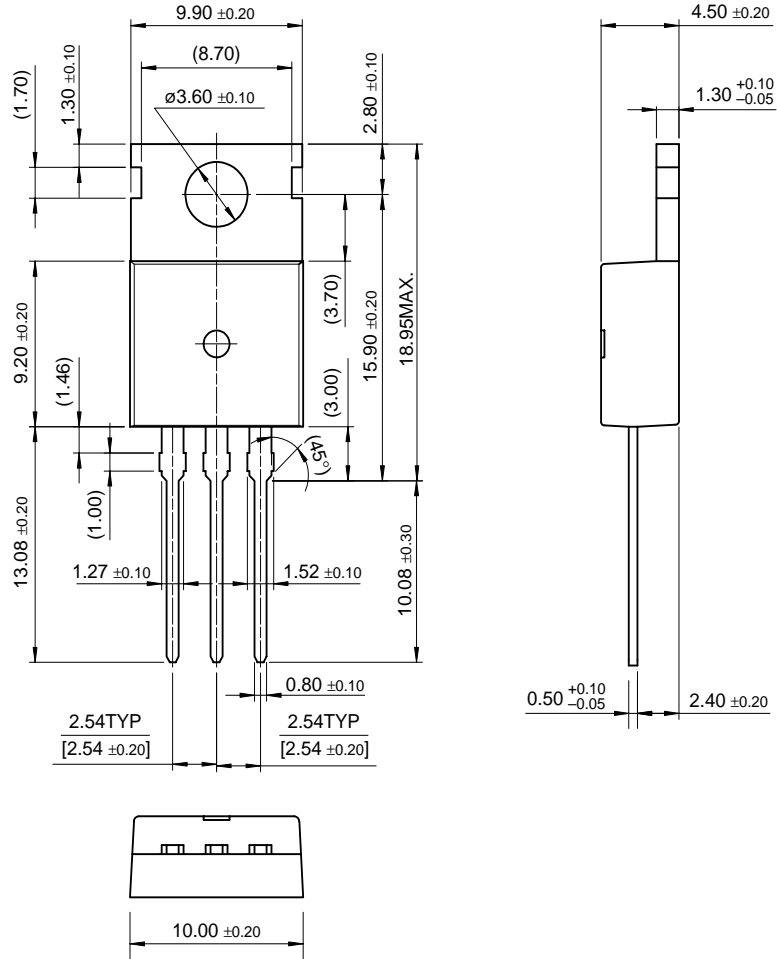


Figure 6. Power Derating

# Package Dimensions

## TO-220



Dimensions in Millimeters

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
BDX54BTU	Full Production	\$0.366	TO-220	3	RAIL

\* 1,000 piece Budgetary Pricing

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BDX54ATU	Full Production	\$0.366	TO-220	3	RAIL

\* 1,000 piece Budgetary Pricing

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BDX54C	Full Production	\$0.366	TO-220	3	BULK

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