



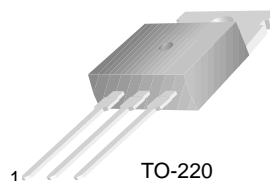
THE DATASHEET OF BDX54BTU



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	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

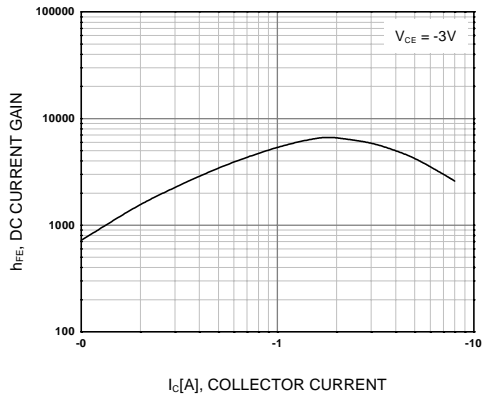


Figure 1. DC current Gain

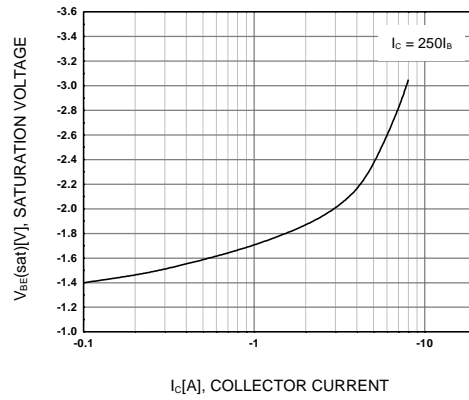


Figure 2. Base-Emitter Saturation Voltage

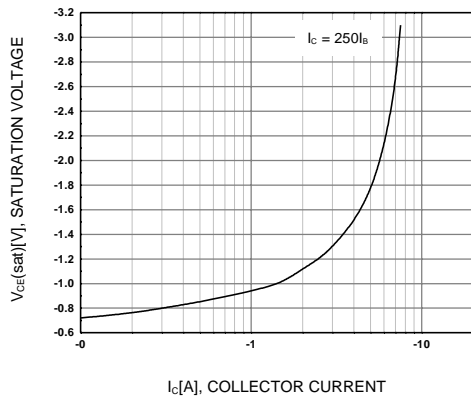


Figure 3. Collector-Emitter Saturation Voltage

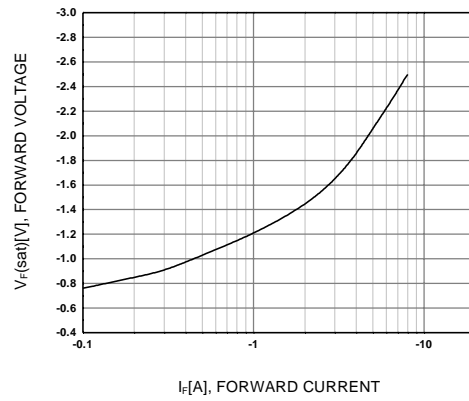


Figure 4. Damper Diode Forward Voltage

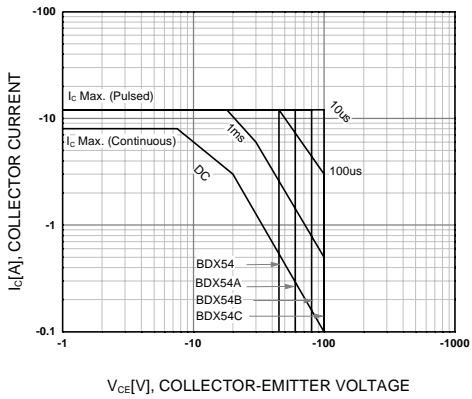


Figure 5. Safe Operating Area

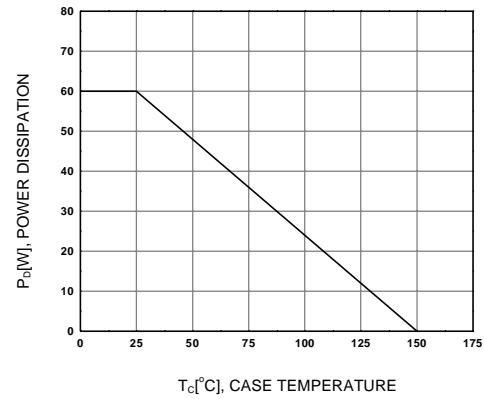


Figure 6. Power Derating

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