

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.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	45	V
	: BDX53A	60	V
	: BDX53B	80	V
	: BDX53C	100	V
V _{CEO}	Collector-Emitter Voltage : BDX53	45	V
020	: BDX53A	60	V
	: BDX53B	80	V
	: BDX53C	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current (DC)	8	А
СР	*Collector Current (Pulse)	12	А
В	Base Current	0.2	А
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.	Тур.	Max.	Units
V _{CEO} (sus)	* Collector-Emitter Sustaining Voltage					
	: BDX53	$I_C = 100 \text{mA}, I_B = 0$	45			V
	: BDX53A		60			V
	: BDX53B		80			V
	: BDX53C		100			V
I _{CBO}	Collector Cut-off Current : BDX53	$V_{CB} = 45V, I_{E} = 0$			200	μΑ
	: BDX53A	$V_{CB} = 60V, I_{E} = 0$			200	μΑ
	: BDX53B	$V_{CB} = 80V, I_{E} = 0$			200	μΑ
	: BDX53C	$V_{CB} = 100V, I_{E} = 0$			200	μΑ
I _{CEO}	Collector Cut-off Current : BDX53	$V_{CE} = 22V, I_B = 0$			500	μΑ
	: BDX53A	$V_{CE} = 30V, I_{B} = 0$			500	μΑ
	: BDX53B	$V_{CE} = 40V, I_{B} = 0$			500	μΑ
	: BDX53C	$V_{CE} = 50V, I_{B} = 0$			500	μΑ
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

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Typical Characteristics

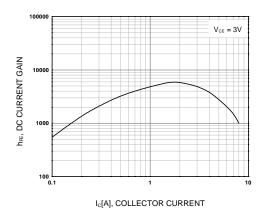


Figure 1. DC current Gain

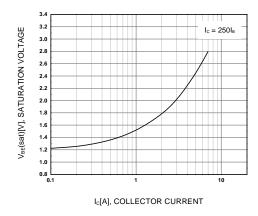


Figure 2. Base-Emitter Saturation Voltage

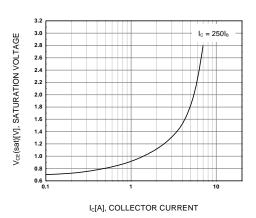


Figure 3. Collector-Emitter Saturation Voltage

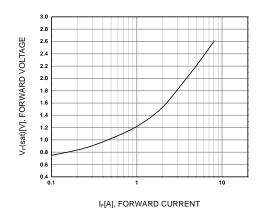


Figure 4. Damper Diode Forward Voltage

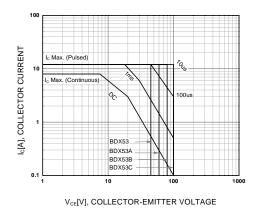


Figure 5. Safe Operating Area

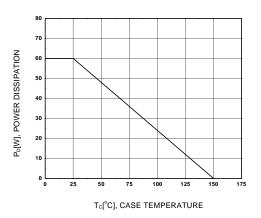
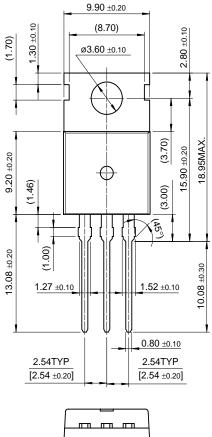


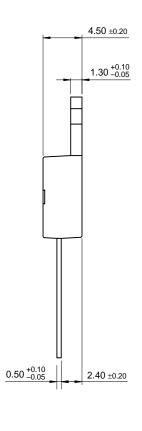
Figure 6. Power Derating

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Package Demensions

TO-220





10.00 ±0.20

Dimensions in Millimeters

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