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BDX33/A/B/C

Power Linear and Switching Applications

- High Gain General Purpose
- Power Darlington TR
- Complement to BDX34/34A/34B/34C respectively



1.Base 2.Collector 3.Emitter

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_C=25^{\circ}C$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage		
	: BDX33	45	V
	: BDX33A	60	V
	: BDX33B	80	V
	: BDX33C	100	V
V _{CEO}	Collector-Emitter Voltage		
	: BDX33	45	V
	: BDX33A	60	V
	: BDX33B	80	V
	: BDX33C	100	V
I _C	Collector Current (DC)	10	Α
СР	*Collector Current (Pulse)	15	Α
В	Base Current	0.25	Α
P _C	Collector Dissipation (T _C =25°C)	70	W
T _J	Junction Temperature	150	°C
T _{STG}	Storage Temperature	- 65 ~ 150	°C

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Fiectrical (naracteristics	T _C =25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
V _{CEO} (sus)	*Collector-Emitter Sustaining Voltage : BDX33 : BDX33A : BDX33B : BDX33C	I _C = 100mA I _B = 0	45 60 80 100			V V V
V _{CER} (sus)	* Collector-Emitter Sustaining Voltage : BDX33 : BDX33A : BDX33B : BDX33C	$I_{C} = 100 \text{mA}, I_{B} = 0$ $R_{BE} = 100 \Omega$	45 60 80 100			V V V
V _{CEV} (sus)	* Collector-Emitter Sustaining Voltage : BDX33 : BDX33A : BDX33B : BDX33C	I _C = 100mA, I _B = 0 V _{BE} = 1.5V	45 60 80 100			V V V
I _{CBO}	Collector Cut-off Current : BDX33 : BDX33A : BDX33B : BDX33C	$V_{CB} = 45V, I_{E} = 0$ $V_{CB} = 60V, I_{E} = 0$ $V_{CB} = 80V, I_{E} = 0$ $V_{CB} = 100V, I_{E} = 0$			0.2 0.2 0.2 0.2	mA mA mA
I _{CEO}	Collector Cut-off Current : BDX33 : BDX33A : BDX33B : BDX33C	$V_{CE} = 22V, I_B = 0$ $V_{CE} = 30V, I_B = 0$ $V_{CE} = 40V, I_B = 0$ $V_{CE} = 50V, I_B = 0$			0.5 0.5 0.5 0.5	mA mA mA
I _{EBO}	Emitter Cut-off Current	$V_{EB} = 5V, I_{C} = 0$			5	mA
h _{FE}	* DC Current Gain : BDX33/34 : BDX33B/33C	$V_{CE} = 3V, I_{C} = 4A$ $V_{CE} = 3V, I_{C} = 3A$	750 750			
V _{CE} (sat)	* Collector-Emitter Saturation Voltage : BDX33/33A : BDX33B/33C	I _C = 4A, I _B = 8mA I _C = 3A, I _B = 6mA			2.5 2.5	V V
V _{BE} (on)	* Base-Emitter ON Voltage : BDX33/33A : BDX33B/33C	$V_{CE} = 3V, I_{C} = 4A$ $V_{CE} = 3V, I_{C} = 3A$			2.5 2.5	V V
V _F	* Parallel Diode Forward Voltage	I _F = 8A			4	V

^{*} Pulse Test: PW=300μs, duty Cycle =1.5% Pulse

Typical Characteristics

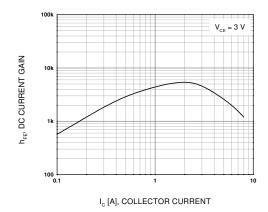


Figure 1. DC Current Gain

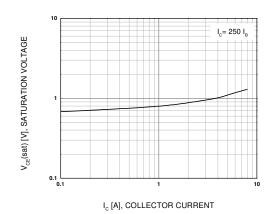


Figure 2. Collector-Emitter Saturation Voltage

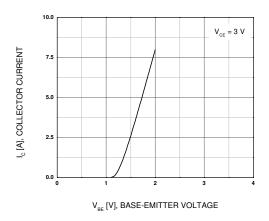


Figure 3. Base-Emitter On Voltage

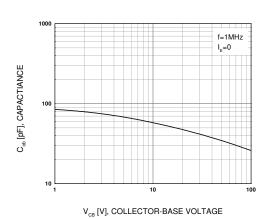


Figure 4. Output Capacitance

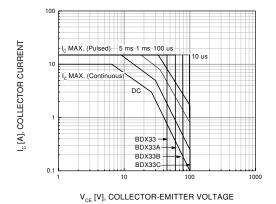


Figure 5. Safe Operating Area

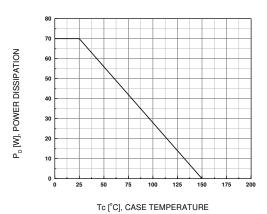
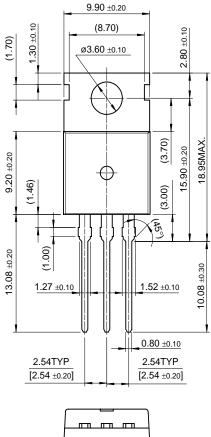


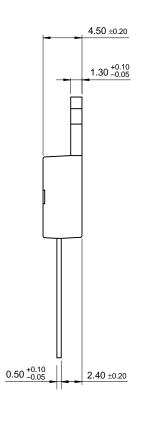
Figure 6. Power Derating

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Package Demensions

TO-220





10.00 ±0.20

Dimensions in Millimeters

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