

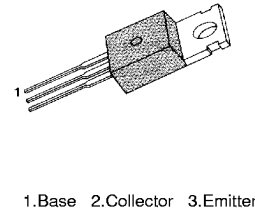
**HIGH GAIN GENERAL PURPOSE POWER
DARLINGTON TR
POWER LINER AND SWITCHING APPLICATIONS**

• Complement to BDX34/34A/34B/34C respectively

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Base Voltage : BDX33	V_{CBO}	45	V
: BDX33A		60	V
: BDX33B		80	V
: BDX33C		100	V
Collector Emitter Voltage : BDX33	V_{CEO}	45	V
: BDX33A		60	V
: BDX33B		80	V
: BDX33C		100	V
Collector Current (DC)	I_C	10	A
Collector Current (Pulse)	I_C	15	A
Base Current	I_B	0.25	A
Collector Dissipation ($T_C=25^\circ\text{C}$)	P_C	70	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-65 ~ 150	$^\circ\text{C}$

TO-220



ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$)

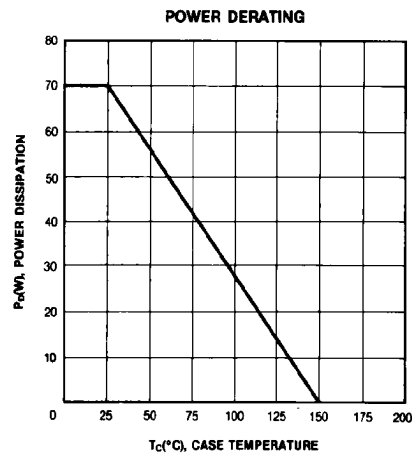
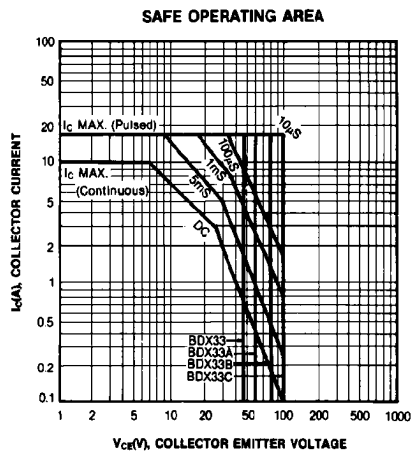
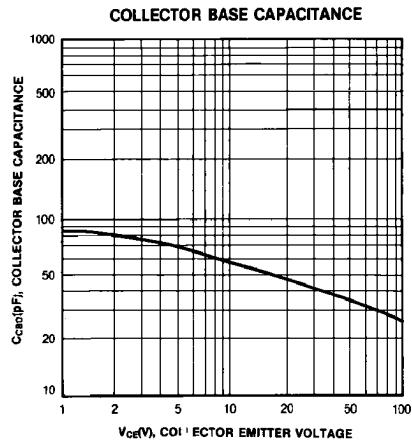
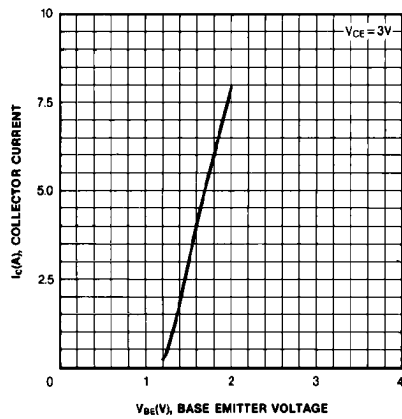
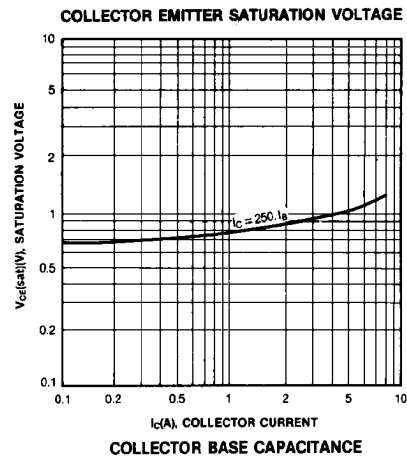
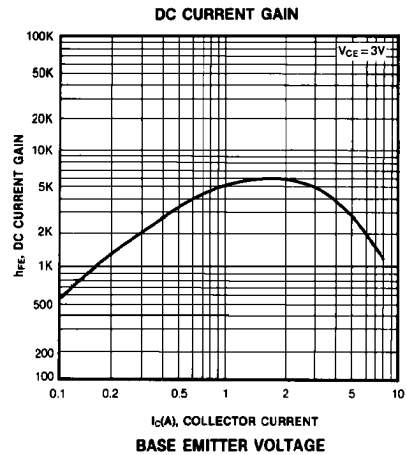
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
*Collector Emitter Sustaining Voltage : BDX33	$V_{CEO(SUS)}$	$I_C = 100\text{mA}$, $I_B = 0$	45			V
: BDX33A			60			V
: BDX33B			80			V
: BDX33C			100			V
*Collector Emitter Sustaining Voltage : BDX33	$V_{CE(SUS)}$	$I_C = 100\text{mA}$, $I_B = 0$ $R_{BE} = 100\Omega$	45			V
: BDX33A			60			V
: BDX33B			80			V
: BDX33C			100			V
*Collector Emitter Sustaining Voltage : BDX33	$V_{CEV(SUS)}$	$I_C = 100\text{mA}$, $I_B = 0$ $V_{BE} = 1.5\text{V}$	45			V
: BDX33A			60			V
: BDX33B			80			V
: BDX33C			100			V
Collector Cutoff Current : BDX33	I_{CBO}	$V_{CB} = 45\text{V}$, $I_E = 0$			0.2	mA
: BDX33A		$V_{CB} = 60\text{V}$, $I_E = 0$			0.2	mA
: BDX33B		$V_{CB} = 80\text{V}$, $I_E = 0$			0.2	mA
: BDX33C		$V_{CB} = 100\text{V}$, $I_E = 0$			0.2	mA
Collector Cutoff Current : BDX33	I_{CEO}	$V_{CE} = 22\text{V}$, $I_B = 0$			0.5	mA
: BDX33A		$V_{CE} = 30\text{V}$, $I_B = 0$			0.5	mA
: BDX33B		$V_{CE} = 40\text{V}$, $I_B = 0$			0.5	mA
: BDX33C		$V_{CE} = 50\text{V}$, $I_B = 0$			0.5	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{V}$, $I_C = 0$			5	mA
*DC Current Gain : BDX33/34	h_{FE}	$V_{CE} = 3\text{V}$, $I_C = 4\text{A}$	750			
: BDX33B/33C		$V_{CE} = 3\text{V}$, $I_C = 3\text{A}$	750			
*Collector Emitter Saturation Voltage : BDX33/33A	$V_{CE(sat)}$	$I_C = 4\text{A}$, $I_B = 8\text{mA}$			2.5	V
: BDX33B/33C		$I_C = 3\text{A}$, $I_B = 6\text{mA}$			2.5	V
*Base Emitter On Voltage : BDX33/33A	$V_{BE(on)}$	$V_{CE} = 3\text{V}$, $I_C = 4\text{A}$			2.5	V
: BDX33B/33C	V_F	$V_{CE} = 3\text{V}$, $I_C = 3\text{A}$			2.5	V
* Parallel Diode Forward Voltage		$I_F = 8\text{A}$			4	V

* Pulse Test: $PW=300\mu\text{s}$, duty Cycle =1.5% Pulse

Rev. B

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