

isc Silicon NPN Darlington Power Transistor
BDX33B
DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CE(SUS)} = 80V(\text{Min})$
- High DC Current Gain
: $h_{FE} = 750(\text{Min}) @ I_C = 3A$
- Low Collector Saturation Voltage
: $V_{CE(sat)} = 2.5V(\text{Max.}) @ I_C = 3A$
- Complement to Type BDX34B
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

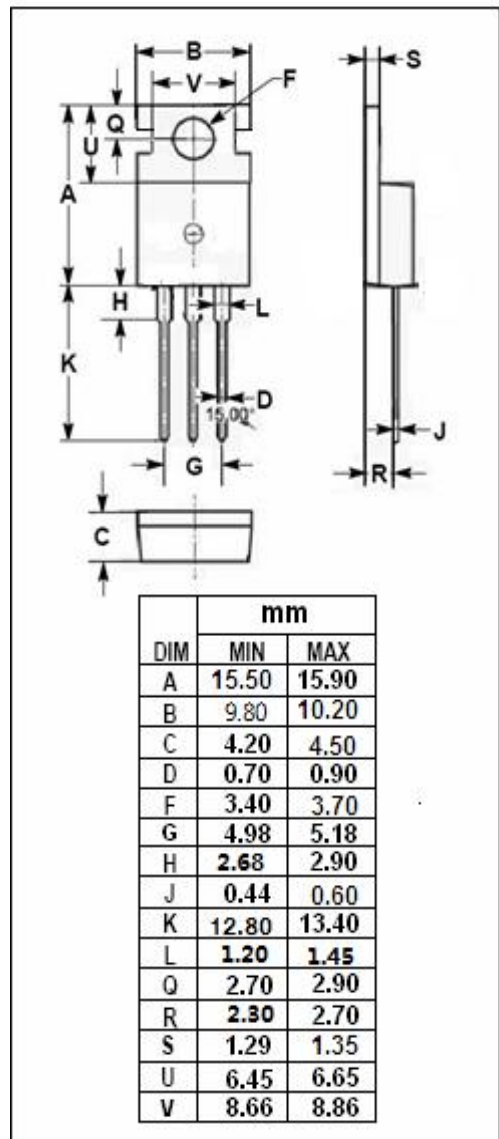
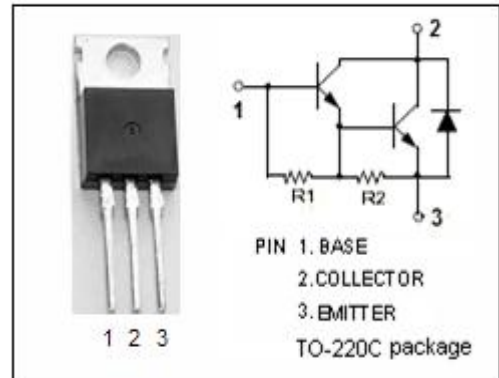
- Designed for general purpose amplifier and low speed switching applications.

ABSOLUTE MAXIMUM RATINGS($T_a = 25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Peak	15	A
I_B	Base Current-Continuous	0.25	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	70	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.78	$^\circ\text{C/W}$



isc Silicon NPN Darlington Power Transistor**BDX33B****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}; I_B=0$	80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=6\text{mA}$			2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=3\text{A}; V_{CE}=3\text{V}$			2.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=80\text{V}; I_E=0$			0.2	mA
I_{CEO}	Collector Cutoff Current	$V_{CE}=40\text{V}; I_B=0$			0.5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			10	mA
h_{FE}	DC Current Gain	$I_C=3\text{A}; V_{CE}=3\text{V}$	750			

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