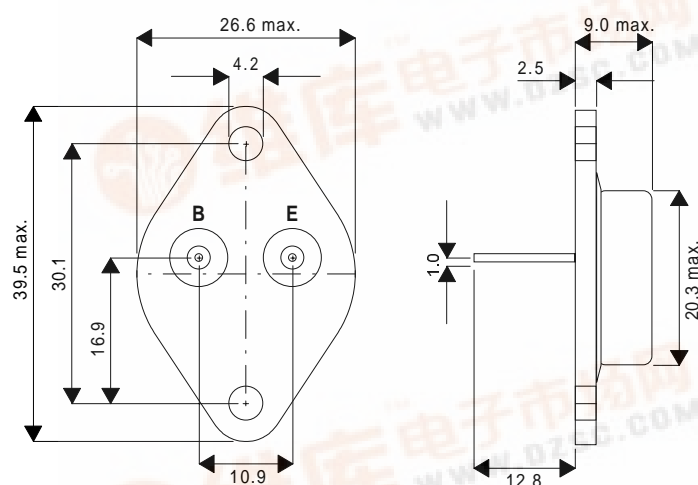


**BDX67**  
**BDX67A**  
**BDX67B**  
**BDX67C**

## MECHANICAL DATA

Dimensions in mm



## NPN EPITAXIAL BASE DARLINGTON POWER TRANSISTOR

NPN epitaxial base transistors in monolithic Darlington circuit for audio output stages and general amplifier and switching applications.

PNP complements are:  
 BDX66, BDX66A, BDX66B, BDX66C.

### TO3 Package.

Case connected to collector.

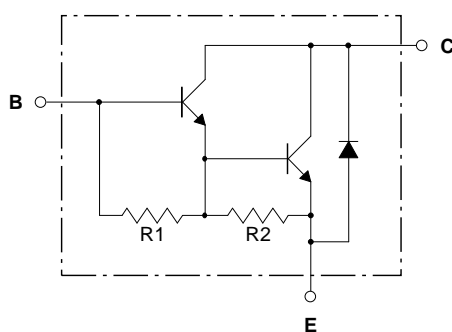
## ABSOLUTE MAXIMUM RATINGS ( $T_{case}=25^{\circ}\text{C}$ unless otherwise stated)

		BDX 67	BDX 67A	BDX 67B	BDX 67C	
$V_{CEO}$	Collector - emitter voltage (open base)	60	80	100	120	V
$V_{CBO}$	Collector - base voltage (open emitter)	80	100	120	140	V
$V_{EBO}$	Emitter - base voltage (open collector)	5	5	5	5	V
$I_C$	Collector current	16				A
$I_{CM}$	Collector current (peak)	20				A
$I_B$	Base current	250				mA
$P_{tot}$	Total power dissipation at $T_{mb}=25^{\circ}\text{C}$	150				W
$T_j$	Maximum junction temperature	200				$^{\circ}\text{C}$
$T_{stj}$	Storage junction temperature	-65 to +200				$^{\circ}\text{C}$
$R_{thjmb}$	Thermal resistance, junction to mounting base.	1.17				K/W

## ELECTRICAL CHARACTERISTICS ( $T_j = 25^\circ\text{C}$ , unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit.
$I_{CBO}$ Collector cut-off current	$I_E = 0$ , $V_{CB} = V_{CEOmax}$ $I_E = 0$ , $V_{CB} = \frac{1}{2}V_{CBOmax}$ , $T_j = 200^\circ\text{C}$			1 5	mA
$I_{CEO}$ Collector cut-off current	$I_B = 0$ , $V_{CE} = \frac{1}{2}V_{CEOmax}$			1	mA
$I_{EBO}$ Emitter cut-off current	$I_C = 0$ , $V_{EB} = 5\text{V}$			5	mA
$h_{FE}$ D.C. current gain (note 1)	$I_C = 1\text{A}$ , $V_{CE} = 3\text{V}$		5200		
	$I_C = 10\text{A}$ , $V_{CE} = 3\text{V}$	1000			
	$I_C = 16\text{A}$ , $V_{CE} = 3\text{V}$		4000		
$V_{BE}$ Base - emitter voltage (note 1)	$I_C = 10\text{A}$ , $V_{CE} = 3\text{V}$			2.5	V
<b><math>V_{CEsat}</math> Collector - emitter saturation voltage</b>	<b><math>I_C = 10\text{A}</math>, <math>I_B = 40\text{mA}</math></b>			2	V
$C_C$ Collector capacitance	$I_E = I_e = 0$ , $V_{CB} = 10\text{V}$ $f = 1\text{MHz}$		300		pF
$f_{hfe}$ Cut-off frequency	$I_C = 5\text{A}$ , $V_{CE} = 3\text{V}$		50		kHz
<b><math>E_{(BR)}</math> Turn-off breakdown energy with inductive load</b>	$-I_{Boff} = 0$ , $I_{CC} = 7.8\text{A}$ $t_p = 1\text{ms}$ , $\delta < 1\%$	150			mJ
$h_{fe}$ Small signal current gain	$I_C = 5\text{A}$ , $V_{CE} = 3\text{V}$ , $f = 1\text{MHz}$		20		V
$V_F$ Diode, forward voltage	$I_F = 10\text{A}$		2.5		

**Note 1:** Measured under pulse conditions ,  $t_p < 300\mu\text{s}$ ,  $\delta < 2\%$



**R1 typ. 3K $\Omega$**   
**R2 typ. 80 $\Omega$**

Circuit Diagram