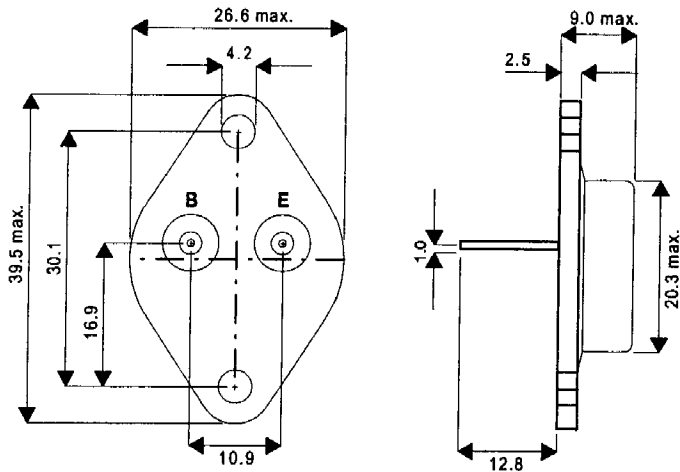


**MECHANICAL DATA**  
 Dimensions in mm



**TO3 Package.**  
 Case is collector.

**PNP  
 DARLINGTON  
 POWER  
 TRANSISTOR  
 BDX68  
 BDX68A  
 BDX68B  
 BDX68C**

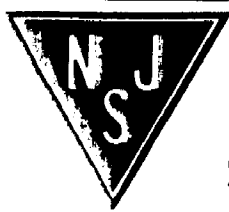
PNP Darlington transistors for audio output stages and general amplifier and switching applications.

NPN complements are:  
 BDX69, BDX69A, BDX69B, BDX69C.

**ABSOLUTE MAXIMUM RATINGS**

( $T_{case} = 25^{\circ}C$  unless otherwise stated)

	BDX 68	BDX 68A	BDX 68B	BDX 68C
$V_{CBO}$ Collector – Base Voltage (Open Emitter)	-60V	-80V	-100V	-120V
$V_{CEO}$ Collector – Emitter Voltage (Open Base)	-60V	-80V	-100V	-120V
$V_{EBO}$ Emitter – Base Voltage (Open Collector)	-5V	-5V	-5V	-5V
$I_C$ Collector Current	-25A			
$I_{CM}$ Collector Current (Peak)	-40A			
$I_B$ Base Current	-500mA			
$P_{tot}$ Total Power Dissipation at $T_{case} = 25^{\circ}C$	200W			
$T_J$ Maximum Junction Temperature	200°C			
$T_{STG}$ Storage Junction Temperature	-65 to 200°C			
$R_{\theta J-MB}$ Thermal Resistance, Junction to Mounting Base.	0.875°C / W			



**BDX68**  
**BDX68A**  
**BDX68B**  
**BDX68C**

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

Parameter	Test Conditions	Min.	Typ.	Max.	Units
$I_{CBO}$ Collector Cut-off Current	$I_E = 0$ $V_{CB} = V_{CBOmax}$			2	mA
	$I_E = 0$ $V_{CB} = \frac{1}{2}V_{CBOmax}$ $T_J = 200^\circ\text{C}$			10	
$I_{CEO}$ Collector Cut-off Current	$I_B = 0$ $V_{CE} = \frac{1}{2}V_{CEOmax}$			6	mA
$I_{EBO}$ Emitter Cut-off Current	$I_C = 0$ $V_{EB} = -5\text{V}$			10	mA
$h_{FE}^*$ D.C. Current Gain	$I_C = -5\text{A}$ $V_{CE} = -3\text{V}$		3000		—
	$I_C = -20\text{A}$ $V_{CE} = -3\text{V}$	1000			
	$I_C = -30\text{A}$ $V_{CE} = -3\text{V}$		1000		
$V_{BE}^*$ Base – Emitter Voltage	$I_C = -20\text{A}$ $V_{CE} = -3\text{V}$			2.5	V
$V_{CEsat}^*$ Collector - Emitter Saturation Voltage	$I_C = -20\text{A}$ $I_B = -80\text{mA}$			2	V
$C_c$ Collector Capacitance	$I_E = I_B = 0$ $V_{CB} = -10\text{V}$ $f = 1\text{MHz}$		600		pF
$f_{hfe}$ Cut-off Frequency	$I_C = -10\text{A}$ $V_{CE} = -3\text{V}$		60		kHz
$ h_{fe} $ Small Signal Current Gain	$I_C = -10\text{A}$ $V_{CE} = -3\text{V}$ $f = 1\text{MHz}$		20		—
$V_F$ Diode, Forward Voltage	$I_F = 20\text{A}$		2		V
$t_{on}$ Turn-on Time	$I_{Con} = -20\text{A}$		1		$\mu\text{s}$
$t_{off}$ Turn-off Time	$I_{Bon} = -I_{Boff} = -80\text{mA}$		3.5		

\* Pulse Test:  $t_p < 300\mu\text{s}$ ,  $\delta < 2\%$