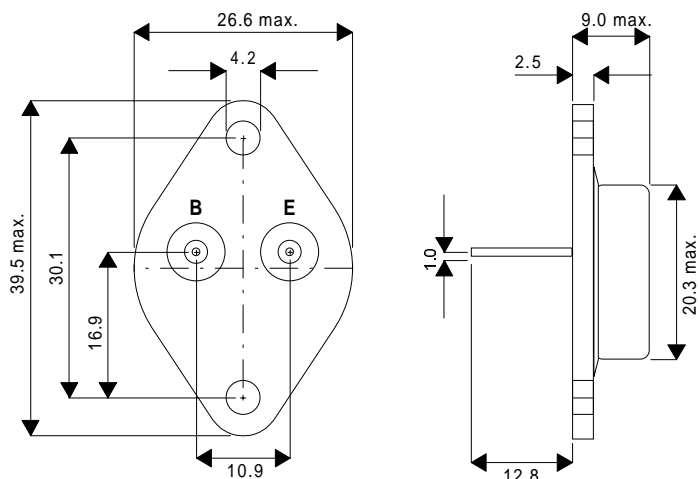


**MECHANICAL DATA**  
 Dimensions in mm

**NPN EPITAXIAL BASE  
 DARLINGTON POWER  
 TRANSISTOR**



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

**T03 Package.**  
 Case connected to collector.

**PNP complements are:  
 BDX62, BDX62A, BDX62B, BDX62C.**

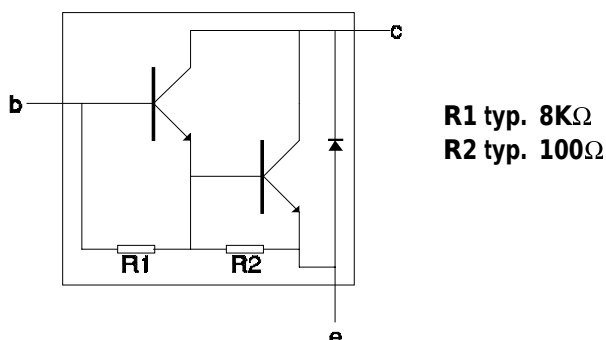
**ABSOLUTE MAXIMUM RATINGS** ( $T_{case}=25^{\circ}C$  unless otherwise stated)

		BDX 63	BDX 63A	BDX 63B	BDX 63C	
$V_{CEO}$	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	8				A
$I_{CM}$	Collector current (peak)	12				A
$I_B$	Base current	150				mA
$P_{tot}$	Total power dissipation at $T_{case} = 25^{\circ}C$	90				W
$T_j$	Maximum junction temperature	200				$^{\circ}C$
$T_{stj}$	Storage junction temperature	-65 to 200				$^{\circ}C$
$R_{th\ j-mb}$	Thermal resistance, junction to mounting base.	1.94				$^{\circ}C / W$

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit.
$I_{CBO}$ Collector cut-off current	$I_E = 0, V_{CB} = V_{CE0max}$ $I_E = 0, V_{CB} = \frac{1}{2}V_{CB0max}, T_j = 200^\circ\text{C}$			0.2 2	mA
$I_{CEO}$ Collector cut-off current	$I_B = 0, V_{CE} = \frac{1}{2}V_{CE0max}$			0.5	mA
$I_{EBO}$ Emitter cut-off current	$I_C = 0, V_{EB} = 5V$			5	mA
$h_{FE}$ D.C. current gain (note 1)	$I_C = 0.5A, V_{CE} = 3V$		2500		
	$I_C = 3A, V_{CE} = 3V$	1000			
	$I_C = 8A, V_{CE} = 3V$		2600		
$V_{BE}$ Base - emitter voltage (note 1)	$I_C = 3A, V_{CE} = 3V$			2.5	V
$V_{CEsat}$ Collector - emitter saturation voltage	$I_C = 3A, I_B = 12mA$			2	V
$C_c$ Collector capacitance	$I_E = I_e = 0, V_{CB} = 10V$		100		pF
$f_{hfe}$ Cut-off frequency	$I_C = 3A, V_{CE} = 3V$		100		kHz
$E_{(BR)}$ Turn-off breakdown energy with inductive load	$-I_{Boff} = 0, I_{Con} = 4.5 A$ $t_p = 1ms, T = 100ms$	50			mJ
$h_{FE1}/h_{FE2}$ D.C. current gain ratio of complementary matched pairs	$I_C = 3A, V_{CE} = 3V$			2.5	
$ h_{fe} $ Small signal current gain	$I_C = 3A, V_{CE} = 3V, f = 1MHz$		100		
$V_F$ Diode, forward voltage	$I_F = 3A$		1.2		V

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



Circuit diagram.