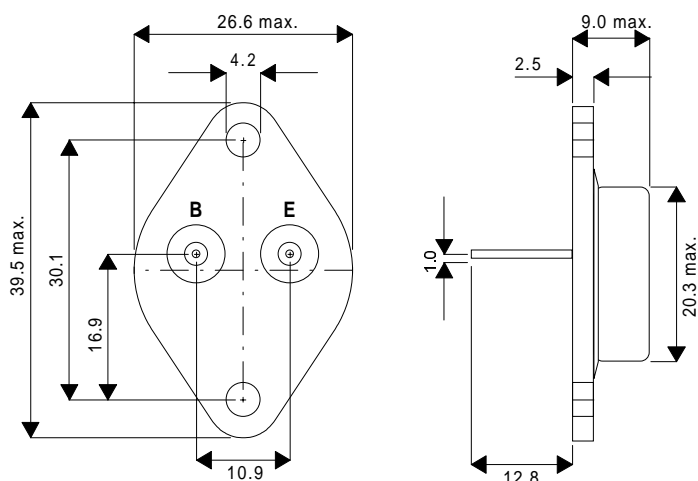


MECHANICAL DATA
 Dimensions in mm

**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.**

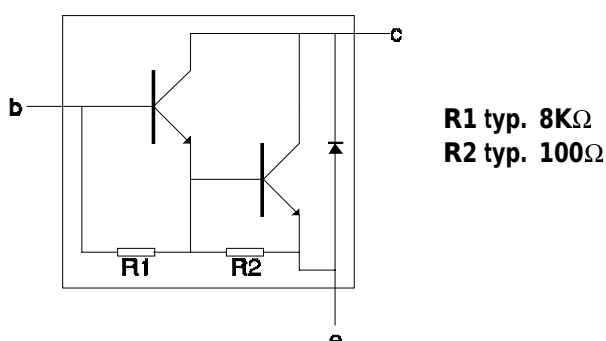
ABSOLUTE MAXIMUM RATINGS ($T_{case}=25^{\circ}C$ unless otherwise stated)

		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	$I_E = 0, V_{CB} = V_{CE0max}$ $I_E = 0, V_{CB} = \frac{1}{2}V_{CBOmax}, T_j = 200^\circ\text{C}$			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.



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