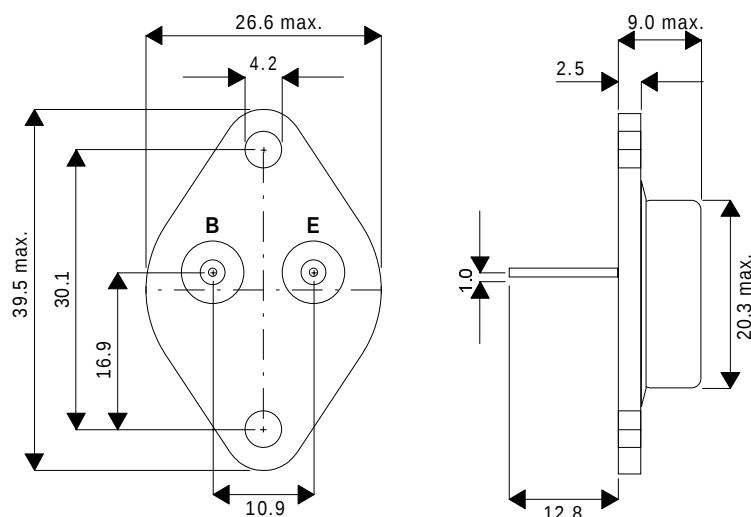


MECHANICAL DATA

Dimensions in mm



TO3 Package.

Case is collector.

PNP DARLINGTON POWER TRANSISTOR

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

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

ABSOLUTE MAXIMUM RATINGS

($T_{\text{case}} = 25^{\circ}\text{C}$ 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 $T_{\text{case}} = 25^{\circ}\text{C}$	200W			
T_{J}	Maximum Junction Temperature	200°C			
T_{STG}	Storage Junction Temperature	–65 to 200°C			
$R_{\theta\text{J-MB}}$	Thermal Resistance, Junction to Mounting Base.	0.875°C / W			

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	$I_C = 0$ $V_{EB} = -5V$			10	mA
h_{FE}^* D.C. Current Gain	$I_C = -5A$ $V_{CE} = -3V$		3000		—
	$I_C = -20A$ $V_{CE} = -3V$	1000			
	$I_C = -30A$ $V_{CE} = -3V$		1000		
V_{BE}^* Base – Emitter Voltage	$I_C = -20A$ $V_{CE} = -3V$			2.5	V
V_{CEsat}^* Collector - Emitter Saturation Voltage	$I_C = -20A$ $I_B = -80mA$			2	V
C_C Collector Capacitance	$I_E = I_e = 0$ $V_{CB} = -10V$ $f = 1MHz$		600		pF
f_{hfe} Cut-off Frequency	$I_C = -10A$ $V_{CE} = -3V$		60		kHz
$ h_{fe} $ Small Signal Current Gain	$I_C = -10A$ $V_{CE} = -3V$ $f = 1MHz$		20		—
V_F Diode, Forward Voltage	$I_F = 20A$		2		V
t_{on} Turn-on Time	$I_{Con} = -20A$		1		μs
t_{off} Turn-off Time	$I_{Bon} = -I_{Boff} = -80mA$		3.5		

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