PNP BDX34 – BDX34A – BDX34B – BDX34C

COMPLEMENTARY SILICON POWER DARLINGTON TRANSISTORS

The BDX34B, BDX34B and BDX34C are silicon epitaxial-base PNP power transistors in monolithic Darlington configuration and are mounted in Jedec TO-220 plastic package. They are intented for use in power linear and switching applications.
The complementary NPN types are the BDX33A, BDX33B and BDX33C respectively.
Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings			Value	Unit
V_{CEO}	Collector-Emitter Voltage	I_B=0	BDX34	-45	V
			BDX34A	-60	
			BDX34B	-80	
			BDX34C	-100	
V_{CBO}	Collector-Base Voltage	I_E=0	BDX34	-45	V
			BDX34A	-60	
			BDX34B	-80	
			BDX34C	-100	
I_C	Collector Current	$I_{C(RMS)}$		-10	A
		I_{CM}		-15	
I_B	Base Current			-0.25	A
P_T	Power Dissipation	@ T_C = 25°		70	W
T_J	Junction Temperature			-65 to +150	°C
T_S	Storage Temperature				

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-C}	Thermal Resistance, Junction to Case	1.78	°C/W

PNP BDX34 – BDX34A – BDX34B – BDX34C

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	Max	Unit
$V_{CEO(SUS)}$	Collector-Emitter Breakdown Voltage (*)	I_C=-100 mA	BDX34	-45	-	-	V
			BDX34A	-60	-	-	
			BDX34B	-80	-	-	
			BDX34C	-100	-	-	
$V_{CER(SUS)}$	Collector-Emitter Sustaining Voltage (*)	I_B=-100 mA R_{BE}=100Ω	BDX34	-45	-	-	V
			BDX34A	-60	-	-	
			BDX34B	-80	-	-	
			BDX34C	-100	-	-	
$V_{CEV(SUS)}$	Collector-Emitter Sustaining Voltage (*)	I_C=1-00 mA V_{BE}=-1.5 V	BDX34	-45	-	-	V
			BDX34A	-60	-	-	
			BDX34B	-80	-	-	
			BDX34C	-100	-	-	
I_{CEO}	Collector Cutoff Current	V_{CB}=-22V	BDX34	-	-	-0.5	mA
		V_{CB}=-30V	BDX34A	-	-		
		V_{CB}=-40V	BDX34B	-	-		
		V_{CB}=-50V	BDX34C	-	-		
		V_{CB}=-22V, T_C=100°C	BDX34	-	-	-10	
		V_{CB}=-30V, T_C=100°C	BDX34A	-	-		
		V_{CB}=-40V, T_C=100°C	BDX34B	-	-		
		V_{CB}=-50V, T_C=100°C	BDX34C	-	-		
I_{EBO}	Emitter Cutoff Current	V_{BE}=-5 V	BDX34	-	-	-5.0	mA
			BDX34A				
			BDX34B				
			BDX34C				
			BDX34				
			BDX34A				
			BDX34B				
			BDX34C				
I_{CBO}	Collector-Base Cutoff Current	V_{CBO}=-45 V	BDX34	-	-	-0.2	mA
		V_{CBO}=-60 V	BDX34A	-	-		
		V_{CBO}=-80 V	BDX34B	-	-		
		V_{CBO}=-100 V	BDX34C	-	-		

PNP BDX34 – BDX34A – BDX34B – BDX34C

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

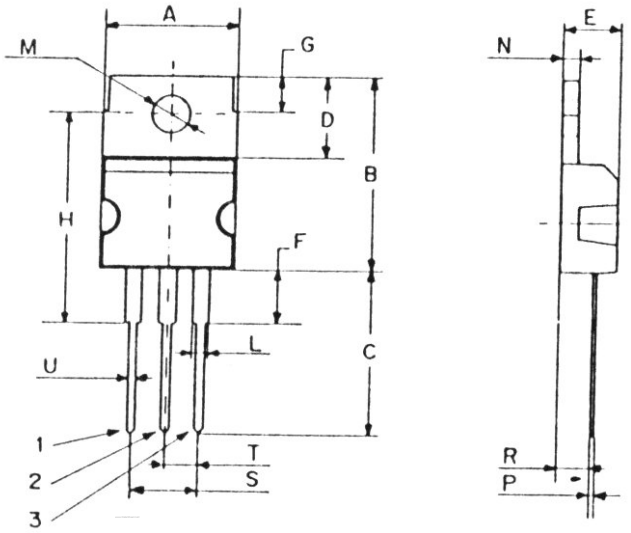
Symbol	Ratings	Test Condition(s)		Min	Typ	Max	Unit
I_{CBO}	Collector-Base Cutoff Current	V_{CBO}=-45 V T_C=100°C	BDX34	-	-	-5	mA
		V_{CBO}=-60 V T_C=100°C	BDX34A	-	-		
		V_{CBO}=-80 V T_C=100°C	BDX34B	-	-		
		V_{CBO}=-100 V T_C=100°C	BDX34C	-	-		
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C=-4.0 A, I_B=-8.0 mA	BDX34	-	-	-2.5	V
			BDX34A				
			BDX34B				
			BDX34C				
		I_C=-3.0 A, I_B=-6.0 mA	BDX34	-	-	-2.5	
			BDX34A				
			BDX34B				
			BDX34C				
V_F	Forward Voltage (pulse method)	I_F=-8 A	BDX34	-	-	4.0	V
			BDX34A				
			BDX34B				
			BDX34C				
V_{BE}	Base-Emitter Voltage (*)	I_C=-4.0 A, V_{CE}=-3.0V	BDX34	-	-	-2.5	V
			BDX34A				
		I_C=-3.0 A, V_{CE}=-3.0V	BDX34B	-	-	-2.5	
			BDX34C				
h_{FE}	DC Current Gain (*)	V_{CE}=-3.0 V, I_C=-4.0 A	BDX34	750	-	-	-
			BDX34A				
		V_{CE}=-3.0 V, I_C=-3.0 A	BDX34B	750	-	-	
			BDX34C				

(*) Pulse Width ≈ 300 μs, Duty Cycle ∠ 2.0%

PNP BDX34 – BDX34A – BDX34B – BDX34C

MECHANICAL DATA CASE TO-220

DIMENSIONS (mm)		
	Min.	Max.
A	9,90	10,30
B	15,65	15,90
C	13,20	13,40
D	6,45	6,65
E	4,30	4,50
F	2,70	3,15
G	2,60	3,00
H	15,75	17.15
L	1,15	1,40
M	3,50	3,70
N	-	1,37
P	0,46	0,55
R	2,50	2,70
S	4,98	5,08
T	2.49	2.54
U	0,70	0,90



Pin 1 :	Base
Pin 2 :	Collector
Pin 3 :	Emitter
Case :	Collector

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