BDX65 – A – B – C

NPN SILICON DARLINGTON POWER TRANSISTOR

The BDX65, BDX65A, BDX65 and BDX65C are mounted in TO-3 metal package.
High current power darlingtons designed for power amplification and switching applications.
The complementary PNP are BDX64, BDX64A, BDX64B, BDX64C.
Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings			Value	Unit
V_{CEO}	Collector-Emitter Voltage		BDX65	60	V
			BDX65A	80	
			BDX65B	100	
			BDX65C	120	
V_{CBO}	Collector-BaseVoltage		BDX65	80	V
			BDX65A	100	
			BDX65B	120	
			BDX65C	140	
V_{EBO}	Emitter-Base Voltage			5.0	V
I_C	Collector Current	$I_{C(RMS)}$		12	A
		I_{CM}		16	
I_B	Base Current			0.2	A
P_T	Power Dissipation	@ T_C = 25°		117	W
T_J	Junction Temperature			-55 to +200	°C
T_S	Storage Temperature				

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-C}	Thermal Resistance, Junction to Case	1.5	°C/W

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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=0.1 A I_B=0 L=25mH	BDX65	60	-	-	V
			BDX65A	80	-	-	
			BDX65B	100	-	-	
			BDX65C	120	-	-	
I_{CEO}	Collector Cutoff Current	V_{CE}=30 V	BDX65	-	-	1	mA
		V_{CE}=40 V	BDX65A	-	-		
		V_{CE}=50 V	BDX65B	-	-		
		V_{CE}=60 V	BDX65C	-	-		
I_{EBO}	Emitter Cutoff Current	V_{BE}=5 V	BDX65	-	-	5.0	mA
			BDX65A				
			BDX65B				
			BDX65C				
I_{CBO}	Collector-Base Cutoff Current	V_{CBO}=60 V	BDX65	-	-	0.4	-
		V_{CBO}=40 V T_{CASE}=200°C		-	-	3	
		V_{CBO}=50 V	BDX65A	-	-	0.4	
		V_{CBO}=80 V T_{CASE}=200°C		-	-	3	
		V_{CBO}=100 V	BDX65B	-	-	0.4	
		V_{CBO}=60 V T_{CASE}=200°C		-	-	3	
		V_{CBO}=120 V	BDX65C	-	-	0.4	
		V_{CBO}=70 V T_{CASE}=200°		-	-	3	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C=5.0 A I_B=20 mA	BDX65	-	-	2	V
			BDX65A				
			BDX65B				
			BDX65C				
V_F	Forward Voltage (pulse method)	I_F=3 A	BDX65	-	1.8	-	V
			BDX65A				
			BDX65B				
			BDX65C				
V_{BE}	Base-Emitter Voltage (*)	I_C=5.0 A V_{CE}=3V	BDX65	-	-	2.5	V
			BDX65A				
			BDX65B				
			BDX65C				

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Symbol	Ratings	Test Condition(s)		Min	Typ	Max	Unit
f_{hfe}	Cut-off frequency	V_{CE}=3 V I_C=5 A	BDX65 BDX65A BDX65B BDX65C	-	50	-	kHz
f_T	Transition Frequency	V_{CE}=3 V I_C=5 A f=1 MHz	BDX65 BDX65A BDX65B BDX65C	-	7	-	MHz
h_{FE}	D.C. current gain (*)	V_{CE}=3 V I_C=1 A	BDX65 BDX65A BDX65B BDX65C	-	3300	-	-
		V_{CE}=3 V I_C=5 A	BDX65 BDX65A BDX65B BDX65C	1000	-	-	
		V_{CE}=3 V I_C=10 A	BDX65 BDX65A BDX65B BDX65C	-	3700	-	

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

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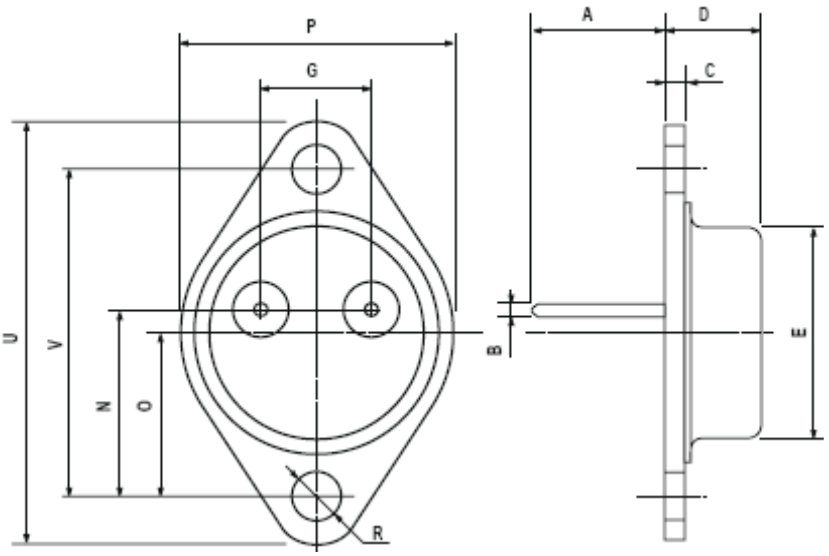
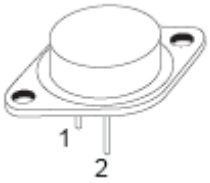
MECHANICAL DATA CASE TO-3

DIMENSIONS (mm)		
	min	max
A	11	13.10
B	0.97	1.15
C	1.5	1.65
D	8.32	8.92
F	19	20
G	10.70	11.1
N	16.50	17.20
P	25	26
R	4	4.09
U	38.50	39.30
V	30	30.30



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector



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