



BDX66 – A – B – C

PNP SILICON DARLINGTON POWER TRANSISTOR

The BDX66, BDX66A, BDX66B and BDX66C are mounted in TO-3 metal package.
 High current power darlington designed for power amplification and switching applications.
 The complementary NPN are BDX67, BDX67A, BDX67B, BDX67C.
 Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
$-V_{CEO}$	Collector-Emitter Voltage	BDX66	60	V
		BDX66A	80	
		BDX66B	100	
		BDX66C	120	
$-V_{CBO}$	Collector-Base Voltage	BDX66	60	V
		BDX66A	80	
		BDX66B	100	
		BDX66C	120	
$-V_{EBO}$	Emitter-Base Voltage		5.0	V
$-I_C$	Collector Current	$-I_{C(RMS)}$	16	A
		$-I_{CM}$	20	
$-I_B$	Base Current		0.25	A
P_T	Power Dissipation	@ $T_C = 25^\circ$	150	W
T_J	Junction Temperature		-55 to +200	$^\circ\text{C}$
T_S	Storage Temperature			

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-C}	Thermal Resistance, Junction to Case		1.17 $^\circ\text{C/W}$



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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 (*)	$-I_C=0.1\text{ A}$ $L=25\text{mH}$	BDX66	60	-	-	V
			BDX66A	80	-	-	
			BDX66B	100	-	-	
			BDX66C	120	-	-	
$-I_{CEO}$	Collector Cutoff Current	$-V_{CE}=30\text{ V}$ $-V_{CE}=40\text{ V}$ $-V_{CE}=50\text{ V}$ $-V_{CE}=60\text{ V}$	BDX66	-	-	3	mA
			BDX66A	-	-		
			BDX66B	-	-		
			BDX66C	-	-		
$-I_{EBO}$	Emitter Cutoff Current	$-V_{BE}=5\text{ V}$	BDX66	-	-	5.0	mA
			BDX66A				
			BDX66B				
			BDX66C				
$-I_{CBO}$	Collector-Base Cutoff Current	$-V_{CB}=60\text{ V}$	BDX66	-	-	1	mA
		$-V_{CB}=40\text{ V}$ $T_{CASE}=200^\circ\text{C}$		-	-	5	
		$-V_{CB}=80\text{ V}$	BDX66A	-	-	1	
		$-V_{CB}=50\text{ V}$ $T_{CASE}=200^\circ\text{C}$		-	-	5	
		$-V_{CB}=100\text{ V}$	BDX66B	-	-	1	
		$-V_{CB}=60\text{ V}$ $T_{CASE}=200^\circ\text{C}$		-	-	5	
		$-V_{CB}=120\text{ V}$	BDX66C	-	-	1	
		$-V_{CB}=70\text{ V}$ $T_{CASE}=200^\circ\text{C}$		-	-	5	
h_{FE}	DC Current Gain	$-V_{CE}=3\text{ V}$ $-I_C=1\text{ A}$	BDX66	-	2000	-	-
			BDX66A				
			BDX66B				
			BDX66C				
		$-V_{CE}=3\text{ V}$ $-I_C=10\text{ A}$	BDX66	1000	-	-	
			BDX66A				
			BDX66B				
			BDX66C				
		$-V_{CE}=3\text{ V}$ $-I_C=16\text{ A}$	BDX66	-	1000	-	
			BDX66A				
			BDX66B				
			BDX66C				

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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

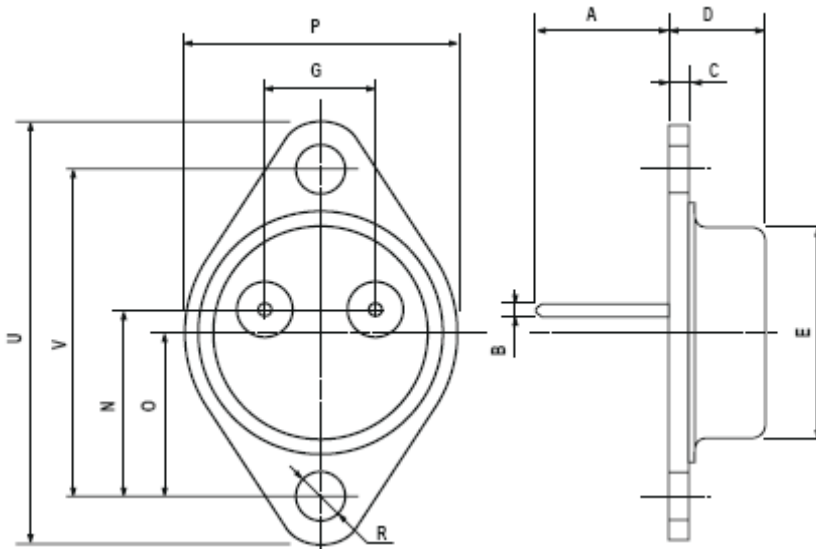
Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit	
$-V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	$-I_C=10\text{ A}$ $-I_B=40\text{ mA}$	BDX66	-	-	2	V
			BDX66A				
			BDX66B				
			BDX66C				
$-V_{BE}$	Base-Emitter Voltage(1&2)	$-V_{CE}=3\text{ V}$ $-I_C=10\text{ A}$	BDX66	-	-	2,5	V
			BDX66A				
			BDX66B				
			BDX66C				
V_F	Diode forward voltage	$I_F=10\text{ A}$	BDX66	-	2	-	V
			BDX66A				
			BDX66B				
			BDX66C				
C_{22b}		$I_E=0\text{ A}$, $-V_{CB}=-10\text{ V}$ $f=1\text{ MHz}$	-	300	-	pF	
t_{on}	Switching characteristics	$V_{CC}=12\text{ V}$, $-I_C=10\text{ A}$ $-I_{B1}=I_{B2}=40\text{ mA}$	-	1	-	μs	
t_{off}			-	3.5	-		
f_{hfe}		$-V_{CE}=3\text{ V}$, $-I_C=5\text{ A}$	BDX66	-	60	-	kHz
			BDX66A				
			BDX66B				
			BDX66C				

(*) Pulse Width $\approx 300\ \mu\text{s}$, Duty Cycle $\angle 2.0\%$

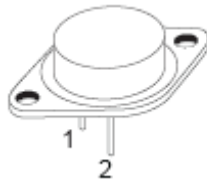
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MECHANICAL DATA CASE TO-3

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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