



## BDX 66, A, B, C

### PNP SILICON DARLINGTONS

High current power darlington designed for power amplification and switching applications.

#### 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		BDX66 BDX66A BDX66B BDX66C 5.0	V
$-I_C$	Collector Current	$-I_{C(RMS)}$	BDX66 BDX66A BDX66B BDX66C 16	A
		$-I_{CM}$	BDX66 BDX66A BDX66B BDX66C 20	
$-I_B$	Base Current		BDX66 BDX66A BDX66B BDX66C 0.25	A
$P_T$	Power Dissipation	@ $T_C = 25^\circ$	BDX66 BDX66A BDX66B BDX66C 150	Watts W/°C
$T_J$	Junction Temperature		BDX66 BDX66A BDX66B BDX66C -55 to +200	°C
$T_S$	Storage Temperature			

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## THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
$R_{thJ-C}$	Thermal Resistance, Junction to Case BDX66 BDX66A BDX66B BDX66C	1.17	°C/W

## ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	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	$-V_{CE}=30\text{ V}$	BDX66	-	-	3	mA
		$-V_{CE}=40\text{ V}$	BDX66A	-	-		
		$-V_{CE}=50\text{ V}$	BDX66B	-	-		
		$-V_{CE}=60\text{ V}$	BDX66C	-	-		

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Symbol	Ratings	Test Condition(s)	Min	Typ	M x	Unit
$-I_{EBO}$	Emitter Cutoff Current	$-V_{BE}=5\text{ V}$	-	-	5.0	mA
$-I_{CBO}$	Collector-Base Cutoff Current	$T_{CASE}=25^{\circ}\text{C}, -V_{CB}=60\text{ V}$	-	-	1	mA
			<b>BDX66</b>		5	
		$T_{CASE}=200^{\circ}\text{C}, -V_{CB}=40\text{ V}$	-	-	5	
			<b>BDX66A</b>		1	
		$T_{CASE}=25^{\circ}\text{C}, -V_{CB}=50\text{ V}$	-	-	1	
			<b>BDX66A</b>		5	
		$T_{CASE}=200^{\circ}\text{C}, -V_{CB}=80\text{ V}$	-	-	5	
			<b>BDX66A</b>		1	
	<b>BDX66B</b>		5			
	$T_{CASE}=25^{\circ}\text{C}, -V_{CB}=100\text{ V}$		-	-	1	
	<b>BDX66B</b>		5			
	$T_{CASE}=200^{\circ}\text{C}, -V_{CB}=60\text{ V}$		-	-	5	
	<b>BDX66B</b>		1			
	$T_{CASE}=25^{\circ}\text{C}, -V_{CB}=120\text{ V}$		-	-	1	
	<b>BDX66C</b>		5			
	$T_{CASE}=200^{\circ}\text{C}, -V_{CB}=70\text{ V}$		-	-	5	
$h_{FE}$	DC Current Gain	$-V_{CE}=3\text{ V}, -I_C=1\text{ A}$	-	2000	-	-
$h_{FE}$	DC Current Gain	$-V_{CE}=3\text{ V}, -I_C=10\text{ A}$	1000	-	-	
$h_{FE}$	DC Current Gain	$-V_{CE}=3\text{ V}, -I_C=16\text{ A}$	-	1000	-	
$-V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	$-I_C=10\text{ A}, -I_B=40\text{ mA}$	-	-	2	V
$-V_{BE}$	Base-Emitter Voltage(1&2)	$-V_{CE}=3\text{ V}, -I_C=10\text{ A}$	-	-	2,5	V
$V_F$	Diode forward voltage	$I_F=10\text{ A}$	-	2	-	V
$C_{22b}$		$I_E=0\text{ A}, -V_{CB}=-10\text{V}, f=1\text{ MHz}$	-	300	-	pF
$t_{on}$	Switching characteristics	$V_{CC}=12\text{V}, -I_C=10\text{ A}, -I_{B1}=I_{B2}=40\text{ mA}$	-	1	-	$\mu\text{s}$

$t_{off}$			BDX66B BDX66C	-	3.5	-	
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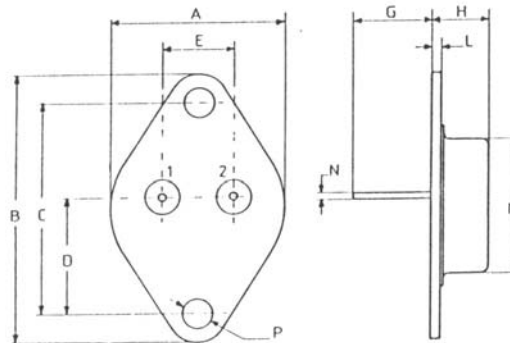
Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit
$f_{hfe}$		$-V_{CE}=3\text{ V}, -I_C=5\text{ A}$	-	60	-	kHz

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

(1) collector-Emitter voltage limited et  $V_{CEci} = V_{\text{rated}}$  by an auxiliary circuit

### MECHANICAL DATA CASE TO-3

DIMENSIONS		
	mm	inches
A	25,51	1,004
B	38,93	1,53
C	30,12	1,18
D	17,25	0,68
E	10,89	0,43
G	11,62	0,46
H	8,54	0,34
L	1,55	0,6
M	19,47	0,77
N	1	0,04
P	4,06	0,16



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector