

BDX18 – BDX18N

PNP SILICON TRANSISTOR EPITAXIAL BASE

LF Large Signal Power Amplification
 High Current Switching
 Thermal Fatigue Inspection
 Compliance to RoHS

Applications :

- Series and shunt regulators
- High Fidelity Amplifiers
- Power-switching circuits
- Solenoid drivers

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit	
V_{CEO}	Collector-Emitter Voltage		BDX18	-60	V
			BDX18N		
V_{CER}	Collector-Emitter Voltage	$R_{BE}=100\Omega$	BDX18	-70	V
			BDX18N	-65	
V_{EBO}	Collector-Emitter Voltage		BDX18	-7	V
			BDX18N		
V_{CBO}	Emitter-Base Voltage		BDX18	-100	V
			BDX18N	-70	
V_{CEX}	Collector-Emitter Voltage	$V_{BE}=+1.5\text{ V}$	BDX18	-90	V
			BDX18N	-70	
I_C	Collector Current		BDX18	-15	A
			BDX18N		
I_B	Base Current		BDX18	-7	A
			BDX18N		
P_T	Power Dissipation	@ $T_C = 25^\circ$	117	W	
T_J	Junction Temperature		-65 to +200	°C	
T_S	Storage Temperature				

BDX18 – BDX18N

THERMAL CHARACTERISTICS

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

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit	
$V_{CEO(SUS)}$	Collector-Emitter Breakdown Voltage (*)	$I_C=200\text{ mA}$	BDX18	-60	-	-	V
		$I_B=0$	BDX18N	-60	-	-	
$V_{CEX(SUS)}$	Collector-Emitter Breakdown Voltage (*)	$I_C=-100\text{ mA}$	BDX18	-90	-	-	V
		$V_{BE}=1.5\text{ V}$	BDX18N	-70	-	-	
$V_{CER(SUS)}$	Collector-Emitter Breakdown Voltage (*)	$I_C=-200\text{ mA}$	BDX18	-70	-	-	V
		$R_{BE}=100\ \Omega$	BDX18N	-65	-	-	
I_{CEX}	Collector-Emitter Cutoff Current	$V_{CE}=-90\text{ V}$ $V_{BE}=1.5\text{ V}$	BDX18	-	-	-5	mA
		$V_{CE}=-60\text{ V}, V_{BE}=1.5\text{ V}$ $T_{CASE}=150^\circ\text{C}$		-	-	-10	
		$V_{CE}=-70\text{ V}$ $V_{BE}=1.5\text{ V}$	BDX18N	-	-	-5	
		$V_{CE}=-60\text{ V}, V_{BE}=1.5\text{ V}$ $T_{CASE}=150^\circ\text{C}$		-	-	-10	
I_{EBO}	Emitter-Base Cutoff Current	$V_{EB}=-7\text{ V}$	BDX18	-	-	-5	mA
			BDX18N	-	-	-5	
V_{BE}	Base-Emitter Voltage (*)	$I_C=-4.0\text{ A}, V_{CE}=-4.0\text{ V}$	BDX18	-	-	-1.8	V
			BDX18N	-	-	-1.8	
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage	$I_C=-4.0\text{ A}, I_B=-0.4\text{ V}$	BDX18	-	-	-1.1	V
			BDX18N	-	-	-1.1	
f_T	Transition Frequency	$I_C=-1\text{ A}, V_{CE}=-10\text{ V}$ $f=1\text{ MHz}$	BDX18	-	4	-	MHz
			BDX18N	-	4	-	
h_{21E}	Static Forward Current Transfer Ratio (*)	$V_{CE}=-4.0\text{ V}, I_C=-4.0\text{ A}$	BDX18	20	-	70	-
			BDX18N	20	-	70	

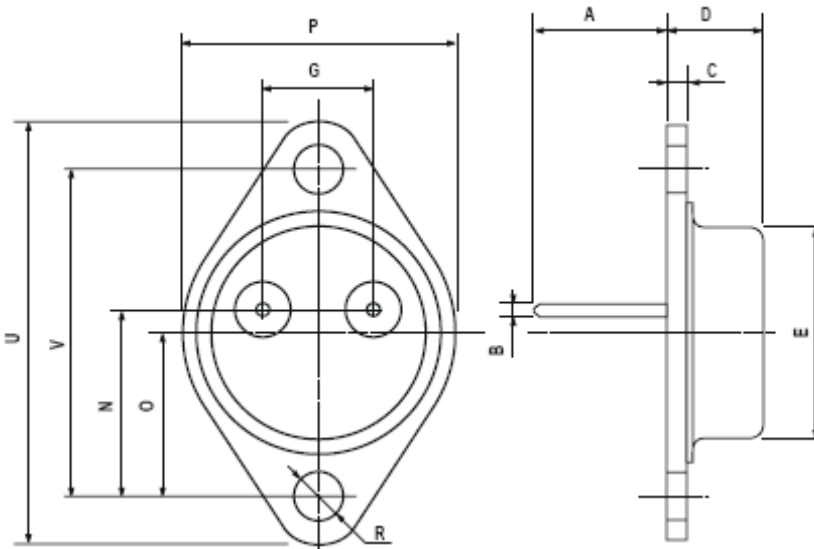
(*) Pulse Width $\approx 300\ \mu\text{s}$, Duty Cycle $\angle 2.0\%$

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

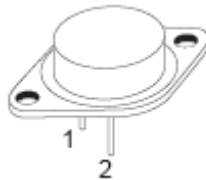
BDX18 – BDX18N

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



Revised August 2012

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