



## PNP BDX20

### SILICON TRANSISTORS EPITAXIAL BASE

The BDX20 are mounted in TO-3 metal package.  
 LF Large Signal Power Amplification  
 High Current Fast Switching  
 Thermal Fatigue Inspection  
 Compliance to RoHS.

#### ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings	Value	Unit
$V_{CBO}$	Collector to Base Voltage	-60	V
$V_{CEO}$	Collector-Emitter Voltage	-140	V
$V_{CEX}$	Collector-Emitter Voltage	$V_{BE}=1.5\text{ V}$	V
$V_{EBO}$	Emitter-Base Voltage	-7	V
$I_C$	Collector Current – Continuous	-10	A
$I_B$	Base Current – Continuous	-7	A
$P_{TOT}$	Total Device Dissipation	117	W
$T_J$	Junction Temperature	200	°C
$T_s$	Storage Temperature	-65 to +200	°C

#### THERMAL CHARACTERISTICS

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

## PNP BDX20

### ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage (*)	$I_C=-200\text{ mA}, I_B=0$	-140	-	-	V
$V_{CEX}$	Collector-Emitter Breakdown Voltage (*)	$I_C=-100\text{ mA}, V_{BE}=1.5\text{ V}$	-160	-	-	V
$I_{CEX}$	Collector Cutoff Current	$V_{CE}=-140\text{ V}, V_{BE}=1.5\text{ V}$	-	-	-1.0	mA
		$V_{CE}=-140\text{ V}, V_{BE}=1.5\text{ V}$ $T_{CASE}=150^\circ\text{C}$	-	-	-10	
$I_{CBO}$	Collector-Base Cutoff Current	$V_{CB}=-140\text{ V}, I_E=0$	-	-	-1.0	mA
$I_{EBO}$	Emitter-Base Cutoff Current	$V_{BE}=-7.0\text{ V}, I_C=0$	-	-	-5.0	mA
$h_{21E}$	Static Forward Current Transfer Ratio (*)	$I_C=-3\text{ A}, V_{CE}=-4\text{ V}$	20	-	70	-
		$I_C=10\text{ A}, V_{CE}=-4\text{ V}$	-	10	-	
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage (*)	$I_C=-3\text{ A}, I_B=-0.3\text{ A}$	-	-	-1.0	V
		$I_C=-10\text{ A}, I_B=-2\text{ A}$	-	-	-5.0	
$V_{BE}$	Base-Emitter Voltage (*)	$I_C=-3\text{ A}, V_{CE}=-4\text{ V}$	-	-1.7	-	V
		$I_C=-10\text{ A}, V_{CE}=-4\text{ V}$	-	-5.7	-	
$f_T$	Transition Frequency	$V_{CE}=-10\text{ V}, I_C=-1\text{ A}$ $f=1.0\text{ MHz}$	4	-	-	MHz

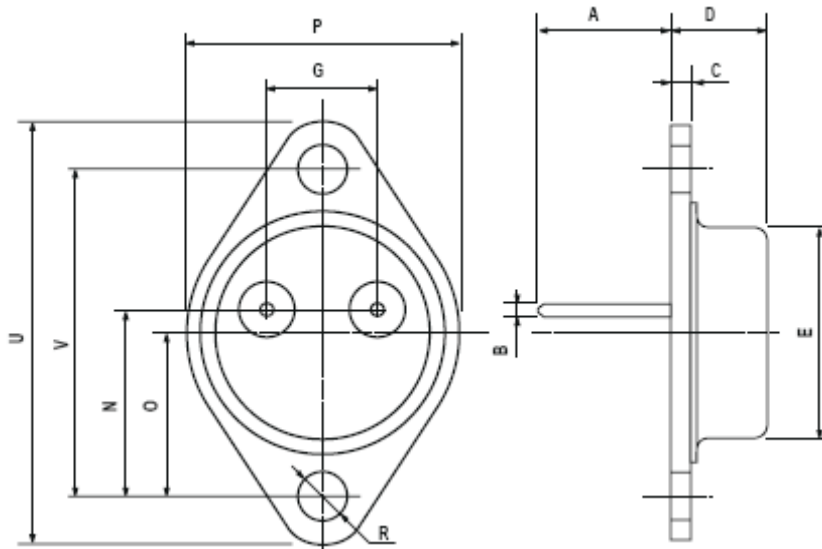
In accordance with JEDEC Registration Data

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

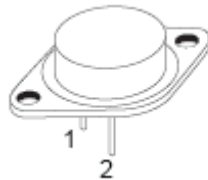
## PNP BDX20

### 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 October 2012

Information furnished is believed to be accurate and reliable. However, Comset Semiconductors assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. Data are subject to change without notice. Comset Semiconductors makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Comset Semiconductors assume any liability arising out of the application or use of any product and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Comset Semiconductors' products are not authorized for use as critical components in life support devices or systems.