



## NPN BDX35 – BDX36 – BDX37

### SILICON PLANAR EPITAXIAL POWER TRANSISTORS

The BDX35, BDX36 and BDX37 are NPN transistors mounted in Jedec TO-126 plastic package. They are intended for use in high current switching applications and switching regulator circuits. Compliance to RoHS.

#### ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
$V_{CEO}$	Collector-Emitter Voltage	BDX35	60	V
		BDX36	60	
		BDX37	80	
$V_{CBO}$	Collector-Base Voltage	BDX35	100	V
		BDX36	120	
		BDX37	120	
$V_{CES}$	Collector-Emitter Voltage ( $V_{BE}=0$ )	BDX35	100	V
		BDX36	120	
		BDX37	120	
$V_{EBO}$	Emitter-Base Voltage		5	V
$I_C$	Collector Current	$I_C$	5	A
		$I_{CM}$	10	
$I_B$	Base current	$I_B$	1	A
		$I_{BM}$	2	
$P_T$	Power Dissipation	@ $T_{mb} = 75^\circ$	15	W
$T_J$	Junction Temperature		150	$^\circ\text{C}$
$T_{Stg}$	Storage Temperature		-65 to +150	$^\circ\text{C}$

#### THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
$R_{thJ-mb}$	Thermal Resistance, Junction to mounting base	5	K/W
$R_{thJ-a}$	Thermal Resistance, Junction to ambient in free air	100	K/W

## NPN BDX35 – BDX36 – BDX37

### ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit	
<b>I<sub>CB0</sub></b>	Collector cut-off current	I <sub>E</sub> =0, V <sub>CB</sub> =80 V	BDX35	-	-	10	μA
		I <sub>E</sub> =0, V <sub>CB</sub> =100 V	BDX36	-	-	10	
		I <sub>E</sub> =0, V <sub>CB</sub> =100 V	BDX37	-	-	10	
		I <sub>E</sub> =0, V <sub>CB</sub> =80 V T <sub>j</sub> = 100°C	BDX35	-	-	50	
		I <sub>E</sub> =0, V <sub>CB</sub> =100 V T <sub>j</sub> = 100°C	BDX36	-	-	50	
		I <sub>E</sub> =0, V <sub>CB</sub> =100 V T <sub>j</sub> = 100°C	BDX37	-	-	50	
<b>I<sub>EBO</sub></b>	Emitter cut-off current	I <sub>C</sub> =0, V <sub>EB</sub> =4 V	BDX35	-	-	10	μA
			BDX36	-	-	10	
			BDX37	-	-	10	
		I <sub>C</sub> =0, V <sub>EB</sub> =5 V	BDX35	-	-	1	mA
			BDX36	-	-	1	
			BDX37	-	-	1	
<b>V<sub>CE(SAT)</sub></b>	Collector-Emitter saturation Voltage (*)	I <sub>C</sub> =5.0 A I <sub>B</sub> =500 mA	BDX35	-	-	0,9	V
			BDX36	-	-	0,7	
			BDX37	-	-	0,9	
		I <sub>C</sub> =7.0 A I <sub>B</sub> =700 mA	BDX35	-	-	1,2	
			BDX36	-	-	-	
			BDX37	-	-	1,2	
I <sub>C</sub> =10 A, I <sub>B</sub> =1A	BDX36	-	-	1,5			
<b>V<sub>BE(SAT)</sub></b>	Base-Emitter saturation Voltage (*)	I <sub>C</sub> =5.0 A, I <sub>B</sub> =500 mA	BDX35	-	-	1,6	V
			BDX36	-	-		
			BDX37	-	-		
		I <sub>C</sub> =7.0 A, I <sub>B</sub> =700 mA	BDX35	-	-	2,0	
			BDX37	-	-	2,0	
			BDX36	-	-	2,5	
<b>h<sub>FE</sub></b>	DC Current Gain (*)	V <sub>CE</sub> =10 V I <sub>C</sub> =500m A	BDX35	45	-	450	
			BDX36				
			BDX37				
			BDX35	130	-		
			BDX36				
			BDX37			-	

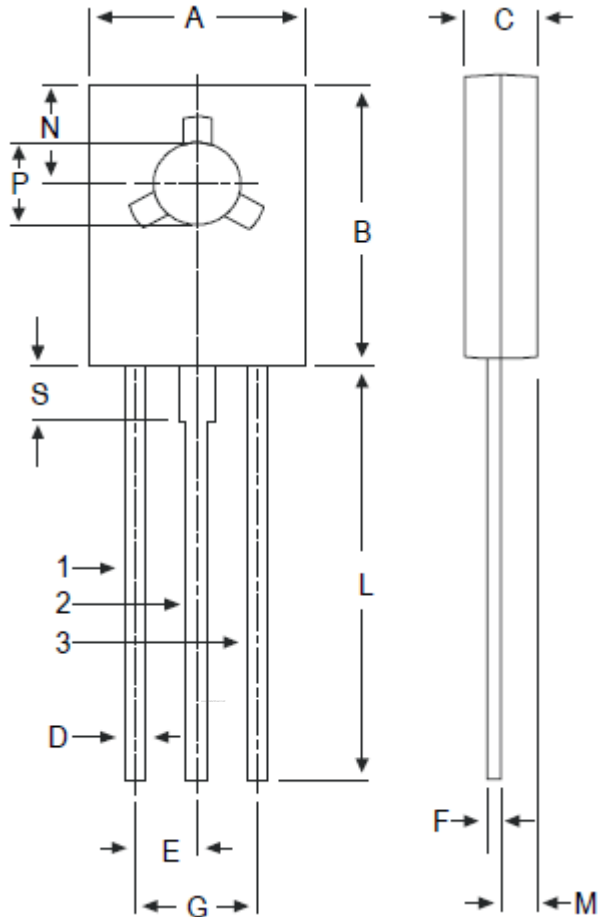


## NPN BDX35 – BDX36 – BDX37

### MECHANICAL DATA CASE TO-126

	DIMENSIONS	
	min	max
A	7.4	7.8
B	10.5	10.8
C	2.4	2.7
D	0.7	0.9
E	2.25 typ.	
F	0.49	0.75
G	4.4 typ.	
L	15.7 typ.	
M	1.27 typ.	
N	3.75 typ.	
P	3.0	3.2
S	2.54 typ.	

Pin 1 :	Emitter
Pin 2 :	Collector
Pin 3 :	Base



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