

**NPN BDX35 – BDX36 – BDX37**

**SILICON PLANAR EPITAXIAL POWER TRANSISTORS**

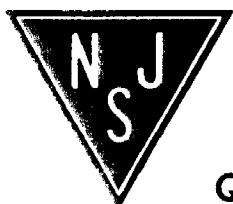
The BDX35, BDX36 and BDX37 are NPN transistors mounted in Jedec TO-126 plastic package. They are intended for use in high current switching applications and switching regulator circuits

**ABSOLUTE MAXIMUM RATINGS**

Symbol	Ratings	Value	Unit
$V_{CEO}$	Collector-Emitter Voltage	BDX35	60
		BDX36	60
		BDX37	80
$V_{CBO}$	Collector-Base Voltage	BDX35	100
		BDX36	120
		BDX37	120
$V_{CES}$	Collector-Emitter Voltage ( $V_{BE}=0$ )	BDX35	100
		BDX36	120
		BDX37	120
$V_{EBO}$	Emitter-Base Voltage	BDX35	5
		BDX36	
		BDX37	

Symbol	Ratings	Value	Unit	
$I_C$	Collector Current	$I_{C(RMS)}$	BDX35	5
			BDX36	
		$I_{CM}$	BDX35	10
			BDX36	
$I_B$	Base current	$I_B$	BDX35	1
			BDX36	
		$I_{BM}$	BDX35	2
			BDX36	
$P_T$	Power Dissipation	@ $T_{mb} = 75^\circ$	BDX35	15
			BDX36	
			BDX37	
$T_J$	Junction Temperature	BDX35	150	
		BDX36		
		BDX37		
$T_{Stg}$	Storage Temperature	BDX35	-65 to +150	
		BDX36		
		BDX37		

NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.



# NPN BDX35 – BDX36 – BDX37

## THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
$R_{thJ-mb}$	Thermal Resistance, Junction to mounting base	BDX35 BDX36 BDX37	5 KW
$R_{thJ-a}$	Thermal Resistance, Junction to ambient in free air	BDX35 BDX36 BDX37	100 KW

## ELECTRICAL CHARACTERISTICS

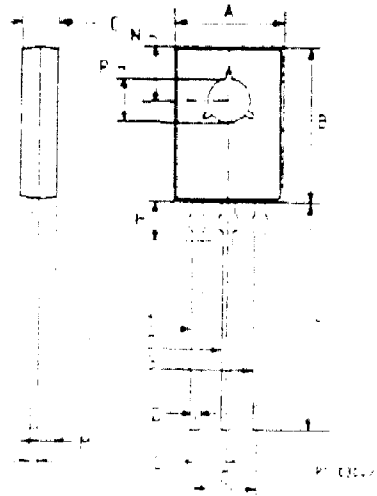
TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit	
$I_{CBO}$	Collector cut-off current	$I_E=0, V_{CB}=80\text{ V}$	BDX35	-	-	10	$\mu\text{A}$
		$I_E=0, V_{CB}=100\text{ V}$	BDX36	-	-	10	
		$I_E=0, V_{CB}=100\text{ V}$	BDX37	-	-	10	
		$I_E=0, V_{CB}=80\text{ V}, T_J = 100^\circ\text{C}$	BDX35	-	-	50	
		$I_E=0, V_{CB}=100\text{ V}, T_J = 100^\circ\text{C}$	BDX36	-	-	50	
		$I_E=0, V_{CB}=100\text{ V}, T_J = 100^\circ\text{C}$	BDX37	-	-	50	
$I_{EBO}$	Emitter cut-off current	$I_C=0, V_{EB}=4\text{ V}$	BDX35	-	-	10	$\mu\text{A}$
			BDX36	-	-	10	
			BDX37	-	-	10	
		$I_C=0, V_{EB}=5\text{ V}$	BDX35	-	-	1	mA
			BDX36	-	-	1	
			BDX37	-	-	1	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	$I_C=5.0\text{ A}, I_B=500\text{ mA}$	BDX35	-	-	0,9	V
			BDX36	-	-	0,7	
			BDX37	-	-	0,9	
		$I_C=7.0\text{ A}, I_B=700\text{ mA}$	BDX35	-	-	1,2	
			BDX36	-	-	-	
			BDX37	-	-	1,2	
$I_C=10\text{ A}, I_B=1\text{ A}$	BDX36	-	-	1,5			
$V_{BE(SAT)}$	Base-Emitter saturation Voltage (*)	$I_C=5.0\text{ A}, I_B=500\text{ mA}$	BDX35	-	-	1,6	V
			BDX36	-	-	-	
			BDX37	-	-	-	
		$I_C=7.0\text{ A}, I_B=700\text{ mA}$	BDX35	-	-	2,0	
			BDX36	-	-	-	
			BDX37	-	-	2,0	
$I_C=10\text{ A}, I_B=1\text{ A}$	BDX36	-	-	2,5			
$h_{FE}$	DC Current Gain (*)	$V_{CE}=10\text{ V}, I_C=500\text{ mA}$	BDX35	45	-	450	
			BDX36				
			BDX37				
			BDX35	130	-		
			BDX36				
			BDX37				
		-	80				

# NPN BDX35 – BDX36 – BDX37

## MECHANICAL DATA CASE TO-126

	DIMENSIONS			
	mm		inches	
	min	max	min	max
A	7.4	7.8	0.295	0.307
B	10.5	10.8	0.413	0.425
C	2.4	2.7	0.094	0.106
D	0.7	0.9	0.027	0.035
E	2.2 typ.		0.087 typ.	
F	0.49	0.75	0.019	0.029
G	4.4 typ.		0.173 typ.	
H	2.54 typ.		0.100 typ.	
L	15.7 typ.		0.618 typ.	
M	1.2 typ.		0.047 typ.	
N	3.8 typ.		0.149 typ.	
P	3.0	3.2	0.118	0.126



Pin 1 :	Emitter
Pin 2 :	Collector
Case :	Base