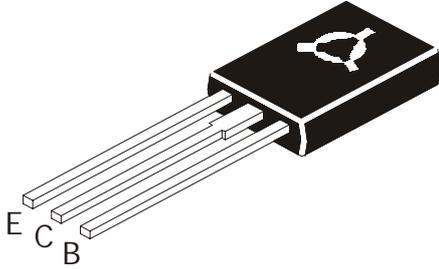


**NPN PLASTIC POWER TRANSISTORS**  
**PNP PLASTIC POWER TRANSISTORS**

**BD 233, 235, 237**  
**BD 234, 236, 238**

**TO126**  
**Plastic Package**



**Medium Power Liner and Switching Applications**

**ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless specified otherwise)**

DESCRIPTION	SYMBOL	BD233	BD235	BD237	UNITS
		BD234	BD236	BD238	
Collector Base Voltage(open emitter)	$V_{CBO}$	>45	>60	>100	V
Collector Emitter Voltage (open base)	$V_{CEO}$	>45	>60	>80	V
Collector-Emitter Voltage ( $R_{BE} = 1K\Omega$ )	$V_{CER}$	<45	<60	<100	V
Emitter Base Voltage(open collector)	$V_{EBO}$		>5.0		V
Collector Current	$I_C$		<2.0		A
Collector current (Peak Value)	$I_{CM}$		<6.0		A
Total Power Dissipation@ Tc=25°C	$P_{tot}$		<25		W
Junction Temperature	$T_j$		<150		°C
Storage Temperature	$T_{stg}$		-65 to +150		°C
<b>THERMAL RESISTANCE</b>					
From Junction to case	$R_{th(j-c)}$		5.0		°C/W

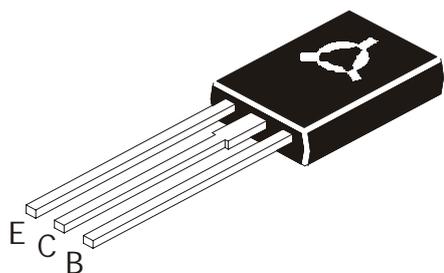
**ELECTRICAL CHARACTERISTICS (Ta=25° C unless specified otherwise)**

DESCRIPTION	SYMBOL	BD233	BD235	BD237	UNITS
		BD234	BD236	BD238	
Collector-Cut off Current	$I_{CBO}$ $V_{CB} = 45V, I_E = 0$	<100			$\mu A$
	$I_{CBO}$ $V_{CB} = 60V, I_E = 0$		<100		$\mu A$
	$I_{CBO}$ $V_{CB} = 100V, I_E = 0$			<100	$\mu A$
	$I_{CBO}$ $V_{CB} = 45V, I_E = 0,$ $T_C = 150^\circ C$	<2.0			mA
	$I_{CBO}$ $V_{CB} = 60V, I_E = 0,$ $T_C = 150^\circ C$		<2.0		mA
	$I_{CBO}$ $V_{CB} = 100V, I_E = 0,$ $T_C = 150^\circ C$			<2.0	mA
Emitter cut off Current	$I_{EBO}$ $V_{EB} = 5V, I_C = 0$		<1.0		mA
Breakdown Voltages	$V_{CEO(sus)}$ $I_C = 0.1A, I_B = 0$	>45	>60	>80	V
	$V_{CBO}$ $I_C = 1mA, I_E = 0$	>45	>60	>100	V
	$V_{EBO}$ $I_C = 0, I_E = 1mA$		>5.0		V

**NPN PLASTIC POWER TRANSISTORS  
PNP PLASTIC POWER TRANSISTORS**

**BD 233, 235, 237  
BD 234, 236, 238**

**TO126  
Plastic Package**



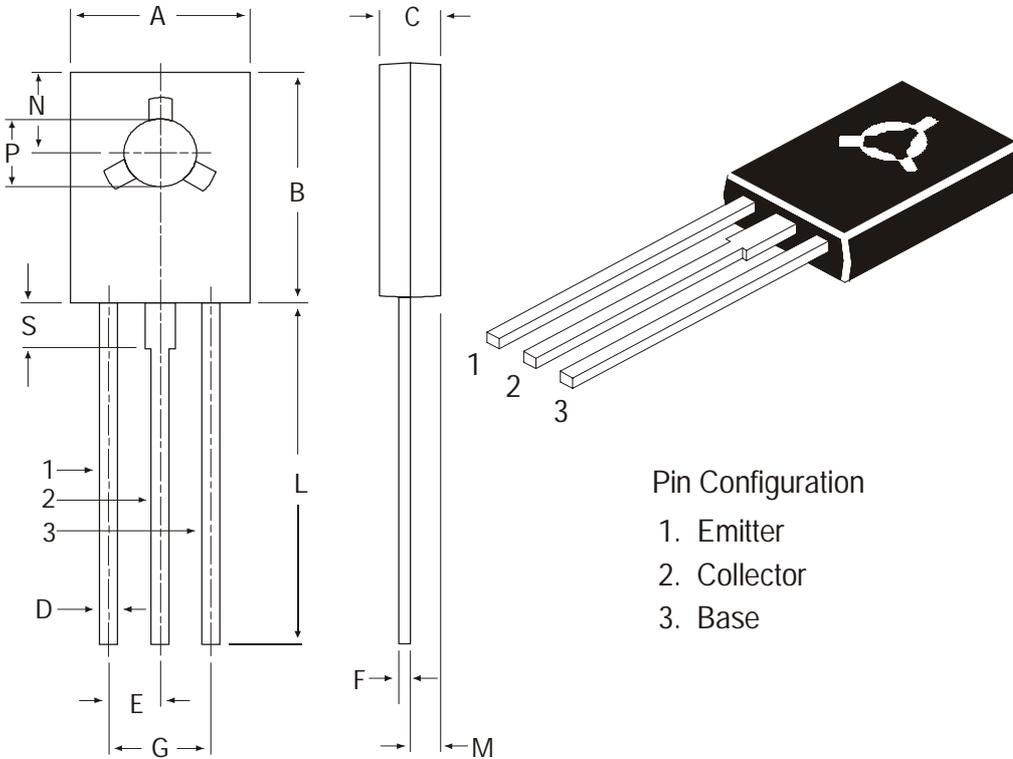
DESCRIPTION	SYMBOL	BD233	BD235	BD237	UNITS
		BD234	BD236	BD238	
<b>Saturation Voltage</b>	$V_{CE(sat)}^*$	$I_C=1A, I_B=0.1A$		<0.6	V
<b>Base Emitter On Voltage</b>	$V_{BE(on)}^*$	$I_C=1A, V_{CE}=2V$		<1.3	V
<b>DC Current Gain</b>	$h_{FE}^*$	$I_C=150mA, V_{CE}=2V$		>40	
	$h_{FE}^*$	$I_C=1A, V_{CE}=2V$		>25	
<b>Transition Frequency</b>	$f_T$	$I_C=250mA, V_{CE}=10V$		>3.0	MHz

**Pulse test: Pulse Duration =300 $\mu$ s ; Duty cycle  $\leq$  1.5%.**

**BD 233, 235, 237**  
**BD 234, 236, 238**

**TO126**  
**Plastic Package**

**TO-126 (SOT-32) Plastic Package**



**Pin Configuration**

- 1. Emitter
- 2. Collector
- 3. Base

DIM	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	4.5 TYP.	
L	15.7 TYP.	
M	1.27 TYP.	
N	3.75 TYP.	
P	3.0	3.2
S	2.5 TYP.	

All dimensions in mm.

**Packing Detail**

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-126 Bulk	500 pcs/polybag	340 gm/500 pcs	3" x 7.5" x 7.5"	2K	17" x 15" x 13.5"	32K	31 kgs
TO-126 Tube	50 pcs/tube	73 gm/50 pcs	3" x 3.7" x 21.5"	1K	19" x 19" x 19"	10K	15 kgs

### **Disclaimer**

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