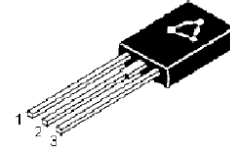


# NPN Transistor TO-126

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**Pin Configuration:**

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

**Feature:**

- NPN Plastic Power Transistors
- Medium Power Linear and Switching Applications

**Absolute Maximum Ratings**

Description	Symbol	-	BD135	Unit		
Collector-Base Voltage (Open Emitter)	$V_{CBO}$	Max.	45	V		
Collector Emitter Voltage (Open Base)	$V_{CEO}$					
Collector Current	$I_C$				1.5	A
Total Power Dissipation upto $T_C = 25^\circ\text{C}$	$P_{tot}$				12.5	W
Junction Temperature	$T_j$				150	$^\circ\text{C}$
Collector-Emitter Saturation Voltage $I_C = 0.5\text{A}, I_B = 0.05\text{A}$	$V_{CE(Sat)}$				0.5	V
DC Current Gain $I_C = 0.15\text{A}; V_{CE} = 2\text{V}$	$h_{FE}$	Min. Max.	40 250	-		

**Ratings (at  $T_a = 25^\circ\text{C}$  unless otherwise specified)**

Description	Symbol	-	BD135	Unit	
Collector-Base Voltage (Open Emitter)	$V_{CBO}$	Max.	45	V	
Collector Emitter Voltage (Open Base)	$V_{CEO}$				
Emitter-Base Voltage (Open Collector)	$V_{EBO}$				5
Collector Current	$I_C$			1.5	A
Base Current	$I_B$			0.5	
Total Power Dissipation up to $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_{tot}$				1.25 10

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# NPN Transistor

## TO-126

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### Ratings (at $T_a = 25^\circ\text{C}$ unless otherwise specified)

Description	Symbol	-	BD135	Unit
Total Power Dissipation up to $T_C = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_{\text{tot}}$	Max.	12.5 100	W mW/ $^\circ\text{C}$
Junction Temperature	$T_j$		150	$^\circ\text{C}$
Storage Temperature	$T_{\text{stg}}$	-	-65 to +150	

### Thermal Resistance

From Junction to Case	$R_{\text{th(j-c)}}$	-	10	$^\circ\text{C/W}$
From Junction to Ambient	$R_{\text{th(j-a)}}$	-	100	

### Characteristics ( $T_{\text{amb}} = 25^\circ\text{C}$ unless otherwise specified)

Description	Symbol	-	BD135	Unit
Collector Cut off Current $I_E = 0; V_{CB} = 30\text{V}$ $I_E = 0; V_{CB} = 30\text{V}; T_C = 125^\circ\text{C}$	$I_{\text{CBO}}$	Max.	0.1 10	$\mu\text{A}$
Emitter Cut off Current $I_C = 0; V_{EB} = 5\text{V}$	$I_{\text{EBO}}$		10	
Breakdown Voltages $I_C = 0.03\text{A}; I_B = 0$ $I_C = 1\text{mA}; I_E = 0$ $I_E = 1\text{mA}; I_C = 0$	$V_{\text{CEO(sus)}}^*$ $V_{\text{CBO}}$ $V_{\text{EBO}}$	Min.	45 45 5	V
Saturation Voltage $I_C = 0.5\text{A}; I_B = 0.05\text{A}$	$V_{\text{CE(sat)}}^*$	Max.	0.5	
Base-Emitter On Voltage $I_C = 0.5\text{A}; V_{\text{CE}} = 2\text{V}$	$V_{\text{BE(on)}}^*$		1	
DC Current Gain $I_C = 0.15\text{A}; V_{\text{CE}} = 2\text{V}^*$ $I_C = 0.15\text{A}; V_{\text{CE}} = 2\text{V}^{**}$ $I_C = 0.15\text{A}; V_{\text{CE}} = 2\text{V}^*$	$h_{\text{FE}}^*$	Min. Min. Max. Min.	25 40 250 25	-

### \*\* hFE Classification:

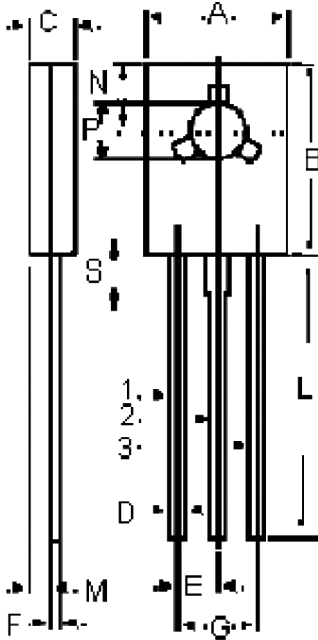
-6	Min.	40
	Max.	100
-10	Min.	63
	Max.	160
-16	Min.	100
	Max.	250
-25	Min.	160
	Max.	400

\* Pulse Test: Pulse Width =  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

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# NPN Transistor 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 (Typical)	
F	0.49	0.75
G	4.5 (Typical)	
L	15.7 (Typical)	
M	1.27 (Typical)	
N	3.75 (Typical)	
P	3	3.2
S	2.5 (Typical)	

Dimensions : Millimetres

### Pin Configuration:

1. Emitter
2. Collector
3. Base

### Part Number Table

Description	Part Number
Transistor, NPN, TO-126	BD135

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