

# BD180

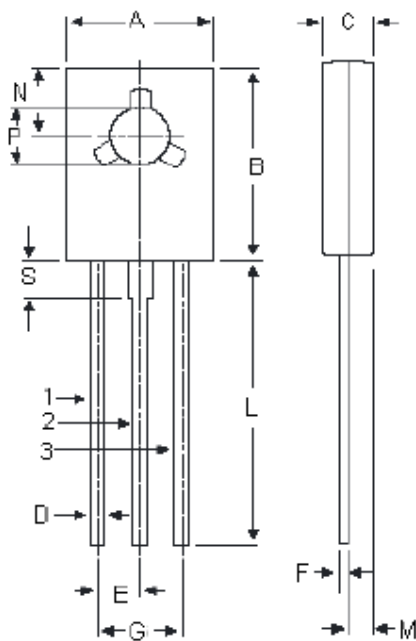
## Medium Power Transistors



### Features:

- Epitaxial Silicon Power Transistors.
- Intended for use in Medium Power Linear Switching Applications.

### TO-18 Plastic Package

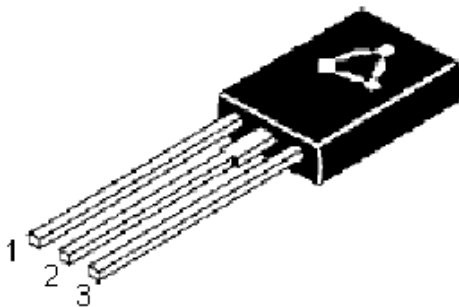


Dimensions	Minimum	Maximum
A	7.4	7.8
B	10.5	10.8
C	2.4	2.7
D	0.7	0.9
E	2.25 (Typical)	
F	0.49	0.75
G	4.5 (Typical)	
L	15.7 (Typical)	
M	1.27 (Typical)	
N	3.75 (Typical)	
P	3.0	3.2
S	2.5 (Typical)	

Dimensions : Millimetres

### Pin Configuration:

1. Emitter
2. Collector
3. Base



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### Absolute Maximum Ratings

Description	Symbol	BD180	Unit
Collector-Emitter Voltage	$V_{CEO}$	80	V
Collector-Base Voltage	$V_{CBO}$		
Emitter Base Voltage	$V_{EBO}$	5.0	
Collector Current	$I_C$	3.0	A
Collector Peak Current	$I_{CM}$	7.0	
Power Dissipation at $T_a = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	1.25	W
Power Dissipation at $T_C = 25^\circ\text{C}$		10	mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	$T_j, T_{stg}$	-65 to +150	$^\circ\text{C}$
<b>Thermal Characteristics</b>			
Junction to Ambient in Free Air	$R_{th(j-a)}$	100	$^\circ\text{C/W}$
Junction to Case	$R_{th(j-c)}$	4.16	

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

Description	Symbol	Test Condition		Minimum	Maximum	Unit
Collector Cut off Current	$I_{CBO}$	$V_{CB} = 80\text{V}, I_E = 0$	-	-		V
Emitter Cut off Current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_C = 0$	-	-		
Collector Emitter Sustaining Voltage	$*V_{CEO(sus)}$	$I_C = 100\text{mA}, I_B = 0$	-	80		
Collector Emitter Saturation Voltage	$*V_{CEO(sat)}$	$I_C = 1\text{A}, I_B = 0.1\text{A}$	-	-		A
Base Emitter On Voltage	$*V_{BE(on)}$	$I_C = 1\text{A}, V_{CE} = 2\text{V}$	-	-		
DC Current Gain	$*h_{FE}$ $*h_{FE}$ Group	$I_C = 150\text{mA}, V_{CE} = 2\text{V}$ $I_C = 1\text{A}, V_{CE} = 2\text{V}$ $I_C = 150\text{mA}, V_{CE} = 2\text{V}$ Only BD179		40		W mW/ $^\circ\text{C}$
				15		
			-6	40	100	
			-10	63	160	
			-16	100	250	
Transition Frequency	$f_T$	$I_C = 250\text{mA}, V_{CE} = 10\text{V}$	-	3.0	-	

\*Pulse Test : Pulse Width = 300 $\mu\text{s}$ , Duty Cycle = 1.5%.



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### Specifications

$I_C$ (av) Maximum (A)	$V_{CEO}$ Maximum (V)	$h_{FE}$ Minimum at $I_C = 150\text{mA}$	$P_{tot}$ at $25^\circ\text{C}$ (W)	Package	Type	Part Number
3	80	40	30	TO-126	PNP	BD180



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### Notes:

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