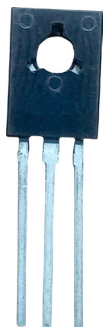


Single Bipolar Transistor multicomp^{PRO}



RoHS
Compliant

Absolute Maximum Ratings

Description	Symbol	BD175 BD176	BD177 BD178	BD180	Unit
Collector Emitter Voltage	V _{CEO}	45	60	80	V
Collector -Base Voltage	V _{CBO}				
Emitter Base Voltage	V _{EBO}	5			
Collector Current	I _C	3			A
Collector Peak Current	I _{CM}	7			
Power Dissipation @ T _a =25°C Derate above 25°C	P _D	1.25 10			W mW/°C
Power Dissipation @ T _c =25°C		30			W
Operating and Storage Junction Temperature Range	T _j , T _{stg}	-65 to 150			°C

Electrical Characteristics ($T_c = 25^{\circ}\text{C}$ Unless otherwise specified)

Description	Symbol	Test Condition		Min.	Max.	Unit
Collector Cut-off Current	I_{CBO}	$V_{CB}=45\text{V}, I_E=0$ $V_{CB}=60\text{V}, I_E=0$ $V_{CB}=80\text{V}, I_E=0$	BD175/76 BD177/78 BD180		100	μA
Emitter Cut off Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			1	mA
Collector Emitter Sustaining Voltag	$*V_{CE(sus)}$	$I_C=100\text{mA}, I_B=0$	BD175/76 BD177/78 BD180	45 60 80		V
Collector Emitter Saturation Voltage	$*V_{CE(sat)}$	$I_C=1\text{A}, I_B=0.1\text{A}$			0.8	
Base Emitter on Voltage	$*V_{BE(on)}$	$I_C=1\text{A}, V_{CE}=2\text{V}$			1.3	
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 BD175/76		-6 -10 -16	40 15 40 63 100	100 160 250
Transition Frequency	f_T	$I_C=250\text{mA}, V_{CE}=10\text{V}$			3	MHz

*Pulse test:- Pulse width=300ms, Duty cycle=1.5%

Newark.com/multicomp-pro
Farnell.com/multicomp-pro
sg.element14.com/b/multicomp-pro

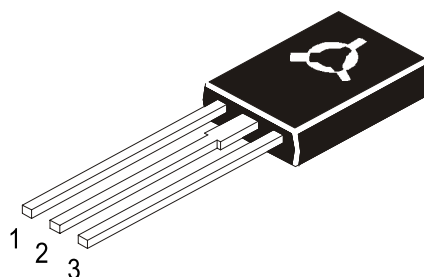
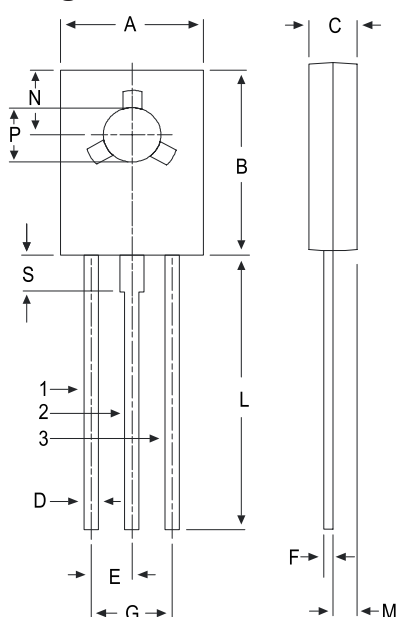
multicomp^{PRO}

Single Bipolar Transistor multicomp^{PRO}

Thermal Characteristics

Description	Symbol	Value	Unit
Junction to Ambient in free air	$R_{th(j-a)}$	100	°C/W
Junction to Case	$R_{th(j-c)}$	4.16	

Diagram



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	3.2
S	2.5 TYP.	

Part Number Table

Description	Part Number
Single Bipolar Transistor, NPN, 45V, 3000mA, 30W, TO-126	BD175
Single Bipolar Transistor, PNP, 45V, 3000mA, 30W, TO-126	BD176
Single Bipolar Transistor, NPN, 60V, 3000mA, 30W, TO-126	BD177
Single Bipolar Transistor, PNP, 60V, 3000mA, 30W, TO-126	BD178
Single Bipolar Transistor, PNP, 80V, 3000mA, 30W, TO-126	BD180

Dimensions : Millimetres

Important Notice : This data sheet and its contents (the "Information") belong to the members of the AVNET group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp Pro is the registered trademark of Premier Farnell Limited 2019.

Newark.com/multicomp-pro
Farnell.com/multicomp-pro
sg.element14.com/b/multicomp-pro

multicomp^{PRO}