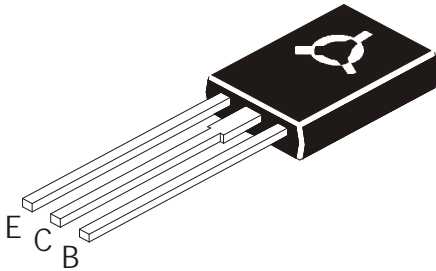


EPITAXIAL SILICON POWER TRANSISTORS



BD175	BD176
BD177	BD178
BD179	BD180
NPN	PNP

TO126
Plastic Package

Intended for use in Medium Power Linear Switching Applications

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	BD175 BD176	BD177 BD178	BD179 BD180	UNIT
Collector -Emitter Voltage	V_{CEO}	45	60	80	V
Collector -Base Voltage	V_{CBO}	45	60	80	V
Emitter Base Voltage	V_{EBO}	5.0			V
Collector Current	I_C	3.0			A
Collector Peak Current	I_{CM}	7.0			A
Power Dissipation @ $T_a=25^\circ\text{C}$ Derate above 25°C	P_D	1.25			W
		10			mW/°C
Power Dissipation @ $T_c=25^\circ\text{C}$	P_D	30			W
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +150			°C

THERMAL CHARACTERISTICS

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

ELECTRICAL CHARACTERISTICS ($T_c=25^\circ\text{C}$ unless specified otherwise)

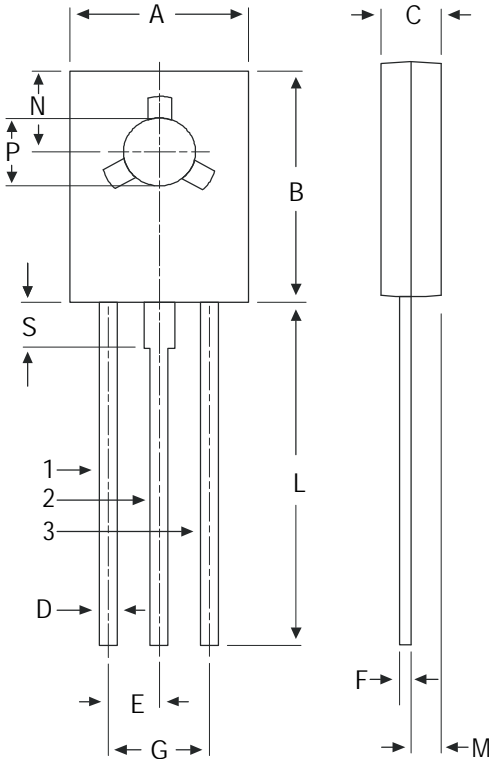
DESCRIPTION	SYMBOL	TEST CONDITION		MIN	MAX	UNIT	
Collector Cut off Current	I_{CBO}	$V_{CB}=45\text{V}, I_E=0$	BD175/76		100	μA	
		$V_{CB}=60\text{V}, I_E=0$	BD177/78		100	μA	
		$V_{CB}=80\text{V}, I_E=0$	BD179/80		100	μA	
Emitter Cut off Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			1.0	mA	
Collector Emitter Sustaining Voltage	$*V_{CEO(sus)}$	$I_C=100\text{mA}, I_B=0$	BD175/76	45		V	
			BD177/78	60		V	
			BD179/80	80		V	
Collector Emitter Saturation Voltage	$*V_{CE(sat)}$	$I_C=1\text{A}, I_B=0.1\text{A}$			0.8	V	
Base Emitter on Voltage	$*V_{BE(on)}$	$I_C=1\text{A}, V_{CE}=2\text{V}$			1.3	V	
DC Current Gain	$*h_{FE}$	$I_C=150\text{mA}, V_{CE}=2\text{V}$ $I_C=1\text{A}, V_{CE}=2\text{V}$		40			
				15			
		$*h_{FE}$ Group	$I_C=150\text{mA}, V_{CE}=2\text{V}$	- 6	40	100	
				- 10	63	160	
		Only BD175/76/79	- 16	100	250		
Transition Frequency	f_T	$I_C=250\text{mA}, V_{CE}=10\text{V}$		3.0		MHz	

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

BD175	BD176
BD177	BD178
BD179	BD180
NPN	PNP

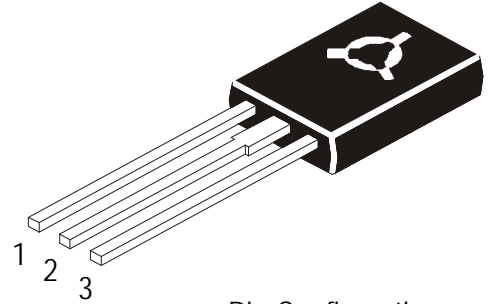
**TO126
Plastic Package**

TO-126 (SOT-32) Plastic Package



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.	

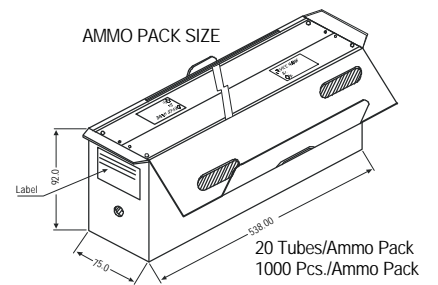
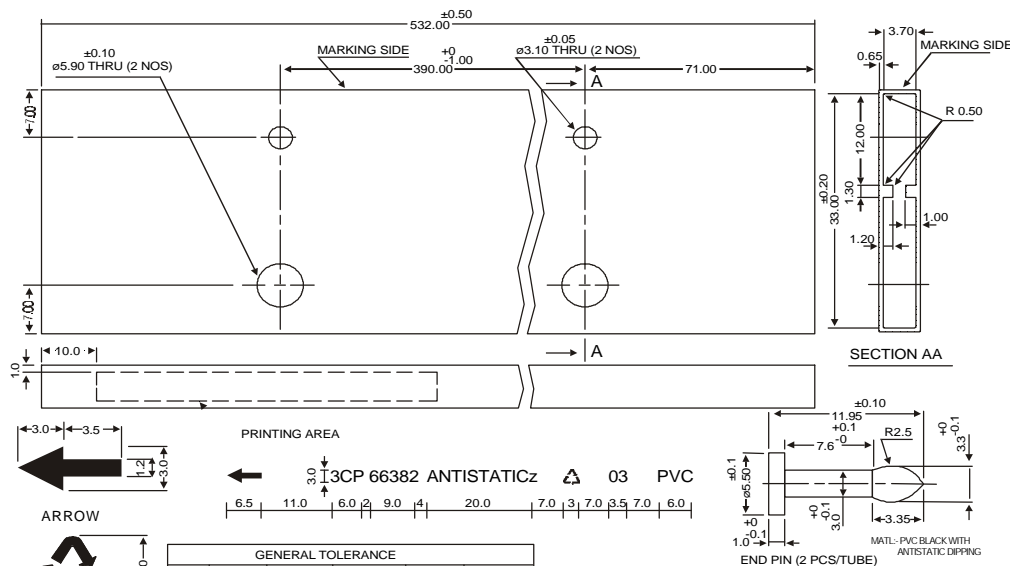
All dimensions in mm.



Pin Configuration

1. Emitter
2. Collector
3. Base

TO-126 TUBE PACKING



- Notes:**
1. All print in black.
 2. All text in Helvetia medium font.

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