



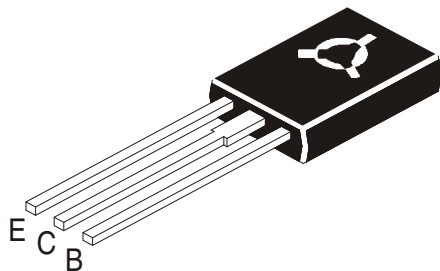
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PNP PLASTIC POWER DARLINGTON TRANSISTORS

BD676, BD676A
BD678, BD678A
BD680, BD680A
BD682, BD684

TO126
Plastic Package



Complementary BD675, 675A, 677, 677A, 679, 679A, 681 & 683

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	BD676 BD676A	678 678A	680 680A	682	684	UNITS
Collector Base Voltage	V_{CBO}	45	60	80	100	120	V
Collector Emitter Voltage	V_{CEO}	45	60	80	100	120	V
Emitter Base Voltage	V_{EBO}	5.0					V
Collector Current	I_C	4.0					A
Base Current	I_B	0.1					A
Total Power Dissipation@ $T_a=25^{\circ}\text{C}$	P_D	1.25					W
Derate above 25°C		10					mW/ $^{\circ}\text{C}$
Total Power Dissipation@ $T_c=25^{\circ}\text{C}$	P_D	40					W
Derate above 25°C		0.32					W / $^{\circ}\text{C}$
Operating & Storage Junction Temperature Range	T_j, T_{stg}	- 55 to + 150					$^{\circ}\text{C}$

THERMAL RESISTANCE

From Junction to case	$R_{th(j-c)}$	3.13	$^{\circ}\text{C/W}$
Junction to Ambient in free air	$R_{th(j-a)}$	100	$^{\circ}\text{C/W}$

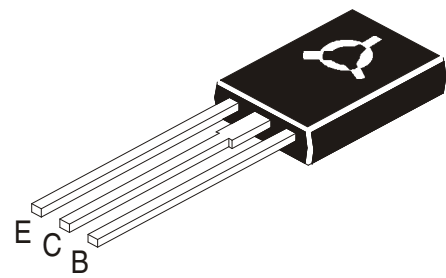
ELECTRICAL CHARACTERISTICS ($T_c=25^{\circ}\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Collector Emitter Voltage	V_{CEO}^*	$I_C=50\text{mA}, I_B=0$ BD676/BD676A BD678/BD678A BD680/BD680A BD682 BD684	45 60 80 100 120		V
Collector-Cut Off Current	I_{CEO} I_{CBO}	$V_{CE}=\text{half rated } V_{CEO}, I_B=0$ $V_{CB}=\text{rated } V_{CBO}, I_E=0$		500 0.2	μA mA
	I_{CBO}	$V_{CB}=\text{rated } V_{CBO}, I_E=0$ $T_c=100^{\circ}\text{C}$		2.0	
Emitter cut Off Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$		2.0	mA

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ELECTRICAL CHARACTERISTICS (Tc=25°C unless specified otherwise)

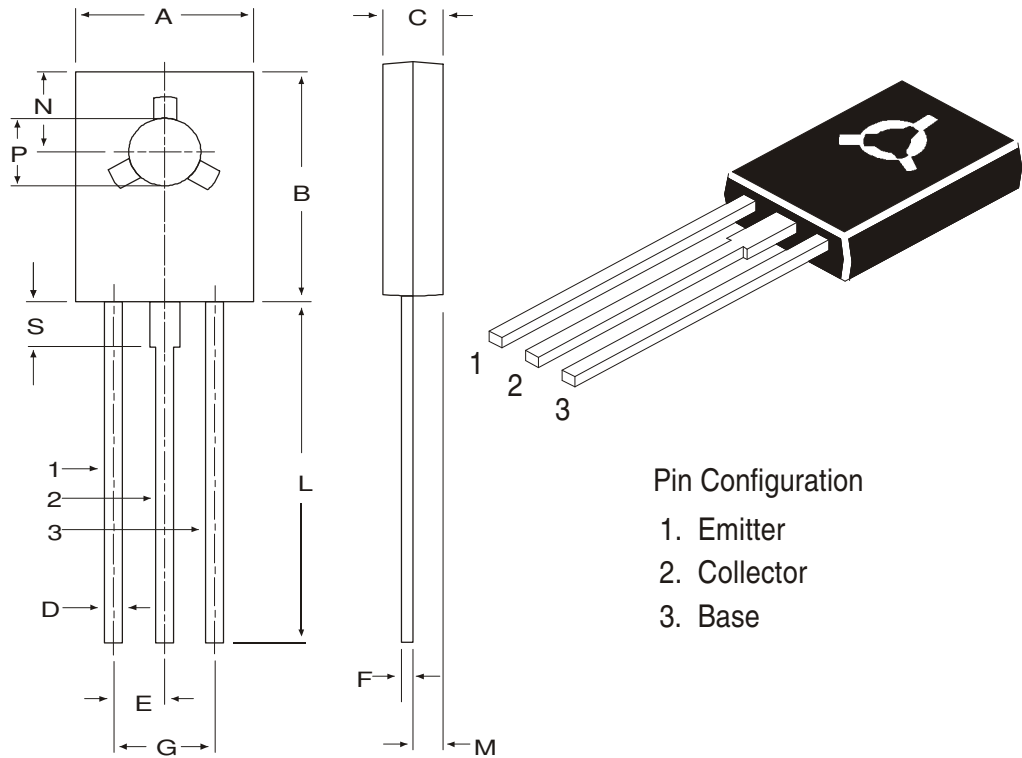
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Collector Emitter Saturation voltage NON A A	$V_{CE(sat)}^*$	$I_C=1.5A, I_B=6mA$ $I_C=2.0A, I_B=8mA$		2.5 2.8	V
Base Emitter On Voltage NON A A	$V_{BE(on)}^*$	$I_C=1.5A, V_{CE}=3V$ $I_C=2A, V_{CE}=3V$		2.5 2.5	V
DC Current Gain NON A A	h_{FE}^*	$I_C=1.5A, V_{CE}=3V$ $I_C=2A, V_{CE}=3V$	750 750		
Small signal Current Gain	$ h_{fe} $	$I_C=1.5A, V_{CE}=3V$ $f=1MHz$	1.0		

Pulse test: Pulse Width ≤ 300μs ; Duty cycle ≤ 2%.

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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 diminsions 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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