

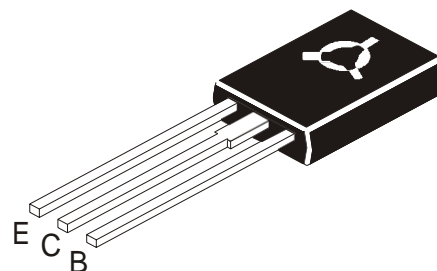
NPN PLASTIC POWER DARLINGTON TRANSISTORS

DESCRIPTION

- With TO-126 package
- Complement to type BD676,676A,678,678A,680,680A,682 & 684
- DARLINGTON

APPLICATIONS

- For medium power linear and switching applications



ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	BD675 BD675A	677 677A	679 679A	681	683	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					V
Collector Current	I_C	4					A
Base Current	I_B	0.1					A
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					$^\circ\text{C/W}$

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

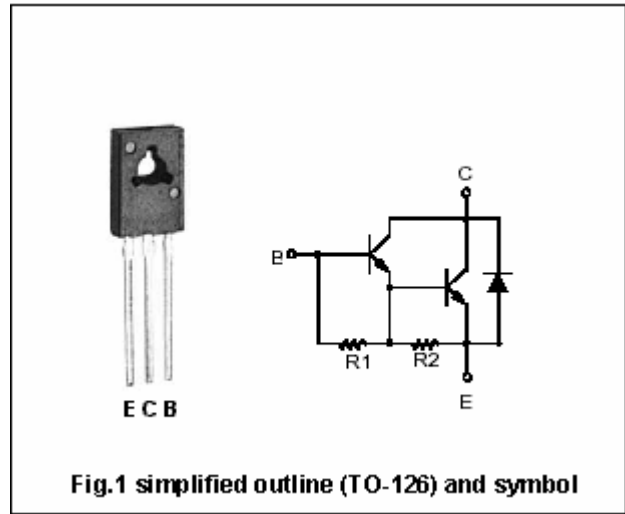
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Collector Emitter Voltage	V_{CEO}^*	$I_C = 50\text{mA}, I_B = 0$ BD675/BD675A BD677/BD677A BD679/BD679A BD681 BD683	45 60 80 100 120		V
Collector-Cut off Current $T_c=100^\circ\text{C}$	I_{CEO}	$V_{CE} = \text{half rated } V_{CEO}, I_B = 0$		500	μA
	I_{CBO}	$V_{CB} = \text{rated } V_{CBO}, I_E = 0$		0.2	mA
	I_{CBO}	$V_{CB} = \text{rated } V_{CBO}, I_E = 0$		2.0	mA
Emitter cut off Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$		2.0	mA
Collector Emitter Saturation voltage	NON A A	$V_{CE(sat)}^*$	$I_C = 1.5\text{A}, I_B = 6\text{mA}$	2.5	V
			$I_C = 2.0\text{A}, I_B = 8\text{mA}$	2.8	V
Base Emitter On Voltage	NON A A	$V_{BE(on)}^*$	$I_C = 1.5\text{A}, V_{CE} = 3\text{V}$	2.5	V
			$I_C = 2\text{A}, V_{CE} = 3\text{V}$	2.5	V
DC Current Gain	NON A A	h_{FE}^*	$I_C = 1.5\text{A}, V_{CE} = 3\text{V}$	750	
			$I_C = 2\text{A}, V_{CE} = 3\text{V}$	750	
Small signal Current Gain		$I_C = 1.5\text{A}, V_{CE} = 3\text{V}, f = 1\text{MHz}$	1.0		

*Pulse test: Pulse Width $\leq 300\mu\text{s}$; Duty cycle $\leq 2\%$.

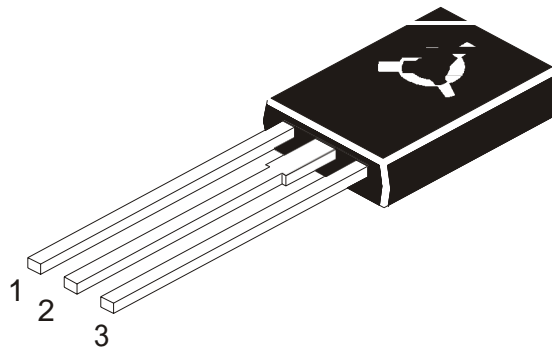
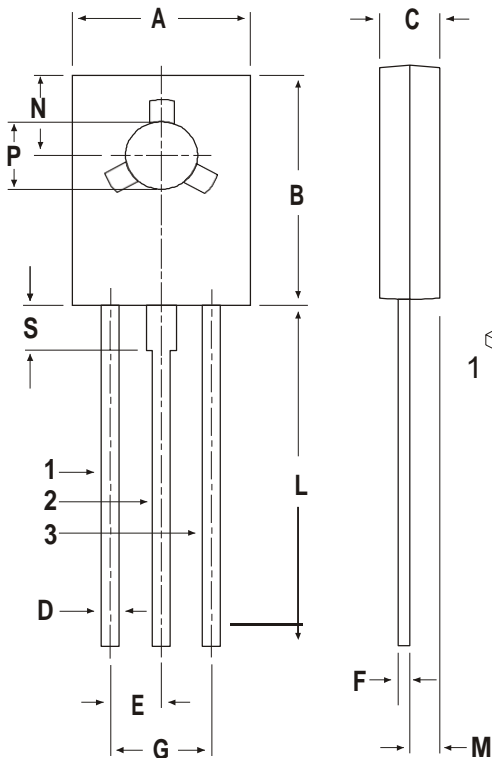
NPN PLASTIC POWER DARLINGTON TRANSISTORS

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector; connected to mounting base
3	Base



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 dimensions in mm.