

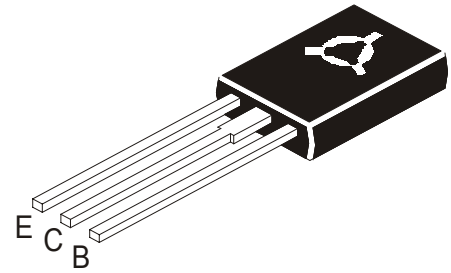
NPN PLASTIC POWER DARLINGTON TRANSISTORS

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
Marking		BD675 BD675A	677 677A	679 679A	681	683	
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@ Tc=25 °C	P_D	40					W
Derate above 25°C		0.32					W / °C
Operating & Storage Junction Temperature Range	T_j, T_{stg}	- 55 to + 150					°C
THERMAL RESISTANCE From Junction to case	$R_{th(j-c)}$	3.13					°C/W

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

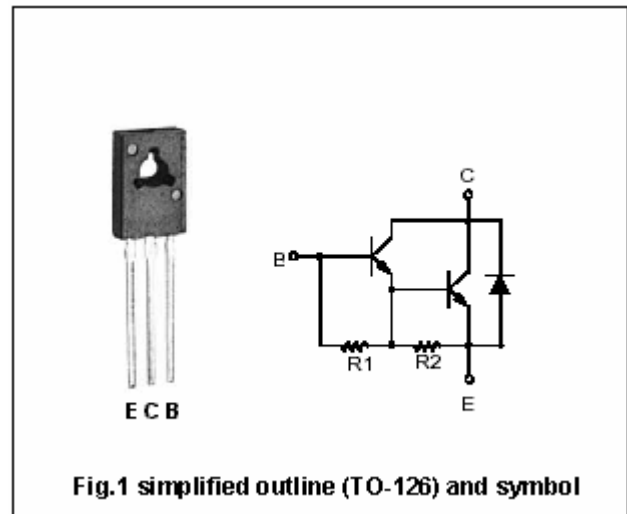
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Collector Emitter Voltage	V_{CEO}^*	$I_C = 50mA, I_B = 0$ BD675/BD675A BD677/BD677A BD679/BD679A BD681 BD683	45 60 80 100 120		V
Collector-Cut off Current $T_C = 100^\circ C$	I_{CEO}	$V_{CE} = \text{half rated } V_{CEO}, I_B = 0$		500	μA
	I_{CBO}	$V_{CB}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

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

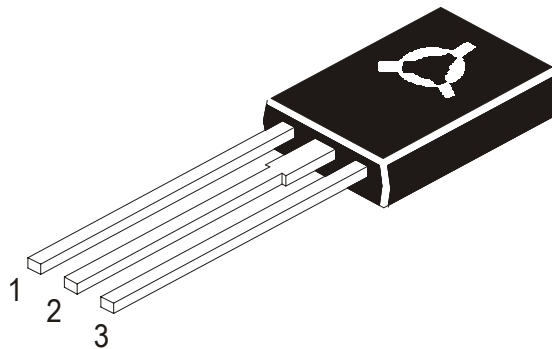
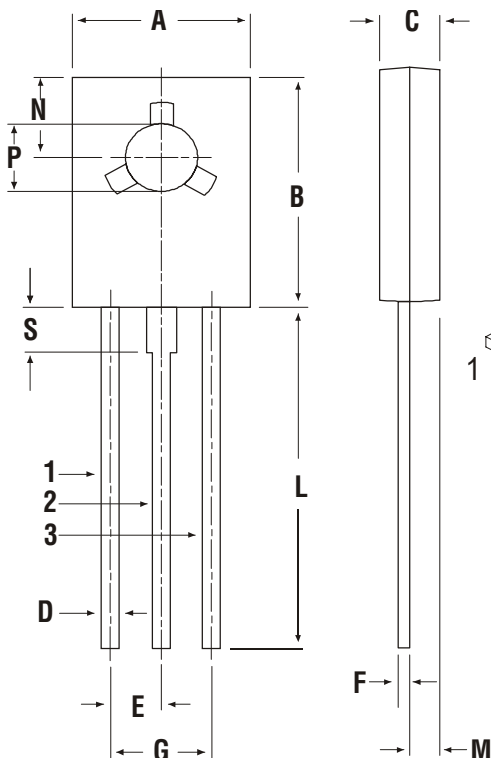
NPN PLASTIC POWER DARLINGTON TRANSISTORS

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.