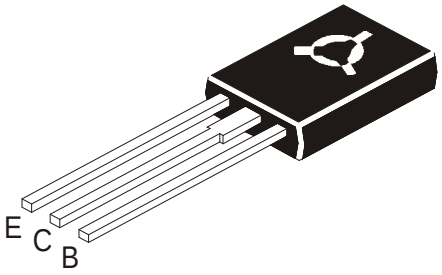
NPN PLASTIC POWER DARLINGTON TRANSISTORS

BD675, BD675A
BD677, BD677A
BD679, BD679A
BD681, BD683

TO126
Plastic Package



Complementary BD676, 676A, 678, 678A, 680, 680A, 682 & 684

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}	5.0					V
Collector Current	I_C	4.0					A
Base Current	I_B	0.1					A
Total Power Dissipation@ T_a=25°C	P_D	1.25					W
Derate above 25°C		10					mW/ °C
Total Power Dissipation@ T_c=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
Junction to Ambient in free air	$R_{th\ (j-a)}$	100	°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	45		V
		BD677/BD677A	60		
		BD679/BD679A	80		
		BD681	100		
		BD683	120		
Collector-Cut off Current	I_{CEO}	V_{CE}=half rated V_{CEO}, I_B=0		500	µA
	I_{CBO}	V_{CB} =rated V_{CBO}, I_E=0		0.2	mA
	I_{CBO}	V_{CB} =rated V_{CBO}, I_E=0 T_C=100°C		2.0	
Emitter cut off Current	I_{EBO}	V_{EB} =5V, I_C =0		2.0	mA

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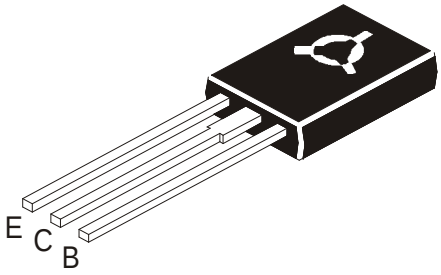
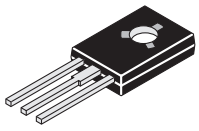


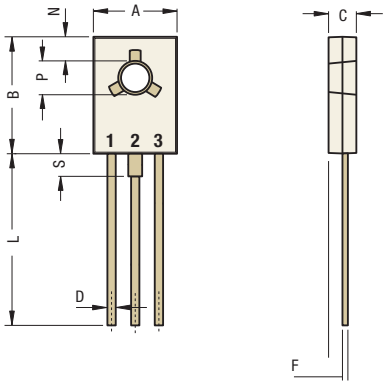
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Collector Emitter Saturation voltage					
NON A	$V_{CE(sat)}$*	I_C=1.5A, I_B=6mA		2.5	V
A	$V_{CE(sat)}$*	I_C=2.0A, I_B=8mA		2.8	
Base Emitter On Voltage					
NON A	$V_{BE(on)}$*	I_C=1.5A,V_{CE} =3V		2.5	V
A		I_C=2A,V_{CE} =3V		2.5	
DC Current Gain					
NON A	h_{FE}*	I_C=1.5A,V_{CE}=3V	750		
A	h_{FE}*	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 ≤ 300μs ; Duty cycle ≤ 2%.

BD675_683 Rev_2 101002E

TO-126
Leaded Plastic Package





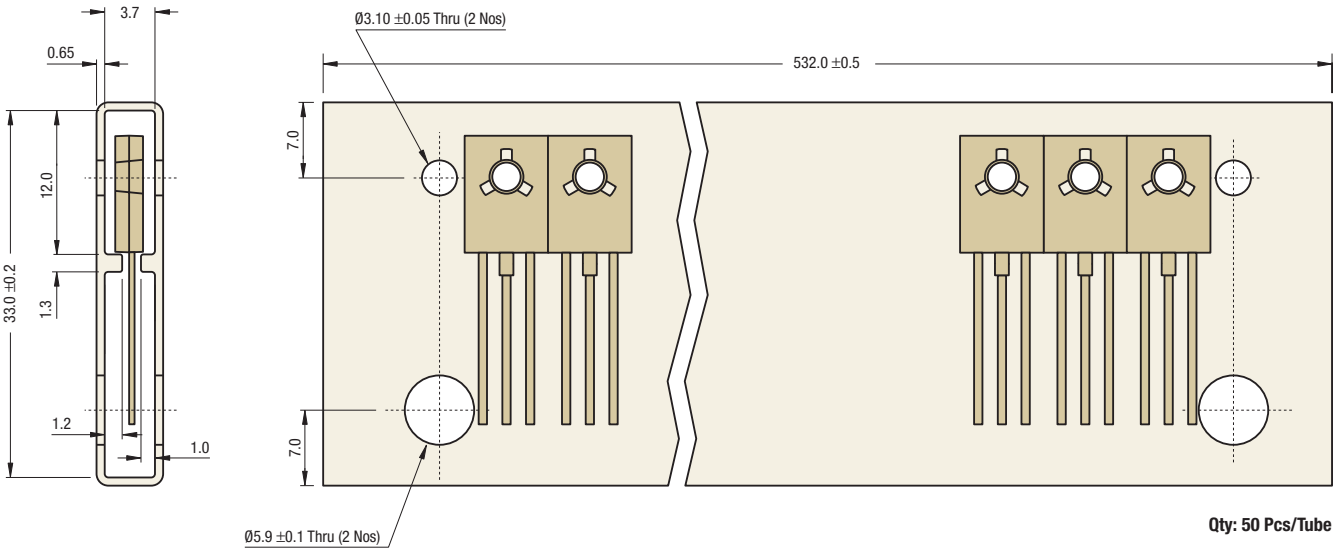
DIM	Min	Max
A	7.12	8.38
B	10.16	11.43
C	2.29	3.04
D	0.64	0.88
E	2.040	2.285
F	0.39	0.63

DIM	Min	Max
G	4.07	5.08
L	15.00	16.63
M	0.89	1.65
N	3.31	4.44
P	2.54	3.30
S	—	2.54

Pin Configurations

Pin 1: Emitter Pin 2: Collector Pin 3: Base

TO-126 Series Packaging Tube



Packaging Specifications ...

T & A: Tape and Ammo Pack; **T & R:** Tape and Reel; **Bulk:** Loose in Poly Bags; **Tube:** Tube and Carton; **K:** 1,000

Package / Case Type	Packaging Type	Std. Packing	Inner Carton			Outer Carton		
		Qty	Qty	Size L x W x H (cm)	Gross Weight (Kg)	Qty	Size L x W x H (cm)	Gross Weight (Kg)
TO-126	Bulk	2,000	2K	19 x 19 x 8	1.4	20K	46 x 38 x 22	15.6
	Tube	1,000 (50 pcs/tube)	1K	55 x 8 x 10	1.5	10K	55 x 35 x 27	16.3

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Disclaimer

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