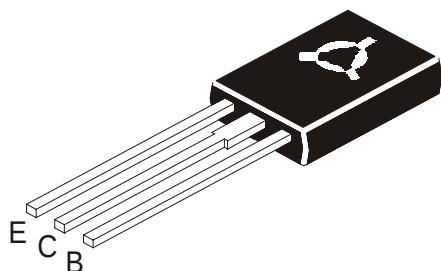


PNP DARLINGTON POWER SILICON TRANSISTORS



**BD676, 676A
BD678, 678A
BD680, 680A
BD682, 684**

**TO126
Plastic Package**

For Use As Output Devices In Complementary General Purpose Amplifier Applications.

**COMPLEMENTARY TO BD675, 675A, 677, 677A, 679, 679A, 681 & 683
BD678, 678A, 680, 680A ARE EQUIVALENT TO MJE700, 702, 703.**

ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless specified otherwise)

DESCRIPTION	SYMBOL TEST CONDITION	BD676	BD678	BD680	BD682	BD684	UNIT
		BD676A	BD678A	BD680A			
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
Collector Power Dissipation @ Tc=25°C	P_D			40			W
Derate above 25°C				0.32			W/°C
Operation and Storage Junction Temperature Range	T_j, T_{stg}			-55 to +150			°C

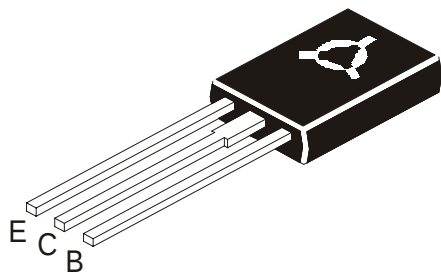
THERMAL RESISTANCE

Junction to Case	$R_{th(j-c)}$	3.13	°C/W
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ELECTRICAL CHARACTERISTICS (Ta=25°C unless specified otherwise)

DESCRIPTION	SYMBOL TEST CONDITION	BD676	BD678	BD680	BD682	BD684	UNIT
		BD676A	BD678A	BD680A			
Collector Emitter Voltage	BV_{CEO}^* $I_C=50mA, I_B=0$	>45	>60	>80	>100	>120	V
Collector Cut off Current	I_{CEO} $V_{CE}=\text{Half Rated } V_{CEO}, I_B=0$	<500	<500	<500	<500	>120	μA
Collector Cut off Current	I_{CBO} $V_{CB}=\text{Rated } V_{CBO}, I_E=0$	<0.2	<0.2	<0.2	<0.2	<0.2	mA
	$V_{CB}=\text{Rated } V_{CBO}, I_E=0$ Ta=100°C	<2	<2	<2	<2	<2	mA
Emitter Cut off Current	I_{EBO} $V_{EB}=5V, I_C=0$	<2	<2	<2	<2	<2	mA
DC Current Gain	h_{FE}^*						
	NON A A	$I_C=1.5A, V_{CE}=3V$ $I_C=2A, V_{CE}=3V$	<----- >750----->				

PNP DARLINGTON POWER SILICON TRANSISTORS



BD676, 676A
BD678, 678A
BD680, 680A
BD682, 684

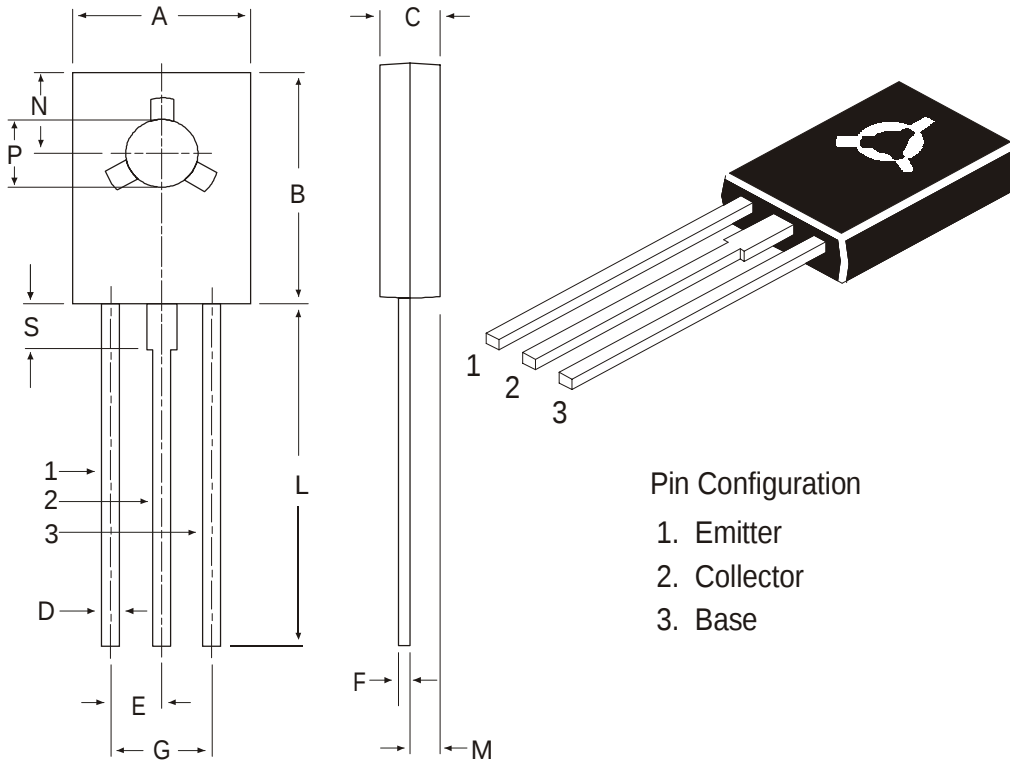
TO126
Plastic Package

DESCRIPTION	SYMBOL	TEST CONDITION	BD676	BD678	BD680	BD682	BD684	UNIT
			BD676A	BD678A	BD680A			
Collector Emitter Saturation Voltage		$V_{CE(sat)}^*$						
	NON A	$I_C=1.5A, I_B=30mA$	<-----<2.5 ----->					V
	A	$I_C=2.0A, I_B=40mA$	<-----<2.8----->					V
Base Emitter on Voltage		$V_{BE (on)}^*$						
	NON A	$I_C=1.5A, V_{CE}=3V$	<-----<2.5 ----->					V
	A	$I_C=2A, V_{CE}=3V$	<-----<2.5 ----->					V
Small Signal Current Gain	Ihfe1	$I_C=1.5A, V_{CE}=3V$ $f=1MHz$	<----- >1.0----->					
*Pulse Condition: Width = 300μs, Duty Cycle < 2%.								

BD676, 676A
BD678, 678A
BD680, 680A
BD682, 684

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 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

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD is believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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