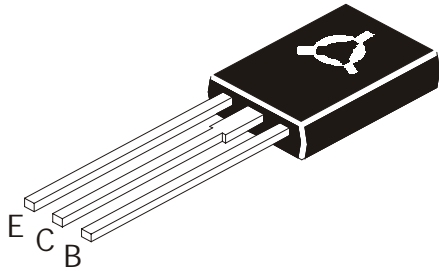


**PNP DARLINGTON POWER SILICON TRANSISTORS**



**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**

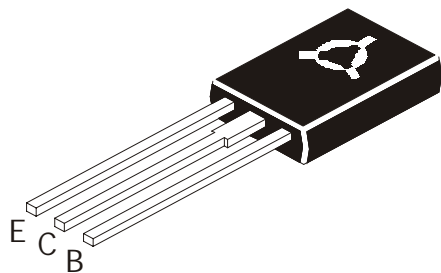
Junction to Case	$R_{th(j-c)}$			3.13			°C/W
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**ELECTRICAL CHARACTERISTICS (Ta=25°C unless specified otherwise)**

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	$h_{FE}^*$						
	<b>NON A</b> <b>A</b>	$I_C=1.5A, V_{CE}=3V$ $I_C=2A, V_{CE}=3V$	<----- >750----->				

# PNP DARLINGTON POWER SILICON TRANSISTORS

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



TO126  
 Plastic Package

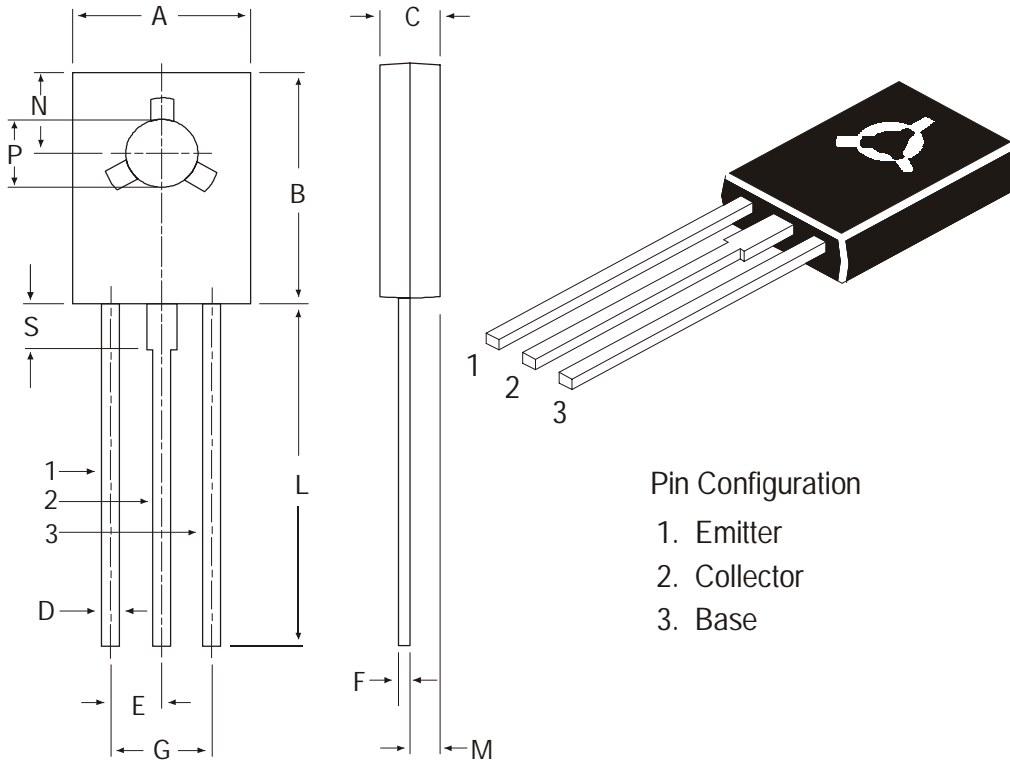
DESCRIPTION	SYMBOL	TEST CONDITION	BD676	BD678	BD680	BD682	BD684	UNIT
			BD676A	BD678A	BD680A			
<b>Collector Emitter Saturation Voltage</b>		$V_{CE(sat)}^*$						
	<b>NON A</b>	$I_C=1.5A, I_B=30mA$	<-----<2.5----->					V
	<b>A</b>	$I_C=2.0A, I_B=40mA$	<-----<2.8----->					V
<b>Base Emitter on Voltage</b>		$V_{BE(on)}^*$						
	<b>NON A</b>	$I_C=1.5A, V_{CE}=3V$	<-----<2.5----->					V
	<b>A</b>	$I_C=2A, V_{CE}=3V$	<-----<2.5----->					V
<b>Small Signal Current Gain</b>	lhfe1	$I_C=1.5A, V_{CE}=3V$ $f=1MHz$	<----->1.0----->					

\*Pulse Condition: Width = 300 $\mu$ s, 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 dimensions 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