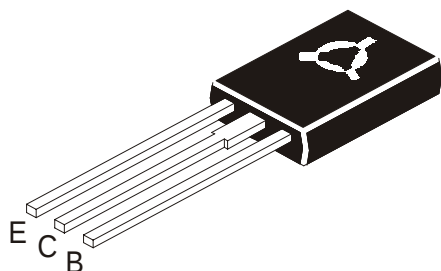


PNP DARLINGTON POWER SILICON TRANSISTORS



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 $I_C=1.5A, V_{CE}=3V$	<----- >750----->					
	A $I_C=2A, V_{CE}=3V$	<----- >750----->					

BD676, 676A
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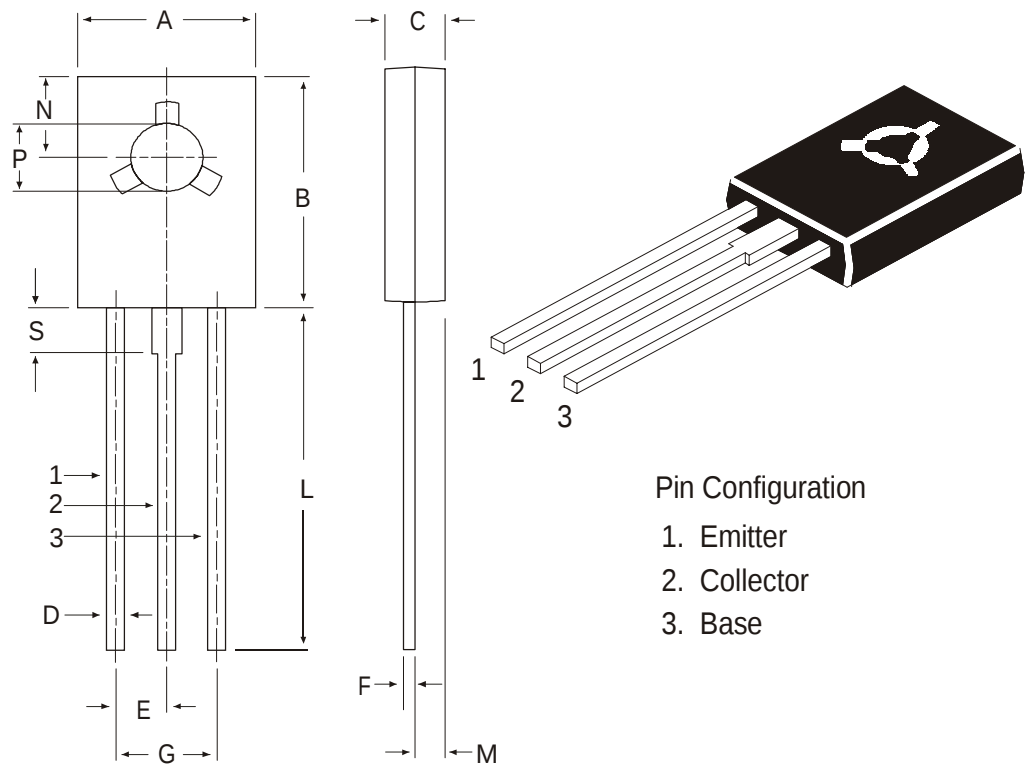


DESCRIPTION	SYMBOL	TEST CONDITION	BD676	BD678	BD680	BD682	BD684	UNIT
			BD676A	BD678A	BD680A			
Collector Emitter Saturation Voltage	$V_{CE(sat)}$ *							
	NON A	$I_C=1.5A, I_B=30mA$	<-----<2.5	----->				V
	A	$I_C=2.0A, I_B=40mA$	<-----<2.8	----->				V
Base Emitter on Voltage	$V_{BE (on)}$ *							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