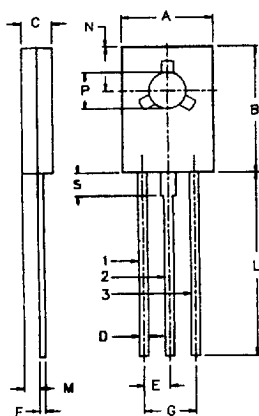
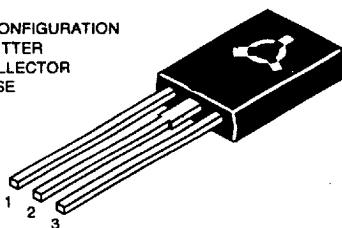


BD676, 676A, 678, 678A, 680, 680A, 682 PNP PLASTIC POWER TRANSISTORS, Medium Power **Darlington**
Complementary BD675, 675A, 677, 677A, 679, 679A, 681

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

ABSOLUTE MAXIMUM RATINGS

			676	678	680	682	
			676A	678A	680A		
Collector-base voltage (open emitter)	V_{CBO}	max.	45	60	80	100	V
Collector-emitter voltage (open base)	V_{CEO}	max.	45	60	80	100	V
Collector current	I_C	max.			4.0		A
Total power dissipation up to $T_C = 25^\circ\text{C}$	P_{tot}	max.			40		W
Junction temperature	T_j	max.			150		$^\circ\text{C}$
Collector-emitter saturation voltage							
$I_C = 1.5\text{A}; I_B = 30\text{mA}$	Non A	V_{CEsat}	max.		2.5		V
$I_C = 2.0\text{A}; I_B = 40\text{mA}$	A	V_{CEsat}	max.		2.8		V
D.C. current gain							
$I_C = 1.5\text{A}; V_{CE} = 3\text{V}$	Non A	h_{FE}	min.		750		
$I_C = 2\text{A}; V_{CE} = 3\text{V}$	A	h_{FE}	min.		750		

RATINGS (at $T_A=25^\circ\text{C}$ unless otherwise specified)

Limiting values			676	678	680	682	
			676A	678A	680A		
Collector-base voltage (open emitter)	V_{CBO}	max.	45	60	80	100	V
Collector-emitter voltage (open base)	V_{CEO}	max.	45	60	80	100	V
Emitter-base voltage (open collector)	V_{EBO}	max.			5.0		V
Collector current	I_C	max.			4.0		A
Base current	I_B	max.			0.1		A
Total power dissipation up to $T_C = 25^\circ\text{C}$	P_{tot}	max.			40		W
Derate above 25°C		max			0.32		W/ $^\circ\text{C}$
Junction temperature	T_j	max.			150		$^\circ\text{C}$
Storage temperature	T_{stg}				-65 to +150		$^\circ\text{C}$

THERMAL RESISTANCE

From junction to case	$R_{th\ j-c}$				3.13		$^\circ\text{C/W}$
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CHARACTERISTICS

$T_{amb} = 25^\circ\text{C}$ unless otherwise specified

			676	678	680	682	
			676A	678A	680A		
Collector cut-off current							
$I_B = 0$; $V_{CE} = \text{half rated } V_{CEO}$	I_{CEO}	max.			500		μA
$I_E = 0$; $V_{CB} = \text{rated } V_{CBO}$	I_{CBO}	max.			0.2		mA
$I_E = 0$; $V_{CB} = \text{rated } V_{CBO}$; $T_C = 100^\circ\text{C}$	I_{CBO}	max.			2.0		mA
Emitter cut-off current							
$I_C = 0$; $V_{EB} = 5\text{V}$	I_{EBO}	max.			2.0		mA
Breakdown voltages							
$I_C = 50\text{ mA}$; $I_B = 0$	V_{CEO}^*	min.	45	60	80	100	V
$I_C = 1\text{ mA}$; $I_E = 0$	V_{CBO}	min.	45	60	80	100	V
$I_E = 1\text{ mA}$; $I_C = 0$	V_{EBO}	min.			5.0		V
Saturation voltages							
$I_C = 1.5\text{A}$; $I_B = 30\text{mA}$	Non A	V_{CEsat}^*	max.		2.5		V
$I_C = 2.0\text{A}$; $I_B = 40\text{mA}$	A	V_{CEsat}^*	max.		2.8		V
Base emitter on voltages							
$I_C = 1.5\text{A}$; $V_{CE} = 3\text{V}$	Non A *	$V_{BE(on)}^*$	max.		2.5		V
$I_C = 2\text{A}$; $V_{CE} = 3\text{V}$	A	$V_{BE(on)}^*$	max.		2.5		V
D.C. current gain							
$I_C = 1.5\text{A}$; $V_{CE} = 3\text{V}$	Non A	h_{FE}^*	min.		750		
$I_C = 2\text{A}$; $V_{CE} = 3\text{V}$	A	h_{FE}^*	min.		750		
Small signal current gain $f = 1\text{ MHz}$							
$I_C = 1.5\text{A}$; $V_{CE} = 3\text{V}$		h_{fe}	min.		1.0		

* Pulse test: pulse width $\leq 300\text{ }\mu\text{s}$, duty cycle $\leq 2\%$.