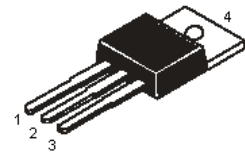
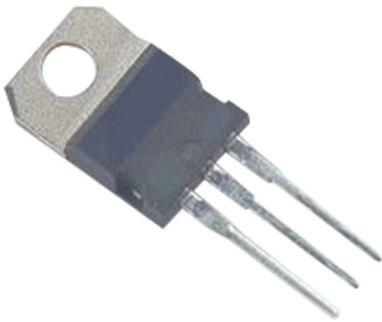


Darlington Transistor



Pin Configuration:

- 1. Base
- 2. Collector
- 3. Emitter
- 4. Collector

Feature:

- NPN Plastic Power Transistors
- General Purpose Darlington Amplifier and Low Speed Switching Applications

Absolute Maximum Ratings:

Limiting Values	Symbol		TIP112	Unit		
Collector-Base Voltage (Open Emitter)	V_{CBO}	Max.	100	V		
Collector-Emitter Voltage (Open Base)	V_{CEO}					
Collector Current	I_C				2	A
Total Power Dissipation upto $T_C = 25^\circ\text{C}$	P_{tot}				50	W
Junction Temperature	T_j				150	$^\circ\text{C}$
Collector-Emitter Saturation Voltage $I_C = 2\text{A}$; $I_B = 8\text{mA}$	$V_{CE(Sat)}$		2.5	V		
DC Current Gain $I_C = 1\text{A}$; $V_{CE} = 4\text{V}$	h_{FE}	Min.	1,000	-		

Ratings (at $T_a = 25^\circ\text{C}$ unless otherwise specified):

Limiting Values	Symbol		TIP112	Unit
Collector-Base Voltage (Open Emitter)	V_{CBO}	Max.	100	V
Collector-Emitter Voltage (Open Base)	V_{CEO}			
Emitter-Base Voltage (Open Collector)	V_{EBO}		5	
Collector Current	I_C		2	A
Collector Current (Peak)	I_{CM}		4	
Base Current	I_B		50	mA
Total Power Dissipation upto $T_C = 25^\circ\text{C}$ Total Power Dissipation upto $T_a = 25^\circ\text{C}$	P_{tot}		50 2	W



Darlington Transistor



Ratings (at $T_a = 25^\circ\text{C}$ unless otherwise specified):

Limiting Values	Symbol		TIP112	Unit
Junction Temperature	T_j	Max.	150	°C
Storage Temperature	T_{stg}	-	-65 to +150	

Thermal Resistance

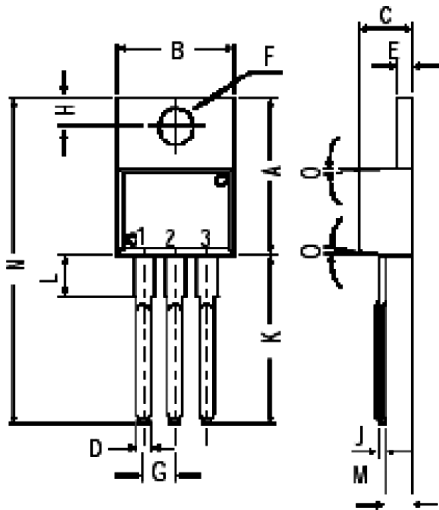
From Junction to Case	$R_{th(j-c)}$	-	25	°C/W
From Junction to Ambient	$R_{th(j-a)}$	-	62.5	

Characteristics ($T_a = 25^\circ\text{C}$ unless otherwise specified):

Limiting Values	Symbol		TIP112	Unit
Collector Cut off Current $I_B = 0; V_{CE} = \text{half rated } V_{CEO}$ $I_E = 0; V_{CB} = \text{rated } V_{CBO}$	I_{CEO} I_{CBO}	Max.	2 1	mA
Emitter Cut off Current $I_C = 0; V_{EB} = 5V$	I_{EBO}		2	
Breakdown Voltages $I_C = 30\text{mA}; I_B = 0$ $I_C = 1\text{mA}; I_E = 0$ $I_E = 1\text{mA}; I_C = 0$	$V_{CEO(Sus)}^*$ V_{CBO} V_{EBO}	Min.	100 100 5	V
Saturation Voltage $I_C = 2A; I_B = 8\text{mA}$	$V_{CE(sat)}^*$	Max.	2.5	
Base Emitter On Voltage $I_C = 2A; V_{CE} = 4V$	$V_{BE(on)}^*$		2.8	
DC Current Gain $I_C = 1A; V_{CE} = 4V$ $I_C = 2A; V_{CE} = 4V$	h_{FE}^*	Min.	1,000 500	-

* Pulse Test: Pulse Duration = 300 μ s, Duty Cycle \leq 2%.

Darlington Transistor



Pin Configuration:

1. Base
2. Collector
3. Emitter
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Dimensions	Min.	Max.
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D	-	0.9
E	1.15	1.4
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J	-	0.56
K	12.7	14.73
L	2.8	4.07
M	2.03	2.92
N	-	31.24
O	7°	

Dimensions : Millimetres

Part Number Table

Description	Part Number
Darlington Transistor, TO-220	TIP112

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