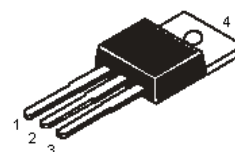
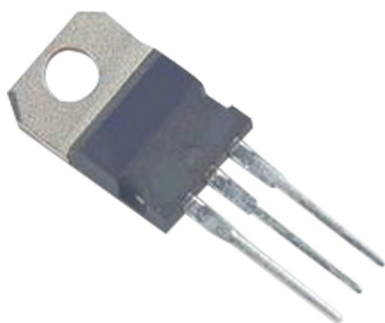


Darlington Transistor



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			
Total Power Dissipation upto $T_C = 25^\circ\text{C}$	P_{tot}			
Junction Temperature	T_j			
Collector-Emitter Saturation Voltage $I_C = 2\text{A}$, $I_B = 8\text{mA}$	$V_{CE(Sat)}$	Min.	1,000	-
DC Current Gain $I_C = 1\text{A}$; $V_{CE} = 4\text{V}$	h_{FE}			

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}			
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	$^\circ\text{C}$
Storage Temperature	T_{stg}	-	-65 to +150	

Thermal Resistance

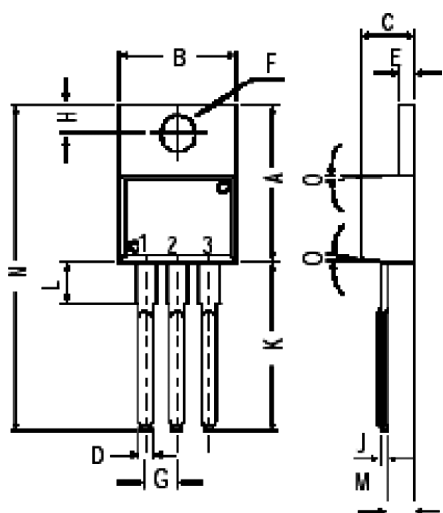
From Junction to Case	$R_{\text{th (j-c)}}$	-	25	$^\circ\text{C/W}$
From Junction to Ambient	$R_{\text{th (j-a)}}$	-	62.5	

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 $I_C = 30\text{mA}$; $I_B = 0$ $I_C = 1\text{mA}$; $I_E = 0$ $I_E = 1\text{mA}$; $I_C = 0$	$V_{CEO(\text{Sus})}^*$ V_{CBO} V_{EBO}	Min.	100 100 5	V
Saturation Voltage $I_C = 2A$; $I_B = 8\text{mA}$	$V_{CE(\text{sat})}^*$	Max.	2.5	
Base Emitter On Voltage $I_C = 2A$; $V_{CE} = 4V$	$V_{BE(\text{on})}^*$		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 μs , Duty Cycle $\leq 2\%$.

Darlington Transistor



Pin Configuration:

1. Base
2. Collector
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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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