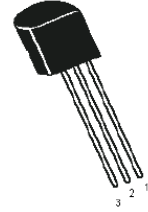


# NPN Darlington Transistor

**multicomp** PRO



### Pin Configuration:

1. Collector
2. Base
3. Emitter

## Absolute Maximum Ratings

Parameters	Symbol	Value	Units
Collector Emitter Voltage	$V_{CES}$	30	V
Collector Base Voltage	$V_{CBO}$		
Emitter Base Voltage	$V_{EBO}$		
Collector Current Continuous	$I_C$	500	mA
Power Dissipation at $T_a = 25^\circ\text{C}$ Derate Above $25^\circ\text{C}$	$P_D$	625	mW
Power Dissipation at $T_C = 25^\circ\text{C}$ Derate Above $25^\circ\text{C}$		5	mW/ $^\circ\text{C}$
		1.5	W
		12	mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	$T_j, T_{stg}$	-55 to +150	$^\circ\text{C}$

## Thermal Resistance

Junction to Ambient	$R_{th(j-a)}$	200	$^\circ\text{C/W}$
Junction to Case	$R_{th(j-c)}$	83.3	

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

Parameters	Symbol	Test Condition	Min.	Max.	Units
Collector Emitter Voltage	$V_{CES}$	$I_C = 100\mu\text{A}, I_B = 0$	30	-	V
Collector Cut off Current	$I_{CBO}$	$V_{CB} = 30\text{V}, I_E = 0$	-	100	nA
Emitter Cut off Current	$I_{EBO}$	$V_{EB} = 10\text{V}, I_C = 0$	-		

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

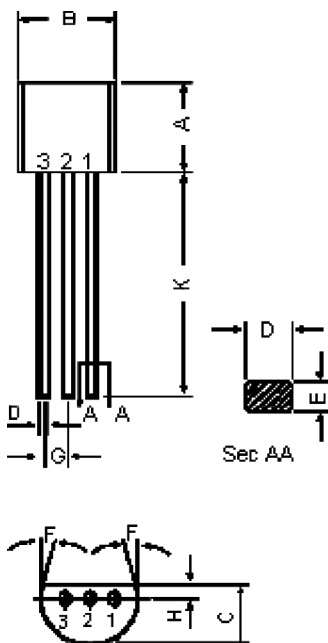
Parameters	Symbol	Test Condition	Min.	Max.	Units
DC Current Gain	$h_{FE}$	$I_C = 10\text{mA}, V_{CE} = 5\text{V}$ $I_C = 100\text{mA}, V_{CE} = 5\text{V}$	10 20	-	-
Collector Emitter Saturation Voltage	$V_{CE(sat)}^*$	$I_C = 100\text{mA}, I_B = 0.1\text{mA}$	-	1.5	V
Base Emitter On Voltage	$V_{BE(on)}^*$	$I_C = 100\text{mA}, V_{CE} = 5\text{V}$	-	2	

## Dynamic Characteristics

Current Gain-Bandwidth Product	$f_T^{**}$	$I_C = 10\text{mA}, V_{CE} = 5\text{V}$ $f = 100\text{MHz}$	125	-	MHz
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\*Pulse Test : Pulse Width = 300 $\mu\text{s}$ , Duty Cycle = 2%

\*\*ft =  $|h_{fe}| \cdot f_{test}$



Dimensions	Minimum	Maximum
A	4.32	5.33
B	4.45	5.2
C	3.18	4.19
D	0.41	0.55
E	0.35	0.5
F	5°	
G	1.14	1.4
H		1.53
K	12.7	-

Dimensions : Millimetres

## Pin Configuration:

1. Collector
2. Base
3. Emitter

## Part Number Table

Description	Part Number
Darlington Transistor, TO-92	MPSA14

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