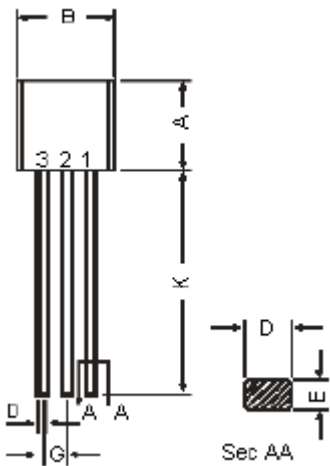


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NPN Darlington Transistor

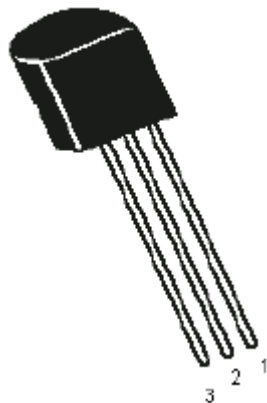


TO-92 Plastic Package



Dimensions	Minimum	Maximum
A	4.32	5.33
B	4.45	5.20
C	3.18	4.19
D	0.41	0.55
E	0.35	0.50
F	5°	
G	1.14	1.40
H		1.53
K	12.70	-

Dimensions : Millimetres



Pin Configuration:

1. Collector
2. Base
3. Emitter



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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°C	P_D	625	mW
Power Dissipation at $T_c = 25^\circ\text{C}$ Derate Above 25°C		5.0	
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$
Thermal Resistance			
Junction to Case	$R_{th(j-c)}$	83.3	$^\circ\text{C/W}$
Junction to Ambient	$R_{th(j-a)}$	200	

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

Description	Symbol	Test Condition	Minimum	Maximum	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}	$V_{EB} = 10\text{V}, I_C = 0$	-		
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	$V_{BE(on)}^*$	$I_C = 100\text{mA}, V_{CE} = 5\text{V}$	-	2.0	
Dynamic Characteristics					
Current Gain-Bandwidth Product	f_t^{**}	$I_C = 10\text{mA}, V_{CE} = 5\text{V}$ $f = 100\text{MHz}$	125	-	MHz

*Pulse Test : Pulse Width = $300\mu\text{s}$, Duty Cycle = 2%

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



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NPN Darlington Transistor



Specifications

V_{CE0} Maximum (V)	V_{CBO} Maximum (V)	I_C (av) Maximum (A)	h_{FE} Minimum at $I_C = 0.1A$	Package	Type	Part Number
60	30	0.5	20	TO-92	NPN	MPSA14



Notes:

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