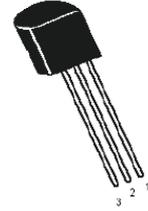


NPN Darlington Transistor



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°C Derate Above 25°C	P _D	625	mW
Power Dissipation at T _C = 25°C Derate Above 25°C		5	mW/°C
Operating and Storage Junction Temperature Range	T _J , T _{STG}	1.5	W
		12	mW/°C
		-55 to +150	°C

Thermal Resistance

Junction to Ambient	R _{th(j-a)}	200	°C/W
Junction to Case	R _{th(j-c)}	83.3	

Electrical Characteristics (T_a = 25°C unless otherwise specified)

Parameters	Symbol	Test Condition	Min.	Max.	Units
Collector Emitter Voltage	V _{CES}	I _C = 100μA, I _B = 0	30	-	V
Collector Cut off Current	I _{CBO}	V _{CB} = 30V, I _E = 0	-	100	nA
Emitter Cut off Current	I _{EBO}	V _{EB} = 10V, I _C = 0	-		

NPN Darlington Transistor



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

Parameters	Symbol	Test Condition	Min.	Max.	Units
DC Current Gain	*hFE	$V_{CE}=5V, I_C=10mA$ $V_{CE}=5V, I_C=100mA$	10000 20000	-	-
Collector Emitter Saturation Voltage	* $V_{CE(sat)}$	$I_C = 100mA, I_B = 0.1mA$	-	1.5	V
Base Emitter On Voltage	* $V_{BE(on)}$	$I_C = 100mA, V_{CE} = 5V$	-	2	

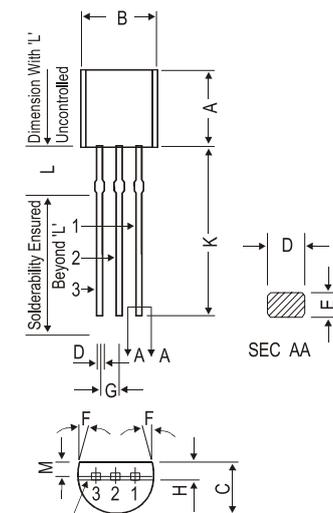
Dynamic Characteristics

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

**f_T = |hfe| × f_{test}.

Diagram



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	1.2	1.4
K	12.7	-
L	1.982	2.082
M	1.03	1.2

Pin Configuration:

1. Collector
2. Base
3. Emitter

Dimensions : Millimetres

Part Number Table

Description	Part Number
Darlington Transistor, TO-92	MPSA14

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