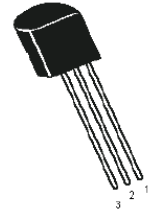


NPN Darlington Transistor



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 $T_a = 25^\circ\text{C}$ Derate Above 25°C	P_D	625	mW
Power Dissipation at $T_C = 25^\circ\text{C}$ Derate Above 25°C		5	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}	$V_{EB} = 10\text{V}, I_C = 0$	-		



NPN Darlington Transistor

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

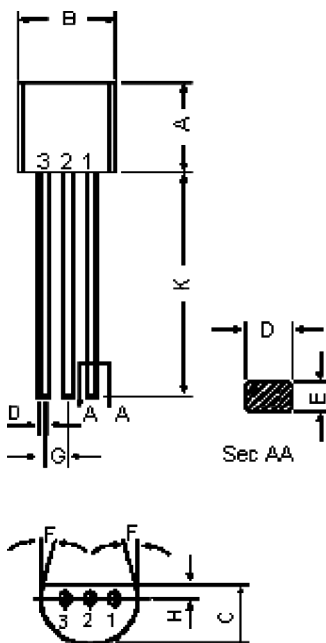
Parameters	Symbol	Test Condition	Min.	Max.	Units
DC Current Gain	h_{FE}	$I_C = 10\text{mA}, V_{CE} = 5\text{V}$ $I_C = 100\text{mA}, V_{CE} = 5\text{V}$	10 20	-	-
Collector Emitter Saturation Voltage	$V_{CE(sat)}^*$	$I_C = 100\text{mA}, I_B = 0.1\text{mA}$	-	1.5	V
Base Emitter On Voltage	$V_{BE(on)}^*$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

*Pulse Test : Pulse Width = 300 μs , 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

Important Notice : This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2012.