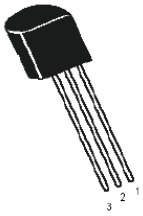
NPN Darlington Transistor



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}	10	
Collector Current Continuous	I_C	500	mA
Power Dissipation at T_a = 25°C Derate Above 25°C	P_D	625 5	mW mW/°C
Power Dissipation at T_C = 25°C Derate Above 25°C		1.5 12	W mW/°C
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-55 to +150	°C

Thermal Resistance

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

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

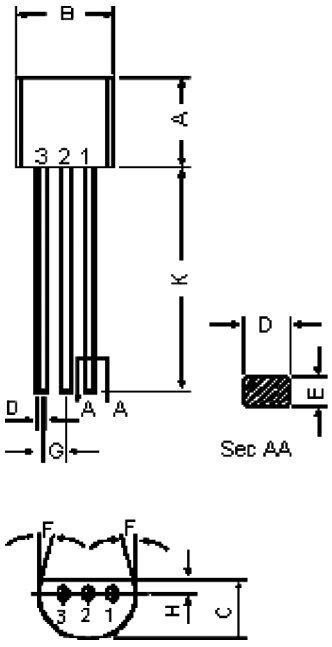
Parameters	Symbol	Test Condition	Min.	Max.	Units
DC Current Gain	h_{FE}	I_C = 10mA, V_{CE} = 5V I_C = 100mA, V_{CE} = 5V	10 20	-	-
Collector Emitter Saturation Voltage	$V_{CE\ (sat)}$*	I_C = 100mA, I_B = 0.1mA	-	1.5	V
Base Emitter On Voltage	$V_{BE\ (on)}$*	I_C = 100mA, V_{CE} = 5V	-	2	

Dynamic Characteristics

Current Gain-Bandwidth Product	f_T**	I_C = 10mA, V_{CE} = 5V f = 100MHz	125	-	MHz

*Pulse Test : Pulse Width = 300µs, 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