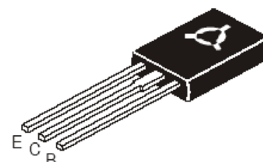
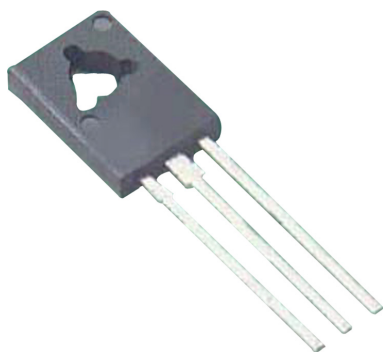


NPN Transistor

TO-18

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Pin Configuration:

1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings

Description	Symbol	BD139	Unit
Collector-emitter voltage	V _{CEO}	80	V
Collector-emitter voltage (R _{BE} = 1kΩ)	V _{CER}	100	
Collector-base voltage	V _{CBO}		
Emitter base voltage	V _{EBO}	5	
Collector current	I _C	1.5	A
Collector peak current	I _{CM}	2	
Base current	I _B	0.5	
Power dissipation at T _a = 25°C Derate above 25°C	P	1.25 10	W mW/°C
Power dissipation at T _c = 25°C Derate above 25°C	P	12.5 100	W mW/°C
Power dissipation at T _c = 70°C	P _D	8	W
Operating and storage junction Temperature range	T _j , T _{stg}	-55 to +150	°C

Thermal Characteristics

Junction to ambient in free air	$R_{th(j-a)}$	100	$^\circ\text{C/W}$
Junction to case	$R_{th(j-c)}$	10	$^\circ\text{C/W}$

Newark.com/multicomp-pro
Farnell.com/multicomp-pro
Element14.com/multicomp-pro

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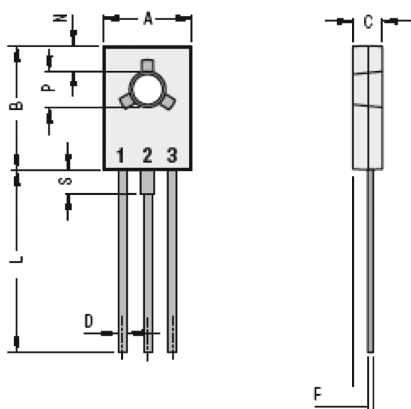
NPN Transistor

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Electrical characteristics (Tc = 25°C unless specified otherwise)

Description	Symbol	Test Condition	Min.	Max.	Unit
Collector emitter sustaining voltage	*V _{CEO (sus)}	I _C = 30mA, I _B = 0	80		V
Collector cut off current	I _{CBO}	V _{CB} = 30V, I _E = 0		0.1	μA
		V _{CB} = 30V, I _E = 0, T = 125°C		10	
Emitter cut off current	I _{EBO}	V _{EB} = 5V, I _C = 0			
DC current gain	*h _{FE}	I _C = 0.005A, V _{CE} = 2V	25	250	-
		I _C = 0.15A, V _{CE} = 2V	40		
		I _C = 0.5A, V _{CE} = 2V	25		
Collector emitter sustaining voltage	*V _{CEO (sus)}	I _C = 30mA, I _B = 0 BD139	80		V
Collector cut off current	I _{CBO}	V _{CB} = 30V, I _E = 0		0.1	μA
		V _{CB} = 30V, I _E = 0, T = 125°C		10	
Emitter cut off current	I _{EBO}	V _{EB} = 5V, I _C = 0			
DC current gain	*h _{FE}	I _C = 0.005A, V _{CE} = 2V	25	250	-
		I _C = 0.15A, V _{CE} = 2V	40		
		I _C = 0.5A, V _{CE} = 2V	25		

*Pulse test: -Pulse width=300ms, duty cycle = 2%.



Pin Configuration:

1. Emitter
2. Collector
3. Base

Dimensions	Min.	Max.
A	7.2	8.38
B	10.16	11.43
C	2.29	3.04
D	0.64	0.88
E	2.04	2.285
F	0.39	0.63
G	4.07	5.08
L	15	16.63
M	0.89	1.65
N	3.31	4.44
P	2.54	3.3
S	-	2.54

Dimensions : Millimetres

Part Number Table

Description	Part Number
Transistor, NPN, TO-126	BD139-10

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