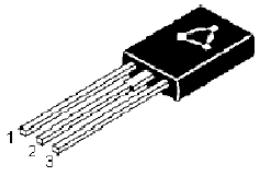
Medium Power Transistor
TO-126



Pin Configuration:
1. Emitter
2. Collector
3. Base

Feature:

- PNP Plastic Medium Power Silicon Transistors
- Intended for use in Medium Power Linear Switching Applications

Absolute Maximum Ratings

Description	Symbol	BD438	Unit
Collector-Base Voltage	V_{CBO}	45	V
Collector-Emitter Voltage	V_{CES}		
Collector-Emitter Voltage	V_{CEO}		
Emitter-Base Voltage	V_{EBO}	5	
Collector Current	I_C	4	A
Collector Peak Current (t = 10ms)	I_{CM}	7	
Base Current	I_B	1	
Power Dissipation at T_C = 25°C	P_{tot}	36	W
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-65 to +150	°C

Thermal Resistance

Junction to Case	$R_{th\ (j-c)}$	3.5	°C/W
Junction to Ambient	$R_{th\ (j-a)}$	100	

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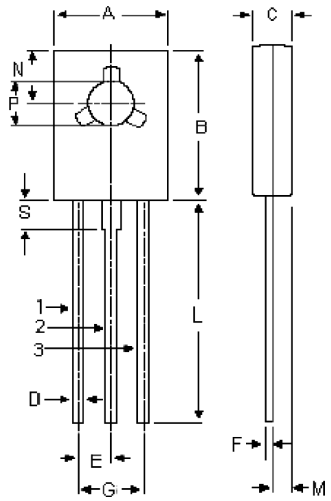
Electrical Characteristics (T_a = 25°C unless specified otherwise)

Description	Symbol	Test Condition	BD438	Unit
Collector-Cut off Current	I_{CBO} I_{CES}	I_E = 0, V_{CB} = Rated V_{CBO} V_{BE} = 0, V_{CE} = Rated V_{CES}	<100	µA
Emitter-Cut off Current	I_{EBO}	V_{EB} = 5V, I_C = 0	<1	mA
Collector-Emitter Sustaining Voltage	$V_{CEO\ (sus)}$*	I_C = 100mA, I_B = 0	>45	V
Collector Emitter Saturation Voltage	$V_{CE\ (sat)}$*	I_C = 2A, I_B = 0.2A	<0.6	
Base Emitter On Voltage	$V_{BE\ (on)}$*	I_C = 10mA, V_{CE} = 5V I_C = 2A, V_{CE} = 1V	0.58 (Typical) <1.2	
DC Current Gain	h_{FE}*	I_C = 10mA, V_{CE} = 5V I_C = 500mA, V_{CE} = 1V I_C = 2A, V_{CE} = 1V	>30 >85 >40	-
	h_{FE1}* / h_{FE2}* Matched Pair	I_C = 500mA, V_{CE} = 1V	<1.4	
Transition Frequency	f_t	V_{CE} = 1V, I_C = 250mA	>3	MHz

*Pulse Test : Pulse Duration = 300µs, Duty Cycle = 1.5%.



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Dimensions	Min.	Max.
A	7.4	7.8
B	10.5	10.8
C	2.4	2.7
D	0.7	0.9
E	2.25 (Typical)	
F	0.49	0.75
G	4.5 (Typical)	
L	15.7 (Typical)	
M	1.27 (Typical)	
N	3.75 (Typical)	
P	3	3.2
S	2.5 (Typical)	

Dimensions : Millimetres

Part Number Table

Description	Part Number
Transistor, PNP, TO-126	BD438