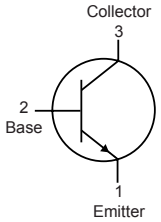
Bipolar Transistor

Description:

This TO-126 plastic silicon epitaxial base NPN power transistor intended for use in power linear and switching applications.



Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Collector-Emitter Voltage	V_{CEO}	80	V
Collector-Base Voltage	V_{CBO}	80	
Emitter-Base Voltage	V_{EBO}	5	
Continuous Collector Current	I_C	4	A
Total Device Dissipation at T_c = 25°C	P_D	36	W
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-65 to +150	°C

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

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
OFF Characteristics					
Collector - Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=100mA, I_B=0	80	-	**V**
Collector Cut-Off Current	I_{CBO}	V_{CB}=80V, I_B=0	-	100	µA
	I_{CES}	V_{CE}=80V, V_{BE}=0	-	100	
Emitter Cut-Off Current	I_{EBO}	V_{EB}=5V, I_C=0	-	1	mA
ON Characteristics					
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=10mA	15	-	-
		V_{CE}=1V, I_C=500mA	40	-	-
		V_{CE}=1V, I_C=2A	15	-	-
Collector - Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=2A, I_B=0.2A	-	0.8	V
Base - Emitter On Voltage	$V_{BE(on)}$	I_C=2A, V_{CE}=1V		1.5	
Small-Signal Characteristics					
Current Gain-Bandwidth Product	f_T	V_{CE}=1V, I_C=250mA	3	-	MHz

Note 1. Pulse Test: Pulse Width ≦300µs, Duty Cycle ≦2%.
Note 2. fT is defined as the frequency at which $|h_{fe}|$ extrapolates to unity.

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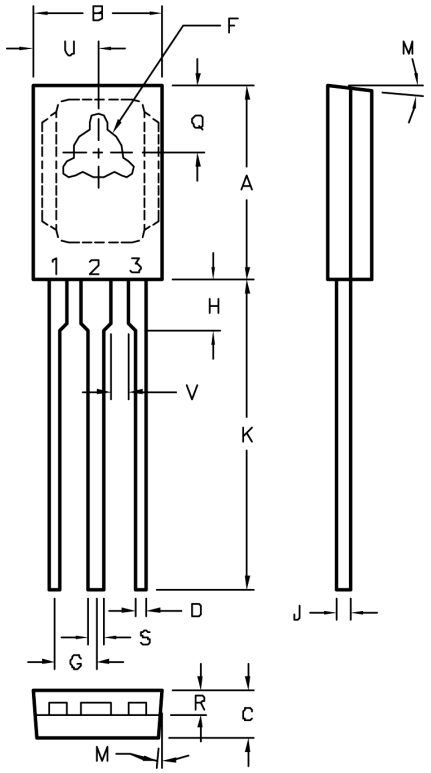

Dimensions	Min.	Max.
A	10.8	11.05
B	7.49	7.75
C	2.41	2.67
D	0.51	0.66
F	2.92	3.18
G	2.31	2.46
H	1.27	2.41
J	0.38	0.64
K	15.11	16.64
M	3° Typical	
Q	3.76	4.01
R	1.14	1.4
S	0.64	0.89
U	3.68	3.94
V	1.02	-

Dimensions : Millimetres

Pin Configuration:

1. Emitter
2. Base
3. Collector

Part Number Table

Description	Part Number
Transistor, NPN, 4A, 80V, TO-126	BD441