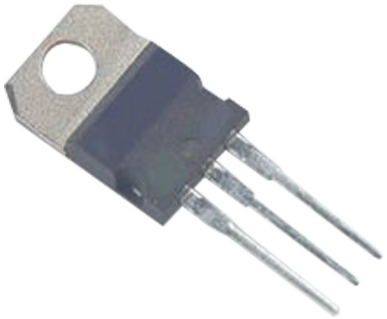
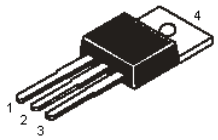
Power Transistor





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

Feature:

- NPN bipolar power transistors for use in high voltage, high speed transistors for horizontal deflection circuits of TVs and CRTs. Suitable for medium, high, and very high resolution monochrome and colour applications

Absolute Maximum Ratings:

Parameter	Symbol		Rating	Unit
Collector Base Voltage (Open Emitter)	V_{CBO}	Max.	330	V
Collector Emitter Voltage (Open Base)	V_{CEO}		150	
Collector Current	I_C		7	A
Total Power Dissipation upto T_C = 25°C	P_{tot}		60	W
Junction Temperature	T_j		150	°C
Collector Emitter Saturation Voltage I_C = 5A; I_B = 0.5A	$V_{CE\ (sat)}$		1	V

Ratings (at T_a = 25°C unless otherwise specified):

Parameter	Symbol		Rating	Unit
Collector Base Voltage (Open Emitter)	V_{CBO}	Maximum	330	V
Collector Emitter Voltage (Open Base)	V_{CEO}		150	
Collector Emitter Voltage (V_{BE} = -1.5V)	V_{CEV}		330	
Emitter Base Voltage (Open Collector)	V_{EBO}		6	
Collector Current	I_C		7	A
Collector Current Peak (Repetitive)	I_{CM}		10	
Collector Current Peak (t = 10ms)			15	

Ratings (at T_a = 25°C unless otherwise specified):

Parameter	Symbol		Rating	Unit
Base Current	I_B	Max.	4	A
Total Power Dissipation upto T_C = 25°C Derate above 25°C	P_{tot}		60 0.48	W W/°C
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-65 to +150	

Thermal Resistance

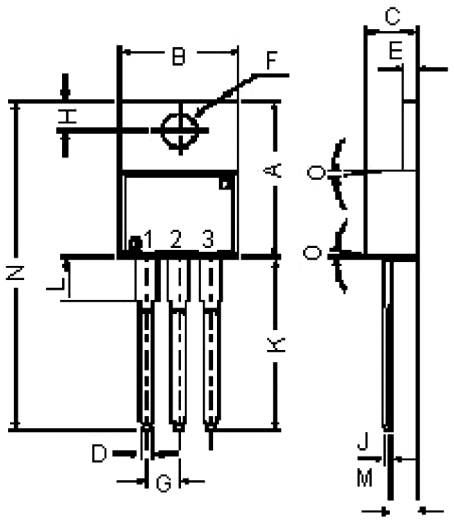
From Junction to Case	$R_{th\ (j-c)}$	=	2.08	°C/W
From Junction to Ambient	$R_{th\ (j-a)}$	=	70	

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

Parameter	Symbol	-	Rating	Unit
Collector Cut off Current V_{BE} = 0; V_{CE} = 330V V_{BE} = 0; V_{CE} = 200V V_{BE} = 0; V_{CE} = 200V; T_C = 150°C	I_{CES}	Max.	5 100 1	mA µA mA
Emitter Cut off Current I_C = 0; V_{EB} = 6V	I_{EBO}		1	mA
Breakdown Voltages I_C = 100mA; I_B = 0 I_C = 1mA; I_E = 0 I_E = 1mA; I_C = 0	$V_{CEO\ (sus)}$* V_{CBO} V_{EBO}	Min.	150 330 6	V
Saturation Voltage I_C = 5A; I_B = 0.5A	$V_{CE\ (sat)}$* $V_{BE\ (sat)}$*	Max.	1 1.2	
Transition Frequency I_C = 0.5A; V_{CE} = 10V	f_T	Min.	10	MHz
Switching Time I_C = 5A; $-I_{Bend}$ = 0.5A Turn off Time	t_{off}	Max.	0.75	µs
Second Breakdown Collector Current with Base Forward Biased V_{CE} = 40V; t = 10ms	$I_{S/b}$	Typ.	4	A

* Pulsed : Pulse Duration = 300µs; Duty Cycle = 1.5%.

Power Transistor



Pin Configuration:

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Dimensions	Min.	Max.
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D	-	0.9
E	1.15	1.4
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J	-	0.56
K	12.7	14.73
L	2.8	4.07
M	2.03	2.92
N	-	31.24
O	7°	

Dimensions : Millimetres

Part Number Table

Description	Part Number
Transistor, NPN, TO-220	BU407

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