

HIGH CURRENT NPN SILICON TRANSISTOR

- STMicroelectronics PREFERRED SALESTYPES
- NPN TRANSISTOR

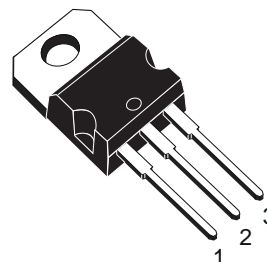
APPLICATIONS

- HORIZONTAL DEFLECTION FOR MONOCHROME TVs

DESCRIPTION

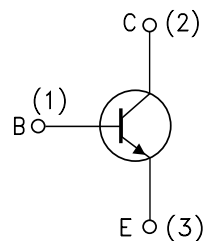
The BU407 is a silicon Epitaxial Planar NPN transistor in Jedec TO-220 plastic package.

They are fast switching, high voltage devices for use in horizontal deflection output stages of medium and small screens MTV receivers with 110° CRT as monochrome computers terminals.



TO-220

INTERNAL SCHEMATIC DIAGRAM



SC06960

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	330	V
V_{CEV}	Collector-Emitter Voltage ($V_{BE} = -1.5$ V)	330	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	150	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	6	V
I_C	Collector Current	7	A
I_{CM}	Collector Peak Current (repetitive)	10	A
I_{CM}	Collector Peak Current ($t_p = 10$ ms)	15	A
I_B	Base Current	4	A
P_{tot}	Total Dissipation at $T_c \leq 25$ °C	60	W
T_{stg}	Storage Temperature	-65 to 150	°C
T_j	Max. Operating Junction Temperature	150	°C

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	2.08	°C/W
R _{thj-amb}	Thermal Resistance Junction-ambient	Max	70	°C/W

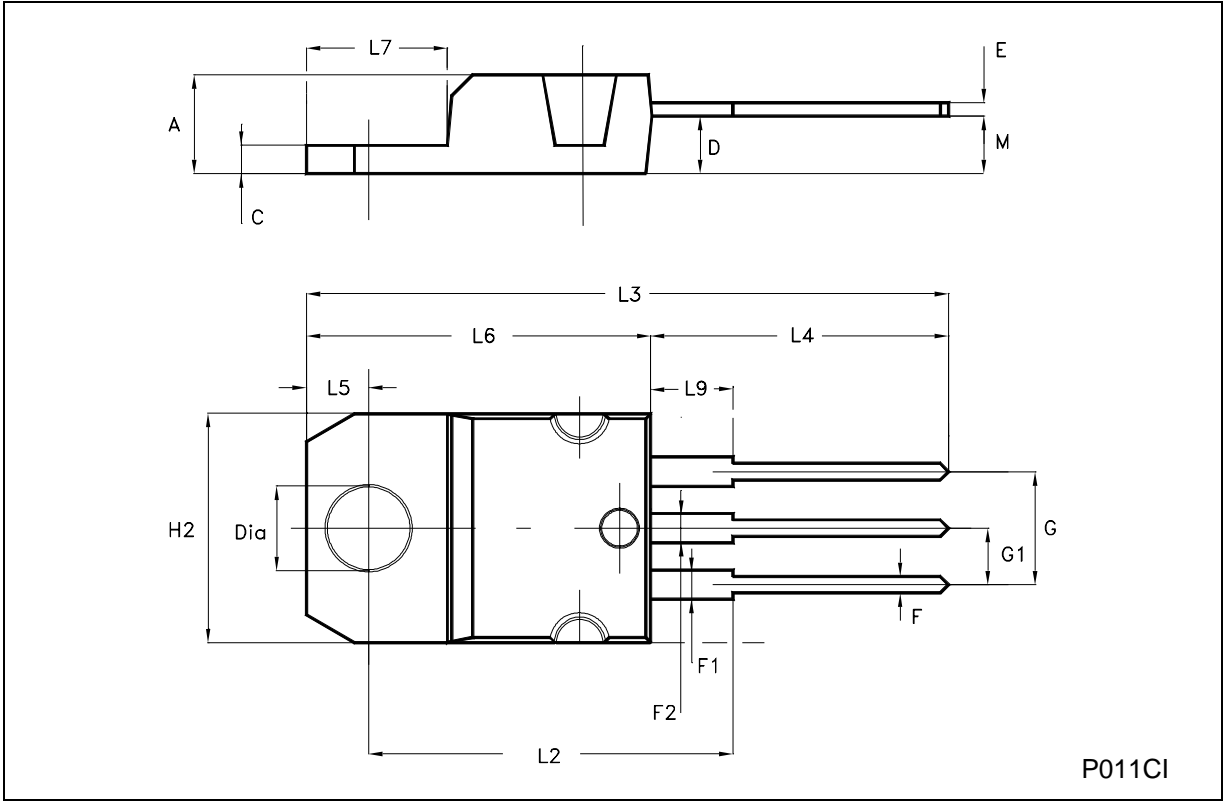
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I _{CES}	Collector Cut-off Current (V _{BE} = 0)	V _{CE} = 330 V V _{CE} = 200 V V _{CE} = 200 V	T _c = 100°C			5 100 1	mA μA mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 6 V				1	mA
V _{CE(sat)*}	Collector-emitter Saturation Voltage	I _C = 5 A	I _B = 0.5 A			1	V
V _{BE(sat)*}	Base-emitter Saturation Voltage	I _C = 5 A				1.2	V
f _T	Transition-Frequency	I _C = 1 A f = 1 MHz	V _{CE} = 5 V		10	16	MHz
t _{off}	Turn-off Time	I _C = 5 A	I _{Bend} = 0.5 A			0.75	μs
I _{S/b}	Second Breakdown Collector Current	V _{CE} = 40 V	t = 10 ms		4		A

* Pulsed: Pulse duration = 300 ms, duty cycle 1.5 %.

TO-220 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.40		4.60	0.173		0.181
C	1.23		1.32	0.048		0.052
D	2.40		2.72	0.094		0.107
E	0.49		0.70	0.019		0.027
F	0.61		0.88	0.024		0.034
F1	1.14		1.70	0.044		0.067
F2	1.14		1.70	0.044		0.067
G	4.95		5.15	0.194		0.202
G1	2.40		2.70	0.094		0.106
H2	10.00		10.40	0.394		0.409
L2		16.40			0.645	
L4	13.00		14.00	0.511		0.551
L5	2.65		2.95	0.104		0.116
L6	15.25		15.75	0.600		0.620
L7	6.20		6.60	0.244		0.260
L9	3.50		3.93	0.137		0.154
M		2.60			0.102	
DIA.	3.75		3.85	0.147		0.151



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