BU406

SILICON NPN SWITCHING TRANSISTOR

- STMicroelectronics PREFERRED SALESTYPE
- NPN TRANSISTOR
- VERY HIGH SWITCHING SPEED

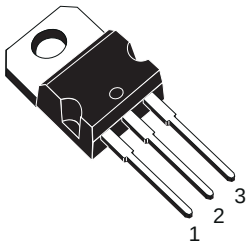
APPLICATIONS:

- HORIZONTAL DEFLECTION FOR MONOCHROME TV

DESCRIPTION

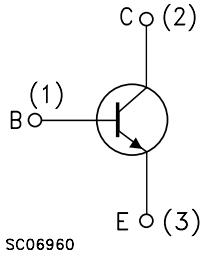
The BU406 is a silicon Epitaxial Planar NPN transistor in Jedec TO-220 plastic package.

It is a fast switching device for use in horizontal deflection output stages of large screens MTV receivers with 110° CRT.



TO-220

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage (I_E = 0)	400	V
V_{CEV}	Collector-Emitter Voltage (V_{BE} = -1.5 V)	400	V
V_{CEO}	Collector-Emitter Voltage (I_B = 0)	200	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

$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	2.08	$^oC/W$
$R_{thj\text{-}amb}$	Thermal Resistance Junction-ambient	Max	70	$^oC/W$

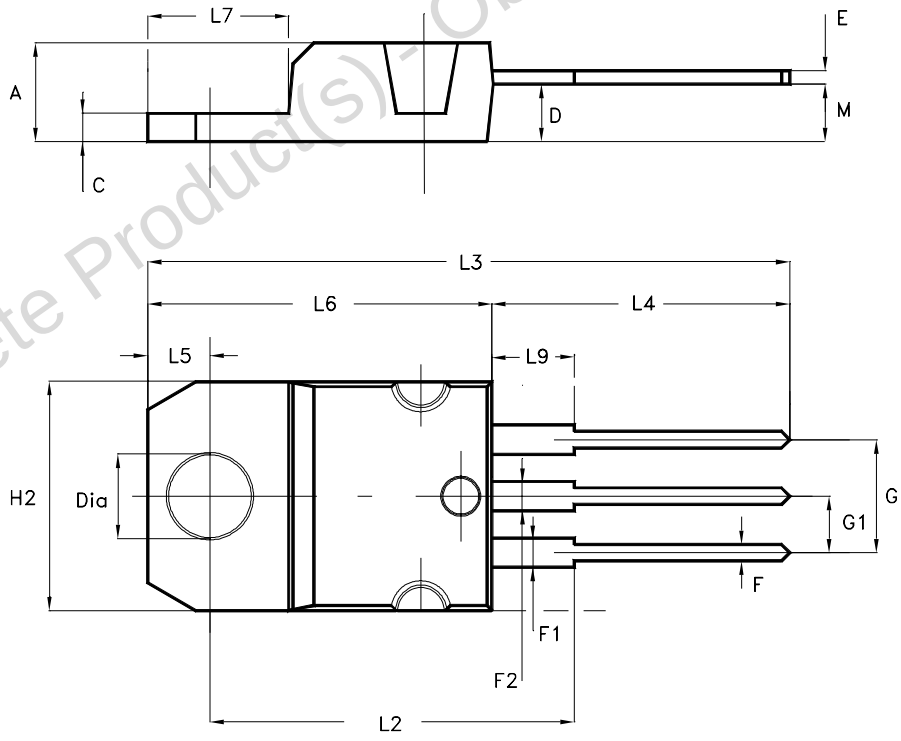
ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^oC unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector Cut-off Current (V_{BE} = 0)	V_{CE} =400 V V_{CE} =250 V T_c = 150^oC V_{CE} =250 V			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 I_B = 0.5 A			1.2	V
f_T	Transition-Frequency	I_C = 0.5 A V_{CE} = 10V	10			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 µs, 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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