

## SILICON NPN SWITCHING TRANSISTOR

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

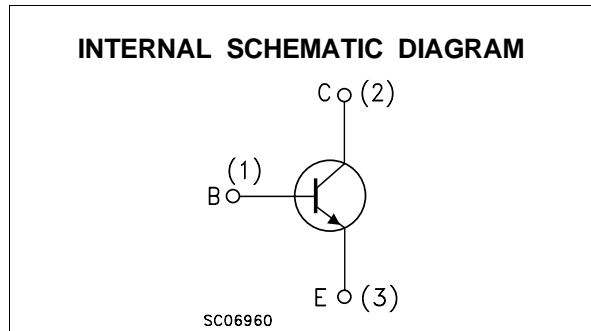
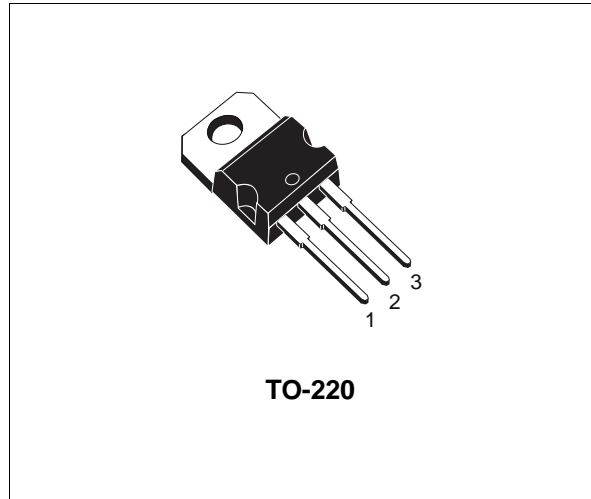
**APPLICATIONS:**

- 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.


**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 <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	2.08	°C/W
R <sub>thj-amb</sub>	Thermal Resistance Junction-ambient	Max	70	°C/W

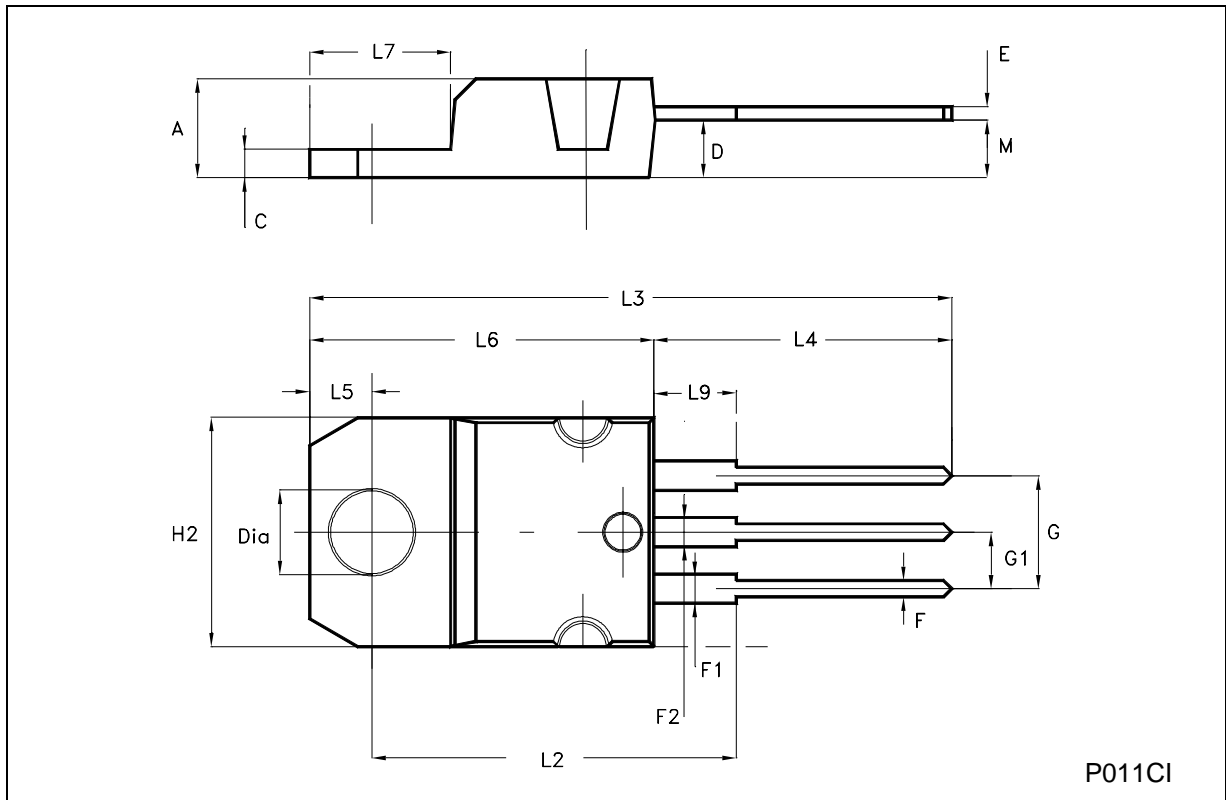
**ELECTRICAL CHARACTERISTICS** (T<sub>case</sub> = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I <sub>CES</sub>	Collector Cut-off Current (V <sub>BE</sub> = 0)	V <sub>CE</sub> = 400 V V <sub>CE</sub> = 250 V V <sub>CE</sub> = 250 V	T <sub>c</sub> = 150°C			5 100 1	mA μA mA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = 6 V				1	mA
V <sub>CE(sat)*</sub>	Collector-emitter Saturation Voltage	I <sub>C</sub> = 5 A	I <sub>B</sub> = 0.5 A			1	V
V <sub>BE(sat)*</sub>	Base-emitter Saturation Voltage	I <sub>C</sub> = 5 A	I <sub>B</sub> = 0.5 A			1.2	V
f <sub>T</sub>	Transition-Frequency	I <sub>C</sub> = 0.5 A	V <sub>CE</sub> = 10V	10			MHz
t <sub>off</sub>	Turn-off Time	I <sub>C</sub> = 5 A	I <sub>Bend</sub> = 0.5 A			0.75	μs
I <sub>s/b</sub>	Second Breakdown Collector Current	V <sub>CE</sub> = 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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