

## SILICON NPN SWITCHING TRANSISTORS

- SGS-THOMSON PREFERRED SALESTYPES
- NPN TRANSISTOR
- VERY HIGH SWITCHING SPEED

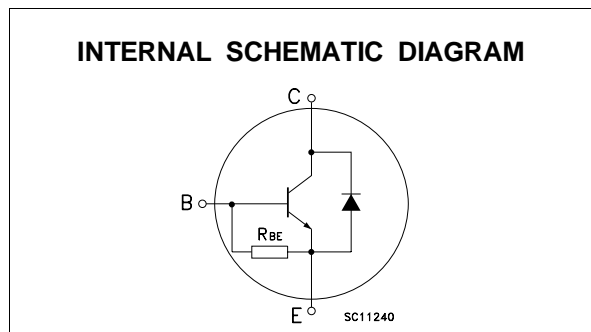
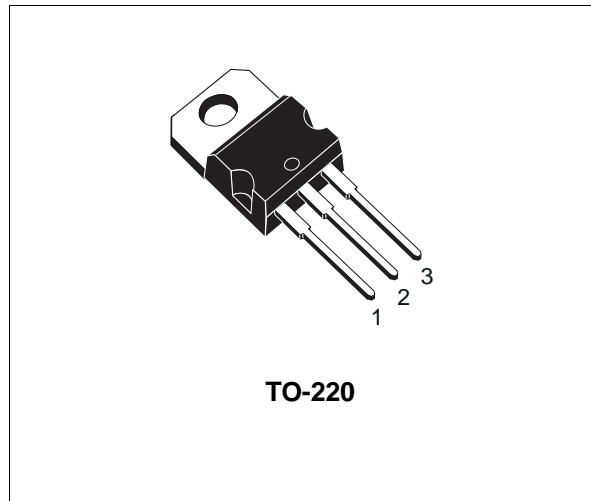
### APPLICATIONS:

- HORIZONTAL DEFLECTION FOR MONOCHROME TV

### DESCRIPTION

The BU406D and BU407D are silicon planar epitaxial NPN transistors with integrated damper diode, in Jedec TO-220 plastic package. They are fast switching, devices for use in horizontal deflection output stages of MTV receivers with 110° CRT.

The BU406D is primarily intended for large screen, while the BU407D is for medium and small screens



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		BU406D	BU407D	
$V_{CBO}$	Collector-Base Voltage ( $I_E = 0$ )	400	330	V
$V_{CEV}$	Collector-Emitter Voltage ( $V_{BE} = -1.5V$ )	400	330	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 ( $t_p = 10ms$ )	15		A
$I_B$	Base Current	4		A
$P_{tot}$	Total Dissipation at $T_C = 25^\circ C$	60		W
$T_{stg}$	Storage Temperature	-65 to 150		$^\circ C$
$T_j$	Max. Operating Junction Temperature	150		$^\circ C$

## BU406D/BU407D

### 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

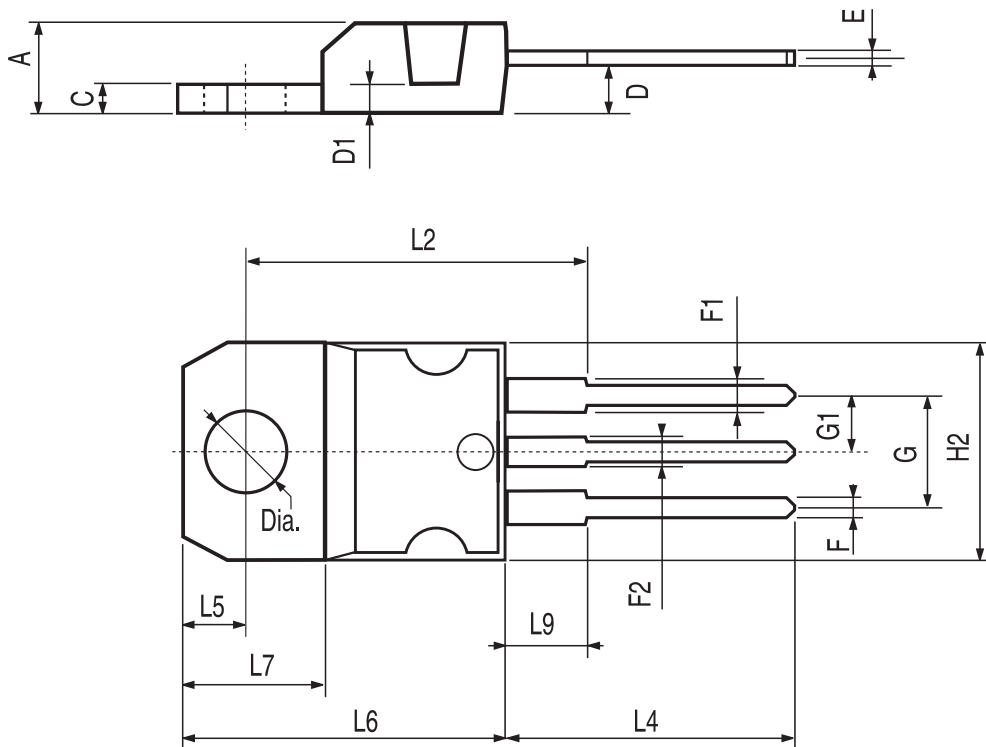
### ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I <sub>CEV</sub>	Collector Cut-off Current (V <sub>BE</sub> = - 1.5V)	for <b>BU406D</b> V <sub>CE</sub> = 400 V for <b>BU407D</b> V <sub>CE</sub> = 330 V				15 15	mA mA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = 6 V				400	mA
V <sub>CE(sat)*</sub>	Collector-emitter Saturation Voltage	I <sub>C</sub> = 5 A	I <sub>B</sub> = 0.65 A			1	V
V <sub>BE(sat)*</sub>	Base-emitter Saturation Voltage	I <sub>C</sub> = 5 A	I <sub>B</sub> = 0.65 A			1.3	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> = 0.65 A			0.75	µs
I <sub>s/b</sub>	Second Breakdown Collector Current	V <sub>CE</sub> = 40 V	t = 10 ms		4		A
V <sub>F</sub>	Diode Forward Voltage	I <sub>F</sub> = 5 A				1.5	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		0.051
D	2.40		2.72	0.094		0.107
D1		1.27			0.050	
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		0.203
G1	2.4		2.7	0.094		0.106
H2	10.0		10.40	0.393		0.409
L2		16.4			0.645	
L4	13.0		14.0	0.511		0.551
L5	2.65		2.95	0.104		0.116
L6	15.25		15.75	0.600		0.620
L7	6.2		6.6	0.244		0.260
L9	3.5		3.93	0.137		0.154
DIA.	3.75		3.85	0.147		0.151



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