

## HIGH CURRENT NPN SILICON TRANSISTOR

- SGS-THOMSON PREFERRED SALESTYPE
- NPN TRANSISTOR

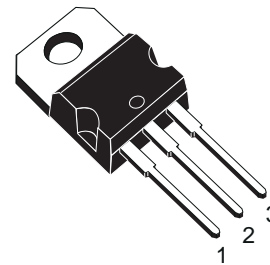
### APPLICATIONS

- HORIZONTAL DEFLECTION FOR MONOCHROME TVs

### DESCRIPTION

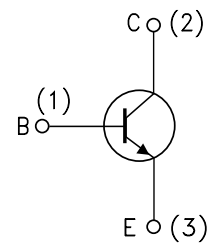
The BU407 is a silicon epitaxial planar NPN transistors in Jedec TO-220 plastic package.

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

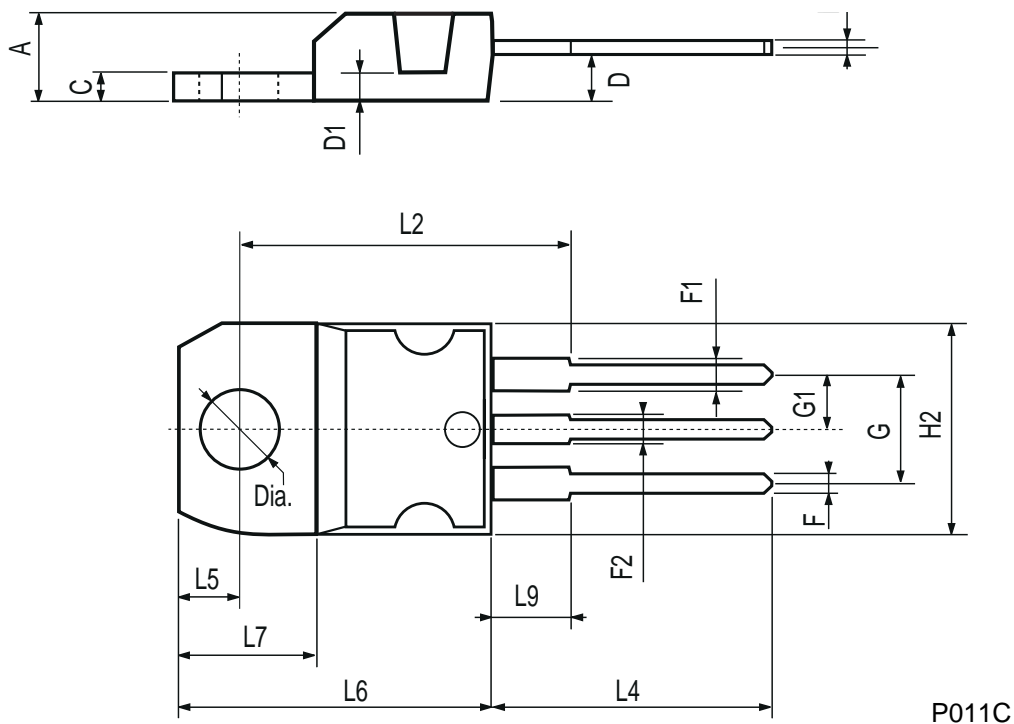
**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
$I_{CES}$	Collector Cut-off Current ( $V_{BE} = 0$ )	$V_{CE} = 330\text{ V}$ $V_{CE} = 200\text{ V}$ $V_{CE} = 200\text{ V}$	$T_{case} = 100^{\circ}\text{C}$			5 100 1	mA $\mu\text{A}$ mA
$I_{EBO}$	Emitter Cut-off Current ( $I_C = 0$ )	$V_{EB} = 6\text{ V}$				1	mA
$V_{CE(sat)*}$	Collector-emitter Saturation Voltage	$I_C = 5\text{ A}$	$I_B = 0.5\text{ A}$			1	V
$V_{BE(sat)*}$	Base-emitter Saturation Voltage	$I_C = 5\text{ A}$				1.2	V
$f_T$	Transition-Frequency	$I_C = 1\text{ A}$ $f = 1\text{ MHz}$	$V_{CE} = 5\text{ V}$		10	16	MHz
$t_{off**}$	Turn-off Time	$I_C = 5\text{ A}$	$I_{Bend} = 0.5\text{ A}$			0.75	$\mu\text{s}$
$I_{S/b}$	Second Breakdown Collector Current	$V_{CE} = 40\text{ V}$	$t = 10\text{ ms}$		4		A

\* Pulsed: Pulse duration = 300  $\mu\text{s}$ , 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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