

## SILICON NPN TRANSISTOR

- STMicroelectronics PREFERRED SALESTYPE
- NPN TRANSISTOR

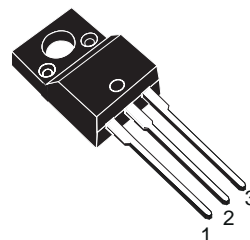
### APPLICATIONS

- HORIZONTAL DEFLECTION FOR COLOUR TV

### DESCRIPTION

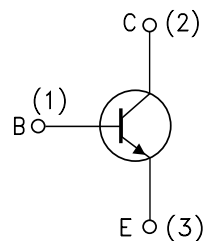
The device is a silicon epitaxial planar NPN transistor in TO-220FP fully isolated package.

It is a fast switching, high voltage device for use in horizontal deflection output stages of medium and small screens MTV receivers with 110° CRT as monochrome computer terminals.



TO-220FP

### 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	34	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	3.67	°C/W
R <sub>thj-amb</sub>	Thermal Resistance Junction-ambient	Max	70	°C/W

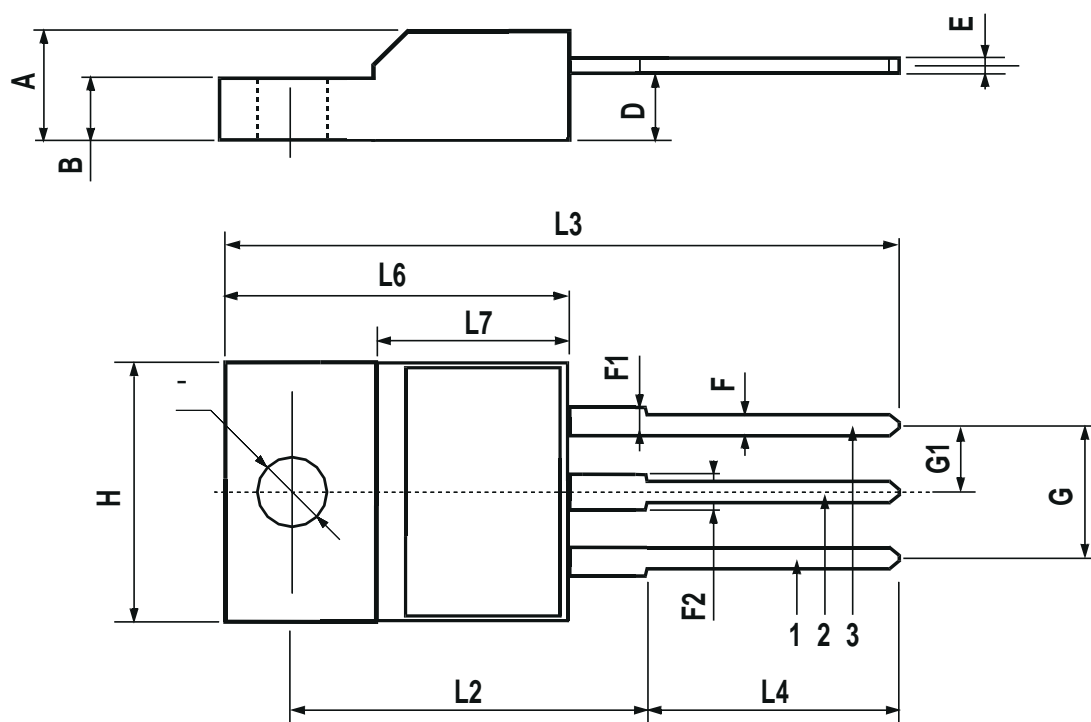
**ELECTRICAL CHARACTERISTICS** (T<sub>case</sub> = 25 °C unless otherwise specified)

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> = 330 V V <sub>CE</sub> = 200 V V <sub>CE</sub> = 200 V	T <sub>case</sub> = 100°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> = 10 V	10			MHz
t <sub>off</sub>	RESISTIVE LOAD 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-220FP MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.4		4.6	0.173		0.181
B	2.5		2.7	0.098		0.106
D	2.5		2.75	0.098		0.108
E	0.45		0.7	0.017		0.027
F	0.75		1	0.030		0.039
F1	1.15		1.7	0.045		0.067
F2	1.15		1.7	0.045		0.067
G	4.95		5.2	0.195		0.204
G1	2.4		2.7	0.094		0.106
H	10		10.4	0.393		0.409
L2		16			0.630	
L3	28.6		30.6	1.126		1.204
L4	9.8		10.6	0.385		0.417
L6	15.9		16.4	0.626		0.645
L7	9		9.3	0.354		0.366
Ø	3		3.2	0.118		0.126



Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specification mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a trademark of STMicroelectronics

© 1999 STMicroelectronics – Printed in Italy – All Rights Reserved

STMicroelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - France - Germany - Italy - Japan - Korea - Malaysia - Malta - Mexico - Morocco - The Netherlands - Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A.

<http://www.st.com>