

HIGH VOLTAGE NPN POWER TRANSISTOR

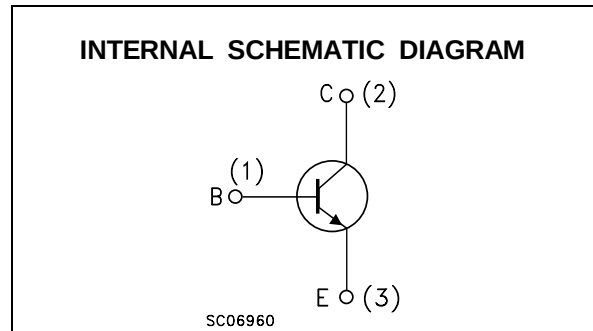
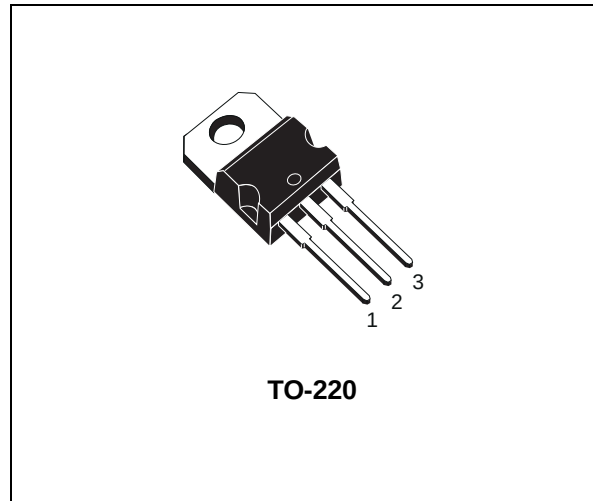
- STMicroelectronics PREFERRED SALESTYPE
- HIGH VOLTAGE CAPABILITY
- MINIMUM LOT-TO-LOT SPREAD FOR RELIABLE OPERATION
- FAST SWITCHING SPEED

APPLICATIONS

- GENERAL PURPOSE SWITCHING
- SWITCH MODE POWER SUPPLIES
- ELECTRONIC BALLASTS FOR FLUORESCENT LIGHTING

DESCRIPTION

The device is a Multiepitaxial Mesa NPN transistor mounted in TO-220 plastic package. It is intended for high voltage and fast switching applications.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CES}	Collector-Emitter Voltage ($V_{BE} = 0$)	850	V
V_{CEX}	Collector-Emitter Voltage ($V_{BE} = -2.5V$)	850	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	400	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	7	V
I_C	Collector Current	5	A
I_B	Base Current	3	A
P_{tot}	Total Dissipation at $T_C = 25\text{ }^{\circ}C$	70	W
T_{stg}	Storage Temperature	-65 to 150	$^{\circ}C$
T_j	Max. Operating Junction Temperature	150	$^{\circ}C$

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-Case	Max	1.76	°C/W
-----------------------	----------------------------------	-----	------	------

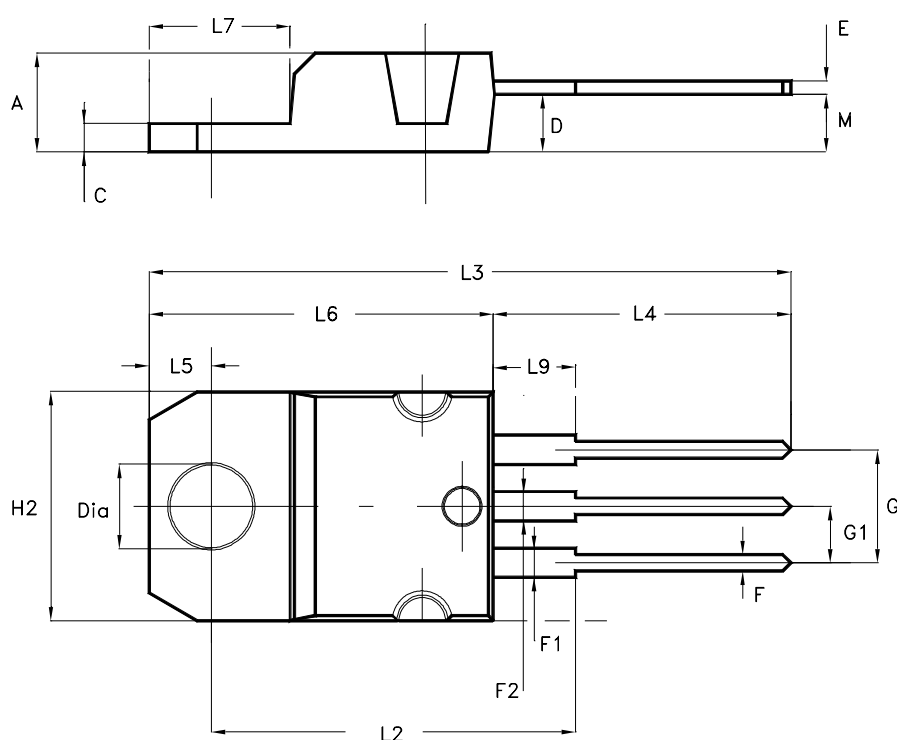
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CER}	Collector Cut-off Current (R _{BE} = 10Ω)	V _{CE} = 850 V V _{CE} = 850 V T _C = 125 °C			0.1 1	mA mA
I _{CEX}	Collector Cut-off Current (V _{BE} = -2.5V)	V _{CE} = 850 V V _{CE} = 850 V T _C = 125 °C			0.3 2	mA mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 7 V			1	mA
V _{CEO(sus)*}	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = 100 mA	400			V
V _{CE(sat)*}	Collector-Emitter Saturation Voltage	I _C = 2.5 A I _C = 3.5 A I _B = 0.5 A I _B = 0.7 A			1.5 5	V V
V _{BE(sat)*}	Base-Emitter Saturation Voltage	I _C = 2.5 A I _B = 0.5 A			1.3	V
t _{on} t _s t _f	RESISTIVE LOAD Turn-on Time Storage Time Fall Time	I _C = 2.5 A I _{B1} = - I _{B2} = 0.5 A V _{CC} = 150 V			1 3 0.8	μs μs μs

* 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



P011CI

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

© 2002 STMicroelectronics – Printed in Italy – All Rights Reserved

STMicroelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States.

<http://www.st.com>