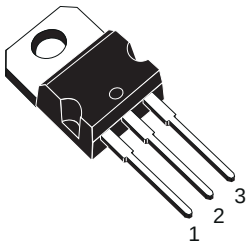
BUV46

HIGH VOLTAGE NPN POWER TRANSISTOR

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

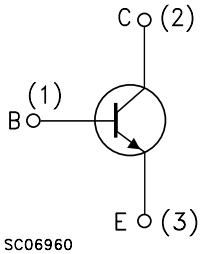
APPLICATIONS
- GENERAL PURPOSE SWITCHING
- SWITCH MODE POWER SUPPLIES
- ELECTRONIC BALLASTS FOR FLUORESCENT LIGHTING

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.



TO-220

INTERNAL SCHEMATIC DIAGRAM



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 ^oC	70	W
T_{stg}	Storage Temperature	-65 to 150	^oC
T_j	Max. Operating Junction Temperature	150	^oC

THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-Case	Max	1.76	$^oC/W$

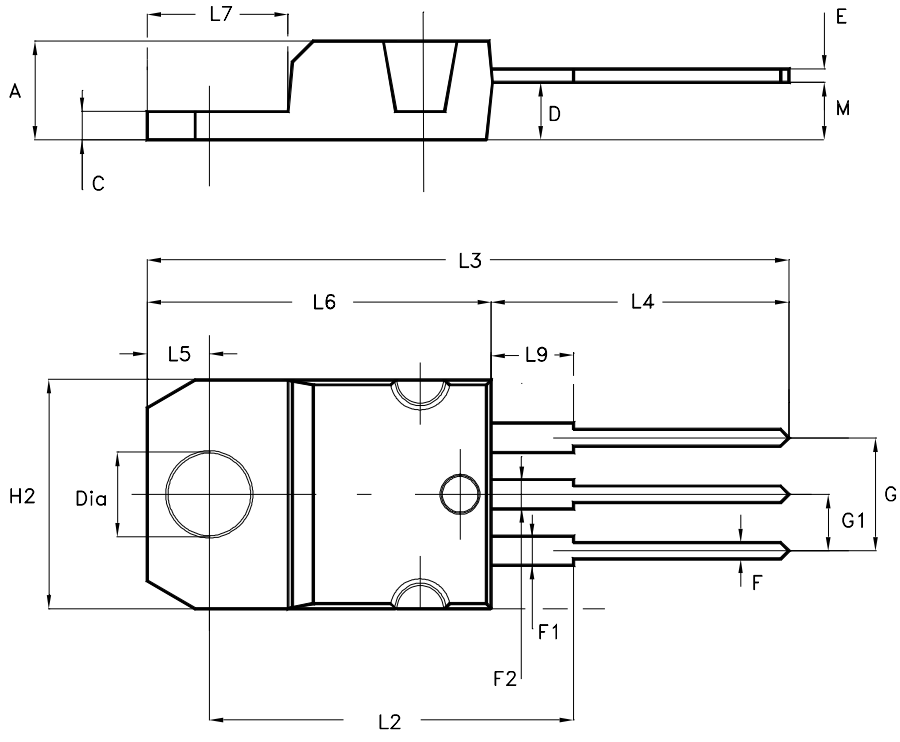
ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^oC unless otherwise specified)

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 ^oC			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 ^oC			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_B = 0.5 A I_C = 3.5 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 V_{CC} = 150 V I_{B1} = - I_{B2} = 0.5 A			 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



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