



## HIGH VOLTAGE NPN POWER TRANSISTOR

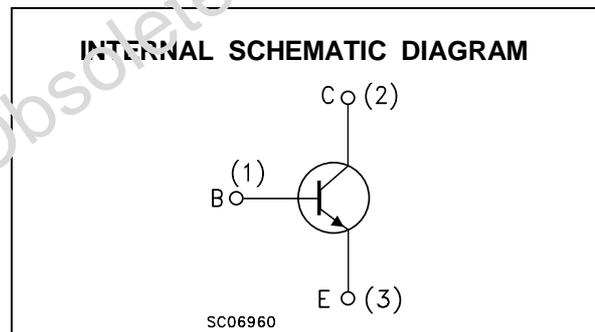
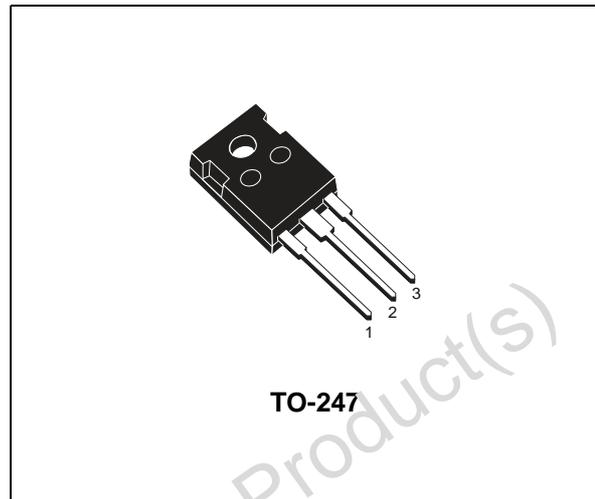
- STMicroelectronics PREFERRED SALESTYPE
- NPN TRANSISTOR
- HIGH VOLTAGE CAPABILITY
- HIGH CURRENT CAPABILITY
- FAST SWITCHING SPEED

### APPLICATIONS

- HIGH FREQUENCY AND EFFICIENCY CONVERTERS
- LINEAR AND SWITCHING INDUSTRIAL EQUIPMENT

### DESCRIPTION

The BUX98APW is a silicon Multiepitaxial Mesa NPN transistor in TO-247 plastic package. It is intended for use in industrial applications from single and three-phase mains operation.



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{CER}$	Collector-Emitter Voltage ( $R_{BE} = \leq 10 \Omega$ )	1000	V
$V_{CBS}$	Collector-Base Voltage ( $V_{BE} = 0$ )	1000	V
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )	450	V
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )	7	V
$I_C$	Collector Current	24	A
$I_{CM}$	Collector Peak Current ( $t_p < 5$ ms)	36	A
$I_B$	Base Current	5	A
$I_{BM}$	Base Peak Current ( $t_p < 5$ ms)	8	A
$P_{tot}$	Total Power Dissipation at $T_{case} < 25$ °C	200	W
$T_{stg}$	Storage Temperature	-65 to 150	°C
$T_j$	Max Operating Junction Temperature	150	°C

## BUX98APW

### THERMAL DATA

R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	0.63	°C/W
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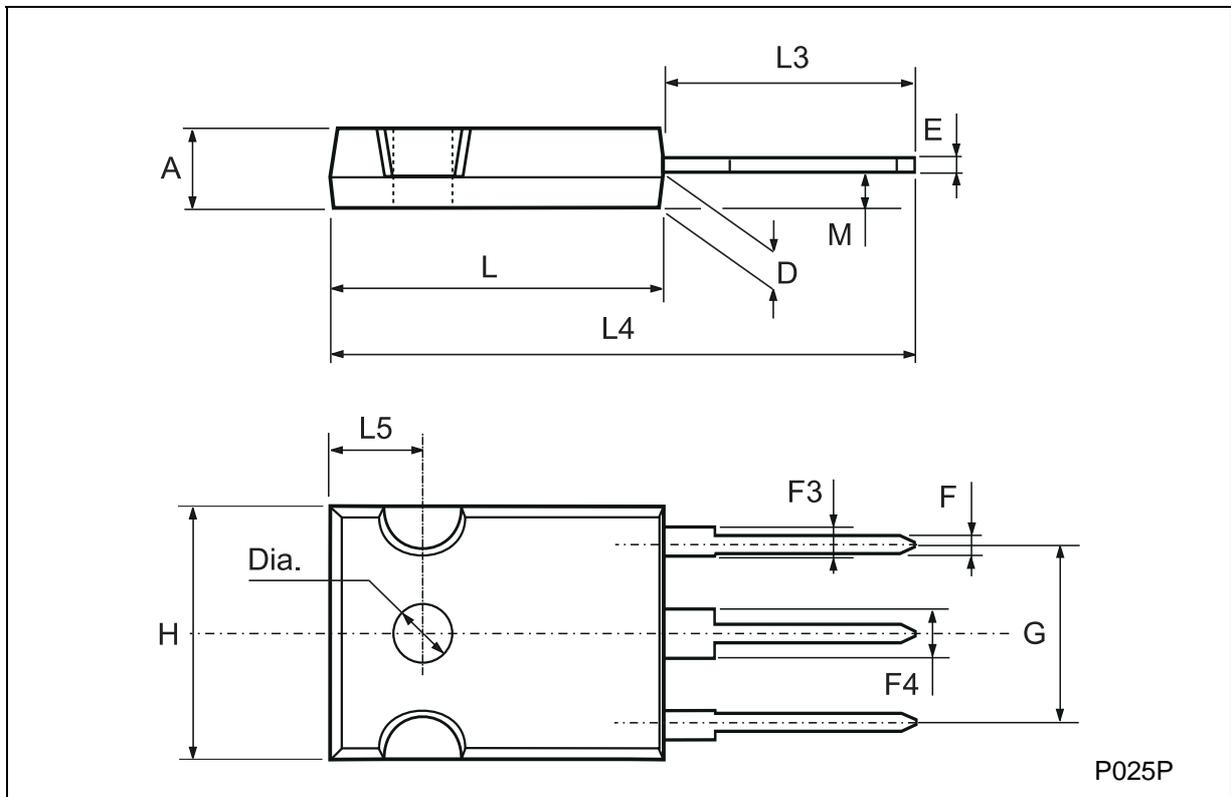
### ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I <sub>CEr</sub>	Collector Cut-off Current (R <sub>BE</sub> = 5 Ω)	V <sub>CE</sub> = 1000 V V <sub>CE</sub> = 1000 V    T <sub>C</sub> = 125 °C			200 2	μA mA
I <sub>CES</sub>	Collector Cut-off Current (V <sub>BE</sub> = 0 )	V <sub>CE</sub> = 1000 V V <sub>CE</sub> = 1000 V    T <sub>C</sub> = 125 °C			200 2	μA mA
I <sub>CEO</sub>	Collector Cut-off Current (I <sub>B</sub> = 0)	V <sub>CE</sub> = 450 V			2	mA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = 5 V			2	mA
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage (I <sub>C</sub> = 0)	I <sub>E</sub> = 100 mA	7			V
V <sub>CEO(sus)*</sub>	Collector-Emitter Sustaining Voltage (I <sub>B</sub> = 0)	I <sub>C</sub> = 200 mA    L = 25 mH	450			V
V <sub>CE(sat)*</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 16 A    I <sub>B</sub> = 3.2 A			1.2	V
V <sub>BE(sat)*</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 16 A    I <sub>B</sub> = 3.2 A			1.5	V
t <sub>on</sub> t <sub>s</sub> t <sub>f</sub>	RESISTIVE LOAD Turn-on Time Storage Time Fall Time	V <sub>CC</sub> = 150 V    I <sub>C</sub> = 16 A I <sub>B1</sub> = - I <sub>B2</sub> = 3.2 A			1 3 0.8	μs μs μs

\* Pulsed: Pulse duration = 300 μs, duty cycle = 1.5 %

**TO-247 MECHANICAL DATA**

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.7		5.3	0.185		0.209
D	2.2		2.6	0.087		0.102
E	0.4		0.8	0.016		0.031
F	1		1.4	0.039		0.055
F3	2		2.4	0.079		0.094
F4	3		3.4	0.118		0.134
G		10.9			0.429	
H	15.3		15.9	0.602		0.626
L	19.7		20.3	0.776		0.779
L3	14.2		14.8	0.559		0.582
L4		34.6			1.362	
L5		5.5			0.217	
M	2		3	0.079		0.118



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