

HIGH POWER NPN SILICON TRANSISTOR

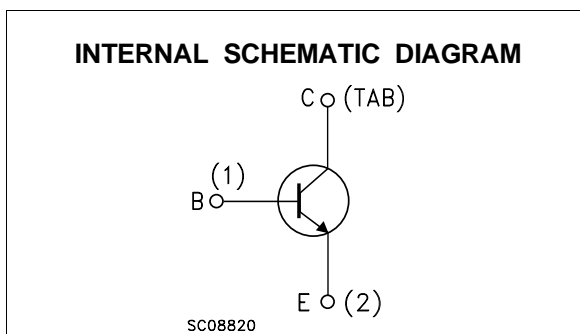
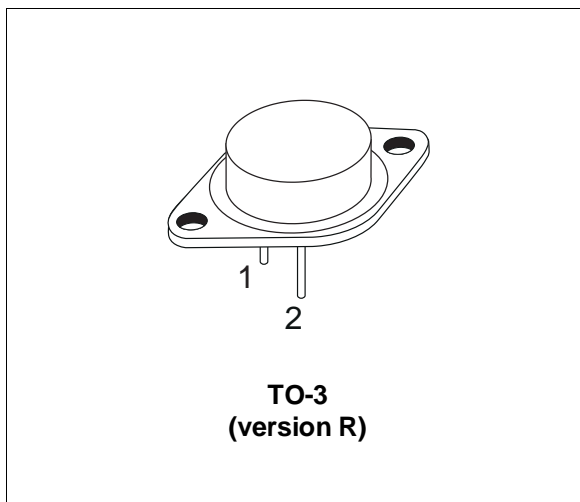
- STMicroelectronics PREFERRED SALESTYPE
- NPN TRANSISTOR
- HIGH VOLTAGE CAPABILITY
- HIGH CURRENT CAPABILITY
- FAST SWITCHING SPEED

APPLICATIONS:

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

DESCRIPTION

The BUX98C is a Silicon Multi Epitaxial Mesa NPN transistor in Jedec TO-3 metal case, intended for use in switching and industrial applications from single and three-phase mains operations.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CER}	Collector-Emitter Voltage ($R_{BE} \leq 0 \Omega$)	1200	V
V_{CES}	Collector-Emitter Voltage ($V_{BE} = 0$)	1200	V
V_{CEO}	Collector-Emitter Voltage	700	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	7	V
I_C	Collector Current	30	A
I_{CM}	Collector Peak Current ($t_p < 5$ ms)	60	A
I_{CMP}	Collector Peak Current non Repetitive	80	A
I_B	Base Current	8	A
I_{BM}	Base Peak Current ($t_p < 5$ ms)	30	A
P_{tot}	Total Dissipation at $T_c = 25^\circ\text{C}$	250	W
T_{stg}	Storage Temperature	-65 to 200	$^\circ\text{C}$
T_j	Max. Operating Junction Temperature	200	$^\circ\text{C}$

BUX98C

THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	0.7	$^{\circ}\text{C}/\text{W}$
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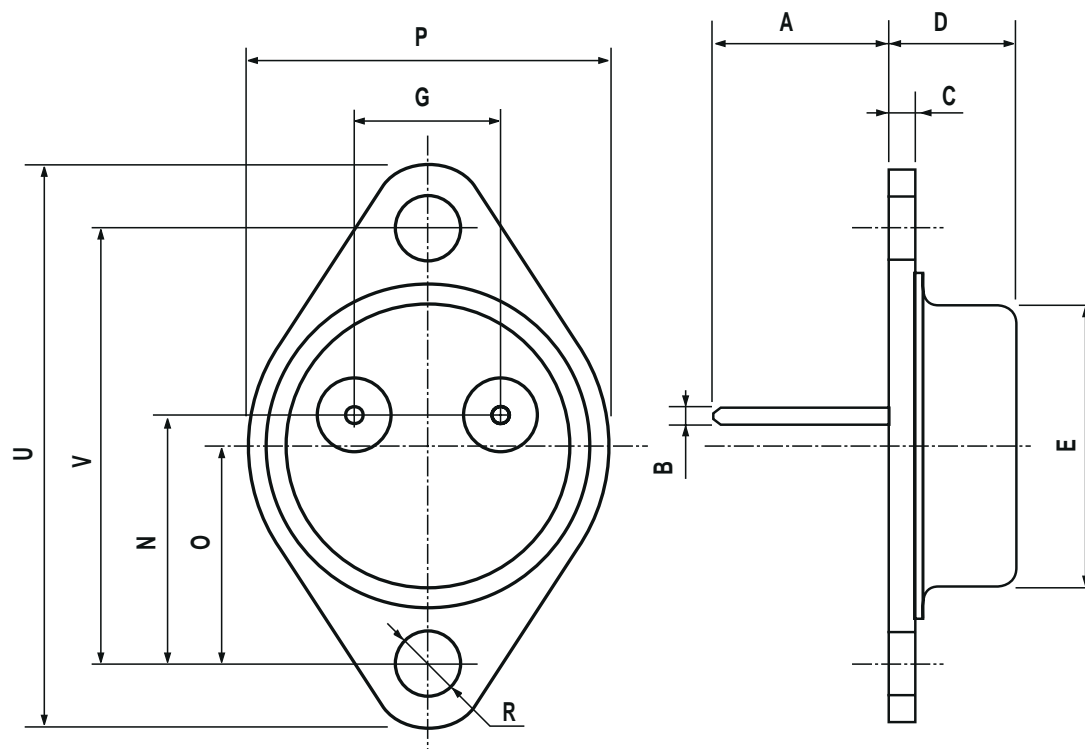
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CER}	Collector Cut-off Current ($R_{BE} = 10\ \Omega$)	$V_{CE} = V_{CES}$ $V_{CE} = V_{CES}$ $T_{case} = 125^{\circ}\text{C}$			1 8	mA mA
I_{CES}	Collector Cut-off Current ($V_{BE} = 0$)	$V_{CE} = V_{CES}$ $V_{CE} = V_{CES}$ $T_{case} = 125^{\circ}\text{C}$			1 6	mA mA
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = V_{CEO}$			2	mA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{CB} = 5\ \text{V}$			2	mA
$V_{CEO(sus)}^*$	Collector-Emitter Sustaining Voltage ($I_B = 0$)	$I_C = 100\ \text{mA}$	700			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 12\ \text{A}$ $I_B = 3\ \text{A}$ $I_C = 16\ \text{A}$ $I_B = 5\ \text{A}$ $I_C = 20\ \text{A}$ $I_B = 8\ \text{A}$			1.5 2 3	V V V
$V_{BE(sat)}^*$	Base-Emitter Saturation Voltage	$I_C = 12\ \text{A}$ $I_B = 3\ \text{A}$ $I_C = 20\ \text{A}$ $I_B = 8\ \text{A}$			1.6 2	V V
t_{on} t_s t_f	Turn-on Time Storage Time Fall Time	RESISTIVE LOAD $V_{CC} = 250\ \text{V}$ $I_C = 12\ \text{A}$ $I_{B1} = -I_{B2} = 3\ \text{A}$		0.5 1.5 0.2	1 3 0.8	μs μs μs

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

TO-3 (version R) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		11.7			0.460	
B	0.96		1.10	0.037		0.043
C			1.70			0.066
D			8.7			0.342
E			20.0			0.787
G		10.9			0.429	
N		16.9			0.665	
P			26.2			1.031
R	3.88		4.09	0.152		0.161
U			39.50			1.555
V		30.10			1.185	



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