

## HIGH POWER NPN SILICON TRANSISTOR

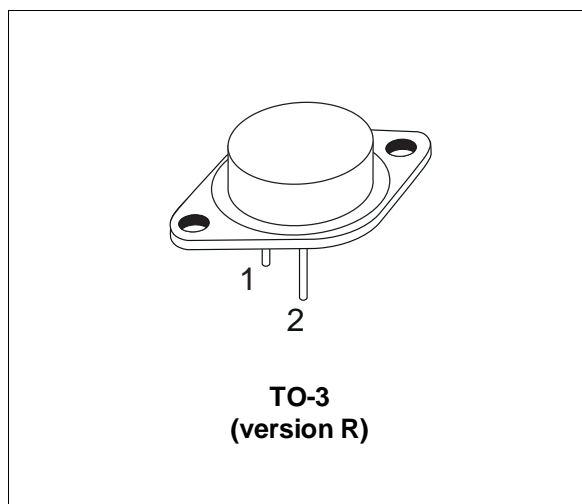
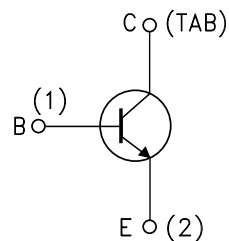
- SGS-THOMSON PREFERRED SALESTYPE
- NPN TRANSISTOR
- HIGH VOLTAGE CAPABILITY
- HIGH CURRENT CAPABILITY
- FAST SWITCHING SPEED

**APPLICATIONS:**

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

**DESCRIPTION**

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


**INTERNAL SCHEMATIC DIAGRAM**

**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	$^{\circ}C/W$
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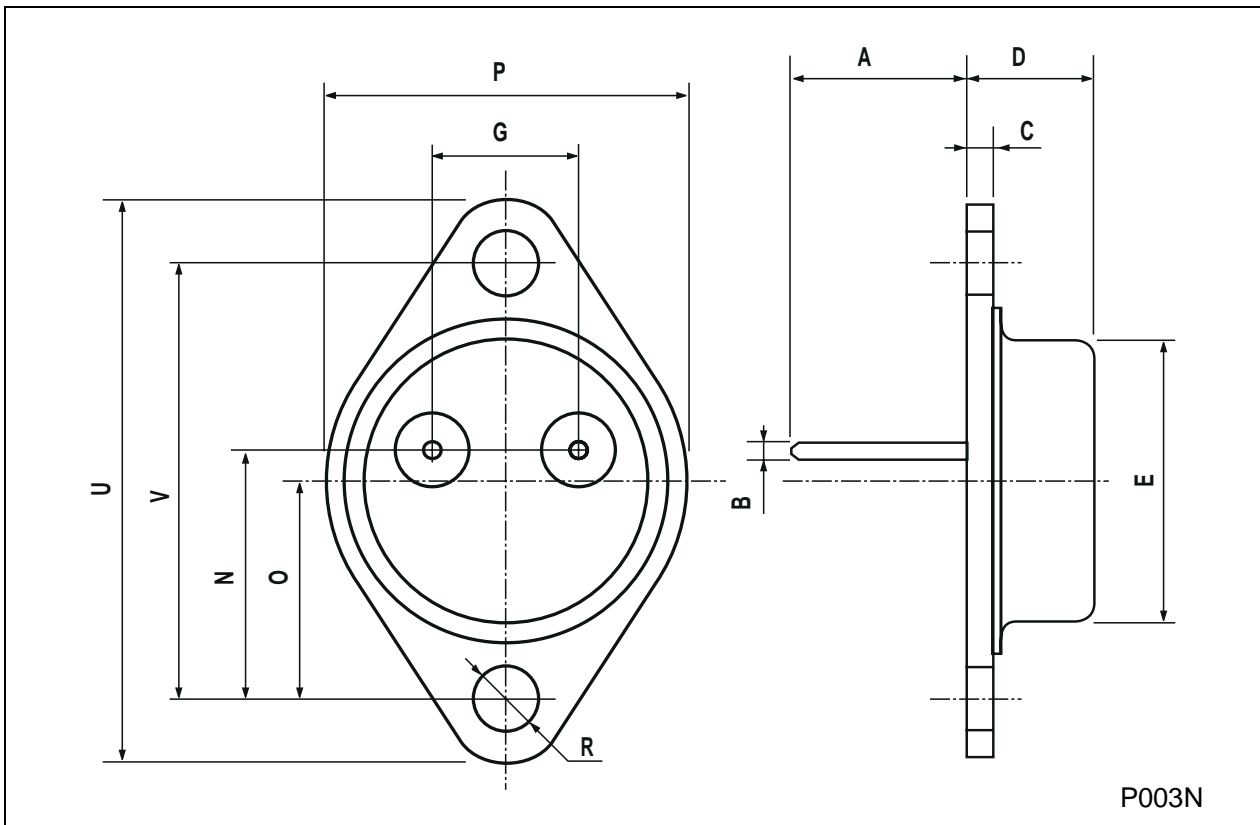
### ELECTRICAL CHARACTERISTICS ( $T_{case} = 25^{\circ}C$ unless otherwise specified)

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

\* Pulsed: Pulse duration = 300  $\mu s$ , 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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