

HIGH POWER NPN SILICON TRANSISTORS

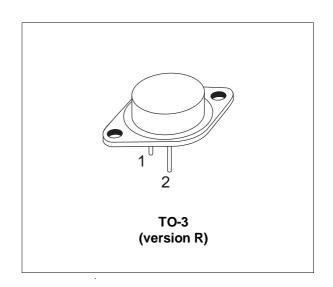
- STMicroelectronics PREFERRED SALESTYPES
- NPN TRANSISTOR
- HIGH VOLTAGE CAPABILITY
- HIGH CURRENT CAPABILITY
- FAST SWITCHING SPEED

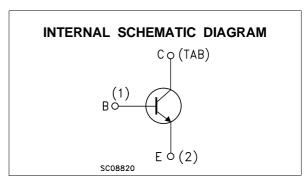
APPLICATIONS

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



The BUX98 and BUX98A are Silicon Multi-Epitaxial Mesa NPN transistor in jedec TO-3 metal case, intended and industrial applications from single and three-phase mains operation.





ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Va	Unit	
		BUX98	BUX98A	
V_{CER}	Collector-Emitter Voltage ($R_{BE} = \le 10 \Omega$)	850	1000	V
V _{CES}	Collector-Base Voltage (V _{BE} = 0)	850	1000	V
V _{CEO}	Collector-Emitter Voltage (I _B = 0)	400	450	V
V _{EBO}	Emitter-Base Voltage (I _C = 0)	7		V
Ic	Collector Current	30		Α
Ісм	Collector Peak Current (tp < 5 ms)	6	А	
I _{CP}	Collector Peak Current non Rep. (tp < 20 μs)	80		Α
Ι _Β	Base Current	8		А
I _{BM}	Base Peak Current (t _p < 5 ms)	30		Α
P _{tot}	Total Power Dissipation at T _{case} < 25 °C	250		W
T _{stg}	Storage Temperature	-65 to 200		°C
Tj	Max Operating Junction Temperature	2	°C	

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THERMAL DATA

R _{thj-case} Thermal Resistance Junction-case	Max	0.7	°C/W	ĺ
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ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

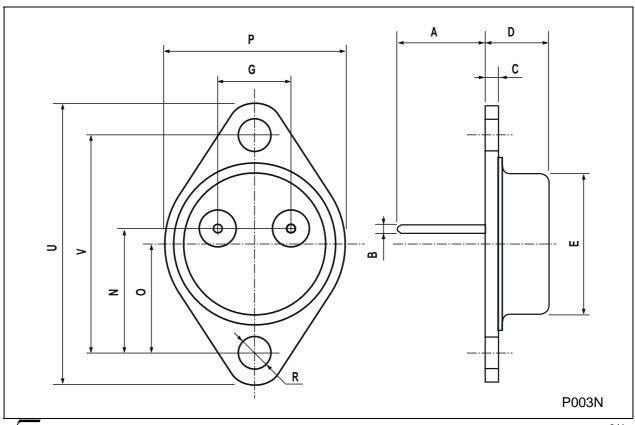
Symbol	Parameter	Test Conditions		Min.	Min. Typ.	Max.	Unit	
I _{CER}	Collector Cut-off Current (R _{BE} = 10 Ω)	V _{CE} = V _{CES} V _{CE} = V _{CES}	T _{case} = 125 °C			1 8	μΑ μΑ	
I _{CES}	Collector Cut-off Current (V _{BE} = 0)	V _{CE} = V _{CES} V _{CE} = V _{CES}	T _{case} = 125 °C			400 4	μA mA	
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 _{EB} = 5 V				2	mA	
V _{CEO(sus)} *	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = 200 mA for BUX98 for BUX98A		400 450			V V	
V _{CER(sus)*}	Collector-Emitter Sustaining Voltage	L = 2mH for BUX98 for BUX98A	I _C = 1 A	850 1000			V V	
VCE(sat)*	Collector-Emitter Saturation Voltage	for BUX98 I _C = 20 A for BUX98A I _C = 16 A I _C = 24 A	I _B = 4 A I _B = 3.2 A I _B = 5 A			1.5 1.5 5	V V V	
V _{BE(sat)} *	Base-Emitter Saturation Voltage	for BUX98 I _C = 20 A for BUX98A I _C = 16 A	I _B = 4 A I _B = 3.2 A			1.6 1.6	V	
ton	Turn-on Time	for BUX98				1	μs	
ts	Storage Time	V _{CC} = 150 V	$I_{C} = 20 \text{ A}$			3	μs	
t _f	Fall Time	I _{B1} = - I _{B2} = 4 A				0.8	μs	
t _{on}	Turn-on Time	for BUX98A				1	μs	
ts	Storage Time	V _{CC} = 150 V	$I_{C} = 16 A$			3	μs	
t _f	Fall Time	$I_{B1} = -I_{B2} = 3.2 \text{ A}$				0.8	μs	

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

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TO-3 (version R) MECHANICAL DATA

DIM.	mm			inch			
2	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
А		11.7			0.460		
В	0.96		1.10	0.037		0.043	
С			1.70			0.066	
D			8.7			0.342	
Е			20.0			0.787	
G		10.9			0.429		
N		16.9			0.665		
Р			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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