SGS-THOMSON MICROELECTRONICS

BUX98C

HIGH POWER NPN SILICON TRANSISTOR

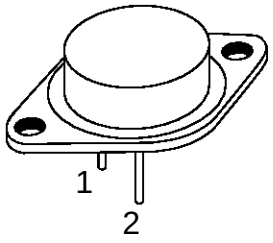
- SGS-THOMSON PREFERRED SALESTYPE
- NPN TRANSISTOR
- HIGH VOLTAGE CAPABILITY
- HIGH CURRENT CAPABILITY
- FAST SWITCHING SPEED

APPLICATIONS:

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

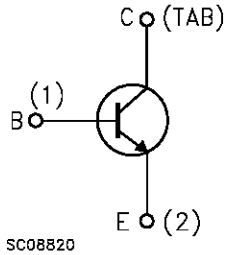
DESCRIPTION

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.



TO-3
(version R)

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 $T_c = 25\ ^oC$	250	W
T_{stg}	Storage Temperature	-65 to 200	^oC
T_j	Max. Operating Junction Temperature	200	^oC

THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case Max	0.7	$^oC/W$

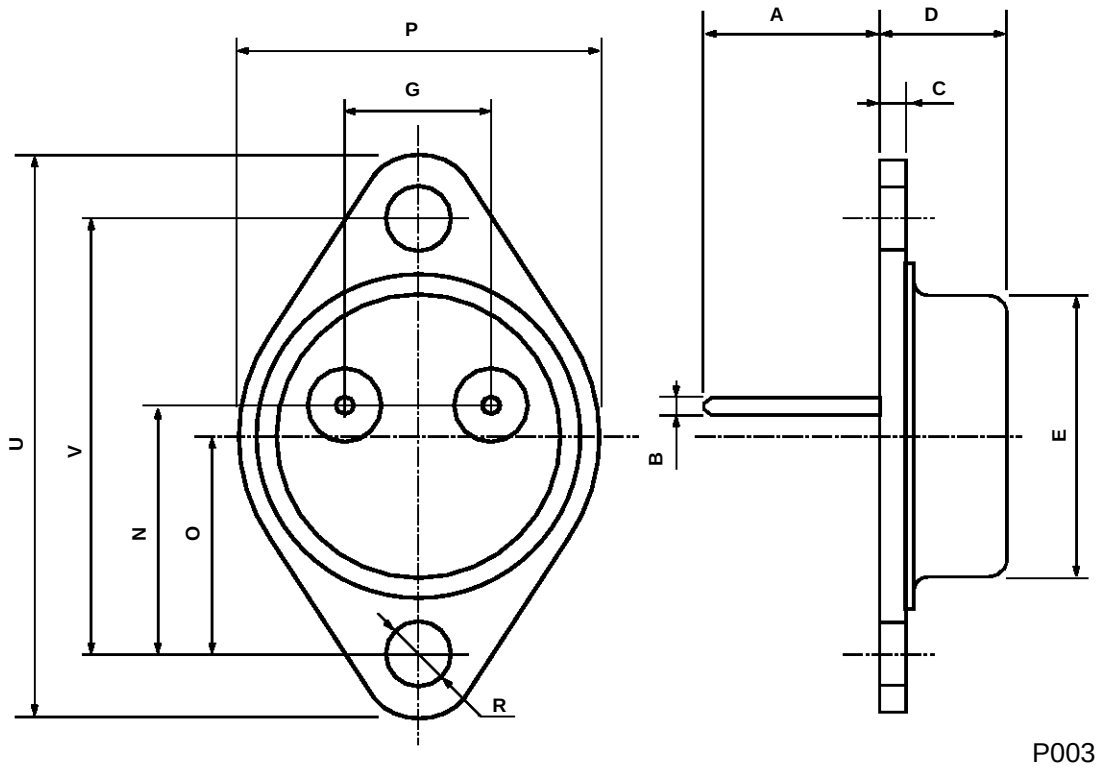
ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^oC unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CER}	Collector Cut-off Current (R_{BE} = 10 Ω)	V_{CE} = V_{CES} V_{CE} = V_{CES} T_{case} = 125 ^oC			1 8	mA mA
I_{CES}	Collector Cut-off Current (V_{BE} = 0)	V_{CE} = V_{CES} V_{CE} = V_{CES} T_{case} = 125 ^oC			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 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 I_C = 16 A I_B = 5 A I_C = 20 A I_B = 8 A			1.5 2 3	V V V
$V_{BE(sat)}$*	Base-Emitter Saturation Voltage	I_C = 12 A I_B = 3 A I_C = 20 A I_B = 8 A			1.6 2	V V
t_{on} t_s t_f	Turn-on Time Storage Time Fall Time	RESISTIVE LOAD V_{CC} = 250 V I_C = 12 A I_{B1} = - I_{B2} = 3 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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