SGS-THOMSON MICROELECTRONICS

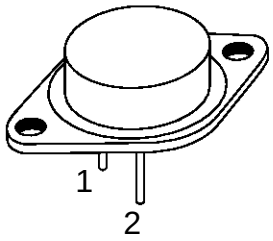
BUX98C

HIGH VOLTAGE NPN SILICON POWER TRANSISTOR

- SGS-THOMPSON PREFERRED SALESTYPE

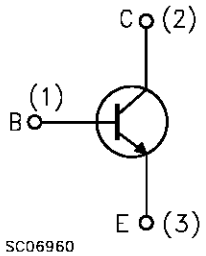
DESCRIPTION

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



TO-3

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CER}	Collector-Emitter Voltage	1200	V
V_{CES}	Collector-Emitter Voltage (v_{BE} = 0)	1200	V
V_{CEX}	Collector-Emitter Voltage	700	V
V_{EBO}	Emitter-Base Voltage (IC = 0)	7	V
I_C	Collector Current	30	A
I_{CM}	Collector Peak Current	60	A
I_{CP}	Collector Peak Current non Repetitive	80	A
I_B	Base Current	8	A
I_{BM}	Base Peak Current	30	A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25\ ^oC$	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	$^oC/W$

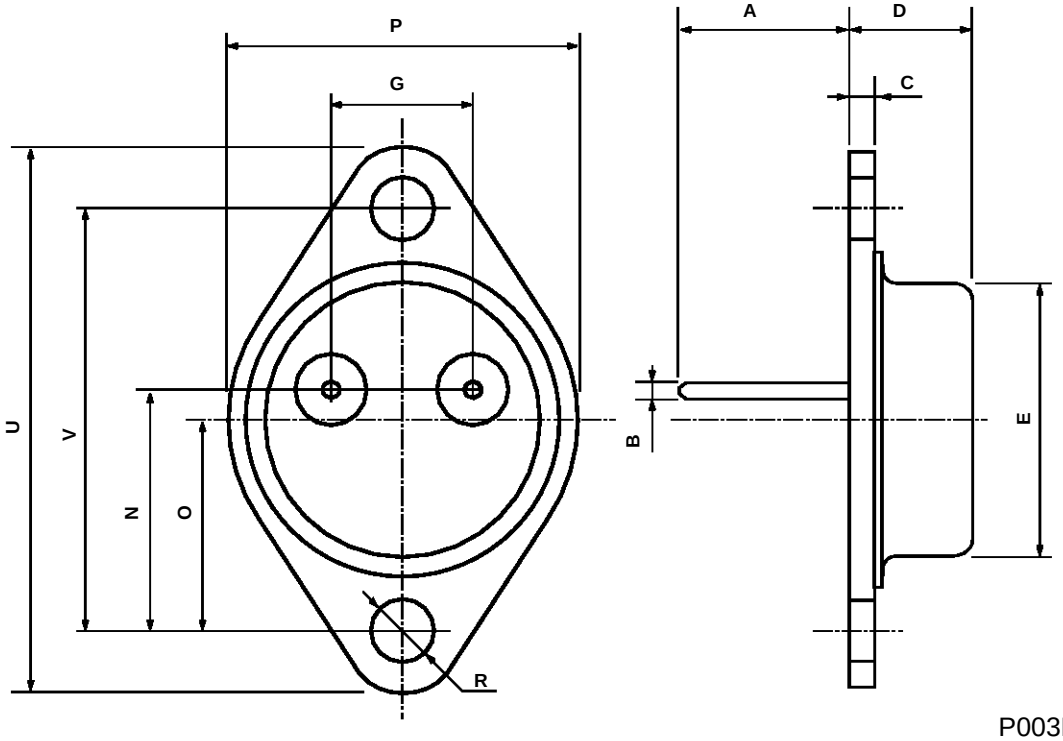
ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^oC unless otherwise specified)

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}	Turn-on Time	RESISTIVE LOAD		0.5	1	µs
t_s	Storage Time	V_{CC} = 250 V I_C = 12 A		1.5	3	µs
t_f	Fall Time	I_{B1} = - I_{B2} = 3 A		0.2	0.8	µs

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

TO-3 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	11.00		13.10	0.433		0.516
B	0.97		1.15	0.038		0.045
C	1.50		1.65	0.059		0.065
D	8.32		8.92	0.327		0.351
E	19.00		20.00	0.748		0.787
G	10.70		11.10	0.421		0.437
N	16.50		17.20	0.649		0.677
P	25.00		26.00	0.984		1.023
R	4.00		4.09	0.157		0.161
U	38.50		39.30	1.515		1.547
V	30.00		30.30	1.187		1.193



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