

HIGH VOLTAGE NPN SILICON POWER TRANSISTOR

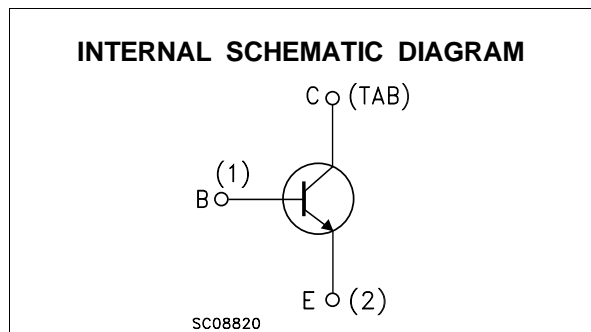
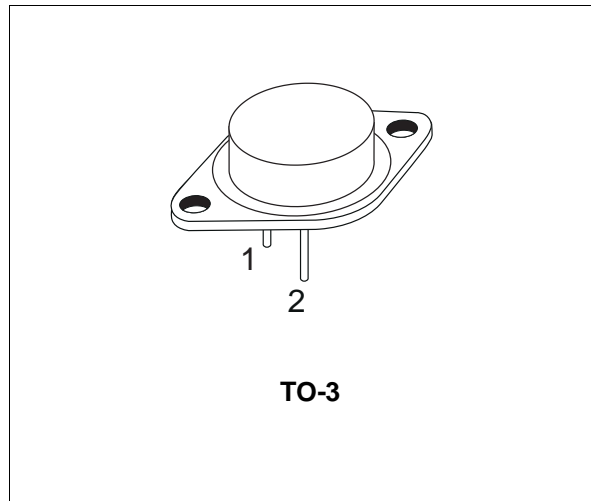
- SGS-THOMSON PREFERRED SALESTYPE
- NPN TRANSISTOR
- FAST SWITCHING SPEED

APPLICATIONS

- SWITCHING REGULATORS
- MOTOR CONTROL
- HIGH FREQUENCY AND EFFICIENCY CONVERTERS

DESCRIPTION

The BUX80 is a silicon multiepitaxial mesa NPN transistor in Jedec TO-3 metal case, particularly intended for converters, inverters, switching regulators and motors control system applications.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CES}	Collector-emitter Voltage ($V_{BE} = 0$)	800	V
V_{CER}	Collector-emitter Voltage ($R_{BE} = 50\Omega$)	500	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	400	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)	10	V
I_C	Collector Current	10	A
I_{CM}	Collector Peak Current	15	A
I_B	Base Current	5	A
P_{tot}	Total Power Dissipation at $T_{case} \leq 40^\circ C$	100	W
T_{stg}	Storage Temperature	-65 to 150	$^\circ C$
T_j	Max Operating Junction Temperature	150	$^\circ C$

BUX80

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	1.1	°C/W
-----------------------	----------------------------------	-----	-----	------

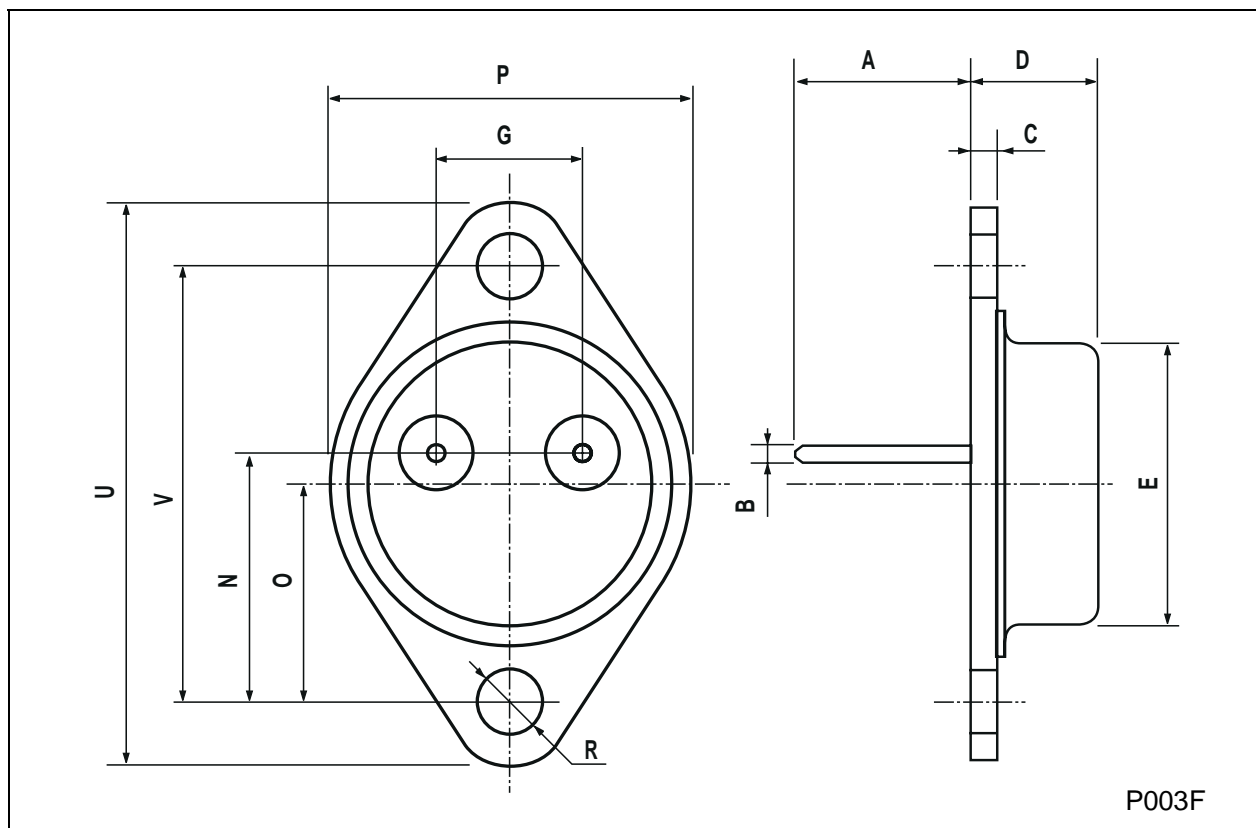
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CES}	Collector Cut-off Current (V _{BE} = 0)	V _{CE} = 800 V V _{CE} = 800 V T _{case} = 125°C			1 3	mA mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{BE} = 10 V			10	mA
V _{CEO(sus)*}	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = 100 mA	400			V
V _{CER(sus)*}	Collector-Emitter Sustaining Voltage (R _{BE} = 50 Ω)	I _C = 100 mA	500			V
V _{CE(sat)*}	Collector-Emitter Saturation Voltage	I _C = 5 A I _C = 8 A			1.5 3	V V
V _{BE(sat)*}	Base-Emitter Saturation Voltage	I _C = 5 A I _C = 8 A			1.4 1.8	V V
h _{FE*}	DC Current Gain	I _C = 1.2 A V _{CE} = 5 V		30		
t _{on}	Turn-on Time	I _C = 5 A V _{CC} = 250 V			0.5	μs
t _s	Storage Time	I _C = 5 A I _{B2} = - 2 A			3.5	μs
t _f	Fall Time	I _C = 5 A I _{B2} = - 2 A			0.5	μs

* Pulsed: Pulse duration = 300μs, 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



Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1997 SGS-THOMSON Microelectronics - Printed in Italy - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES
Australia - Brazil - Canada - China - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands -
Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A
...