

HIGH VOLTAGE NPN SILICON POWER TRANSISTOR

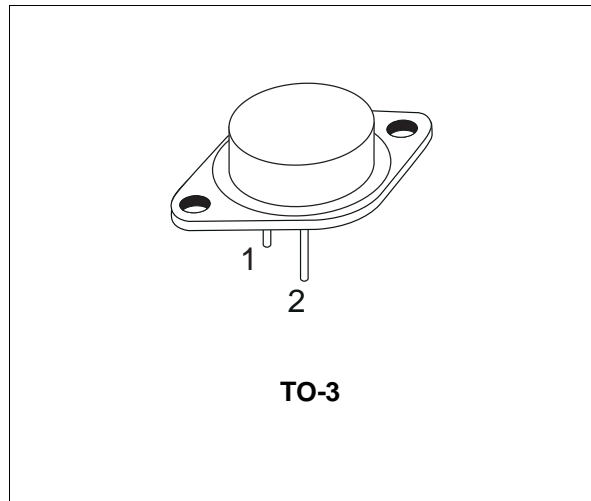
- SGS-THOMSON PREFERRED SALESTYPE
- NPN TRANSISTOR
- FAST SWITCHING SPEED

APPLICATIONS

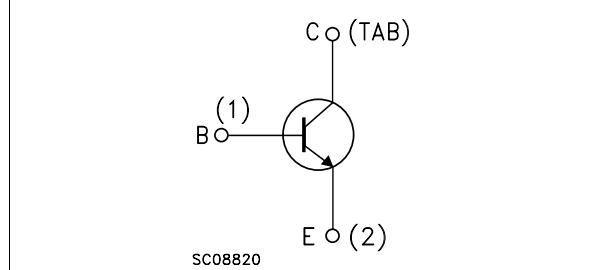
- SWITCHING REGULATORS
- MOTOR CONTROL
- HIGH FREQUENCY AND EFFICIENCY CONVERTERS

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.



INTERNAL SCHEMATIC DIAGRAM



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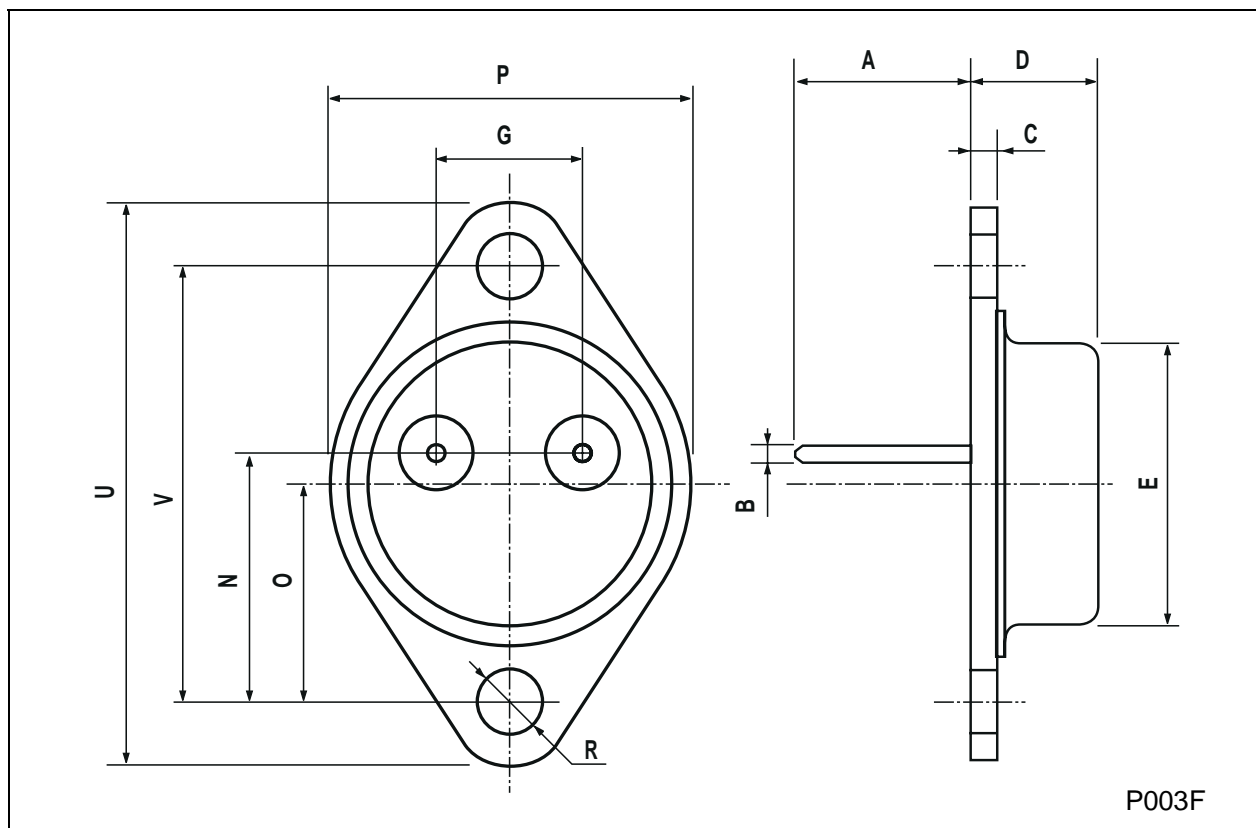
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

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 I _B = 1 A I _B = 2.5 A			1.5 3	V V
V _{BE(sat)*}	Base-Emitter Saturation Voltage	I _C = 5 A I _C = 8 A I _B = 1 A I _B = 2.5 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 I _{B1} = 1 A			0.5	μs
t _s	Storage Time	I _C = 5 A I _{B2} = - 2 A I _{B1} = 1 A V _{CC} = 250 V			3.5	μs
t _f	Fall Time	I _C = 5 A I _{B2} = - 2 A I _{B1} = 1 A V _{CC} = - 250 V			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



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