

BUX98AP

HIGH POWER NPN SILICON TRANSISTOR

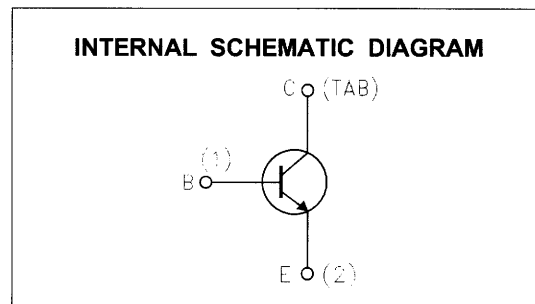
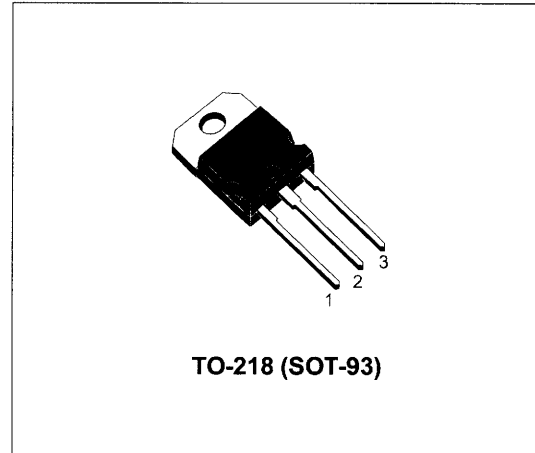
- NPN TRANSISTOR
- HIGH VOLTAGE CAPABILITY
- HIGH CURRENT CAPABILITY
- FAST SWITCHING SPEED

APPLICATIONS

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

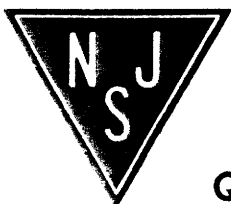
DESCRIPTION

The BUX98AP is a silicon multi-epitaxial mesa NPN transistor in jedec TO-218 plastic package, intended for use in industrial applications from single and three-phase mains operation.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V _{CER}	Collector-Emitter Voltage (R _{BE} = ≤ 10 Ω)	1000	V
V _{CES}	Collector-Base Voltage (V _{BE} = 0)	1000	V
V _{CEO}	Collector-Emitter Voltage (I _B = 0)	450	V
V _{EBO}	Emitter-Base Voltage (I _C = 0)	7	V
I _C	Collector Current	24	A
I _{CM}	Collector Peak Current (t _p < 5 ms)	36	A
I _B	Base Current	5	A
I _{BM}	Base Peak Current (t _p < 5 ms)	8	A
P _{tot}	Total Power Dissipation at T _{case} < 25 °C	200	W
T _{stg}	Storage Temperature	-65 to 150	°C
T _j	Max Operating Junction Temperature	150	°C



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THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	0.63	$^{\circ}\text{C}/\text{W}$
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CER}	Collector Cut-off Current ($R_{BE} = 10 \Omega$)	$V_{CE} = V_{CES}$ $V_{CE} = V_{CES}$ $T_{CASE} = 125^{\circ}\text{C}$			1 8	μA mA
I_{CES}	Collector Cut-off Current ($V_{BE} = 0$)	$V_{CE} = V_{CES}$ $V_{CE} = V_{CES}$ $T_{CASE} = 125^{\circ}\text{C}$			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 ($I_C = 0$)	$V_{EB} = 5 \text{ V}$			2	mA
$V_{CEO(sus)*}$	Collector-Emitter Sustaining Voltage	$I_C = 200 \text{ mA}$	450			V
$V_{CER(sus)*}$	Collector-Emitter Sustaining Voltage	$L = 2\text{mH}$ $I_C = 1 \text{ A}$	1000			V
$V_{CE(sat)*}$	Collector-Emitter Saturation Voltage	$I_C = 16 \text{ A}$ $I_B = 3.2 \text{ A}$			1.2	V
$V_{BE(sat)*}$	Base-Emitter Saturation Voltage	$I_C = 16 \text{ A}$ $I_B = 3.2 \text{ A}$			1.5	V
t_{on}	Turn-on Time	$V_{CC} = 150 \text{ V}$ $I_C = 20 \text{ A}$			1	μs
t_s	Storage Time	$I_{B1} = - I_{B2} = 4 \text{ A}$			3	μs
t_f	Fall Time				0.8	μs
t_{on}	Turn-on Time	$V_{CC} = 150 \text{ V}$ $I_C = 16 \text{ A}$			1	μs
t_s	Storage Time	$I_{B1} = - I_{B2} = 3.2 \text{ A}$			3	μs
t_f	Fall Time				0.8	μs

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

TO-218 (SOT-93) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.7		4.9	0.185		0.193
C	1.17		1.37	0.046		0.054
D		2.5			0.098	
E	0.5		0.78	0.019		0.030
F	1.1		1.3	0.043		0.051
G	10.8		11.1	0.425		0.437
H	14.7		15.2	0.578		0.598
L2	-		16.2	-		0.637
L3		18			0.708	
L5	3.95		4.15	0.155		0.163
L6		31			1.220	
R	-		12.2	-		0.480
Ø	4		4.1	0.157		0.161

