

## HIGH POWER NPN SILICON TRANSISTOR

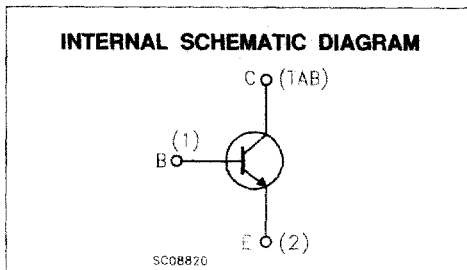
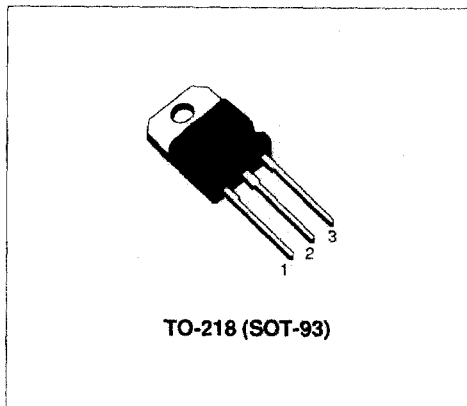
- SGS-THOMSON PREFERRED SALESTYPE
- NPN TRANSISTOR
- HIGH VOLTAGE CAPABILITY
- HIGH CURRENT CAPABILITY
- FAST SWITCHING SPEED

### 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 ( $R_{BE} = \leq 10 \Omega$ )	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 $T_{case} < 25^\circ C$	200	W
$T_{stg}$	Storage Temperature	-65 to 150	$^\circ C$
$T_j$	Max Operating Junction Temperature	150	$^\circ C$

## THERMAL DATA

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

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
$I_{CER}$	Collector Cut-off Current ( $R_{BE} = 10 \Omega$ )	$V_{CE} = V_{CES}$ $V_{CE} = V_{CES}$	$T_{CASE} = 125^{\circ}C$			1 8	$\mu A$ mA
$I_{CES}$	Collector Cut-off Current ( $V_{BE} = 0$ )	$V_{CE} = V_{CES}$ $V_{CE} = V_{CES}$	$T_{CASE} = 125^{\circ}C$			400 4	$\mu A$ mA
$I_{CEO}$	Collector Cut-off Current ( $I_B = 0$ )	$V_{CE} = V_{CEO}$				2	mA
$I_{EBO}$	Emitter Cut-off Current ( $I_C = 0$ )	$V_{EB} = 5 V$				2	mA
$V_{CEO(sus)*}$	Collector-Emitter Sustaining Voltage	$I_C = 200 mA$		450			V
$V_{CER(sus)*}$	Collector-Emitter Sustaining Voltage	$L = 2mH$	$I_C = 1 A$	1000			V
$V_{CE(sat)*}$	Collector-Emitter Saturation Voltage	$I_C = 16 A$	$I_B = 3.2 A$			1.2	V
$V_{BE(sat)*}$	Base-Emitter Saturation Voltage	$I_C = 16 A$	$I_B = 3.2 A$			1.5	V
$t_{on}$	Turn-on Time	$V_{CC} = 150 V$	$I_C = 20 A$			1	$\mu s$
$t_s$	Storage Time	$I_{B1} = - I_{B2} = 4 A$				3	$\mu s$
$t_f$	Fall Time					0.8	$\mu s$
$t_{on}$	Turn-on Time	$V_{CC} = 150 V$	$I_C = 16 A$			1	$\mu s$
$t_s$	Storage Time	$I_{B1} = - I_{B2} = 3.2 A$				3	$\mu s$
$t_f$	Fall Time					0.8	$\mu s$

\* Pulsed: Pulse duration = 300  $\mu s$ , duty cycle = 1.5 %