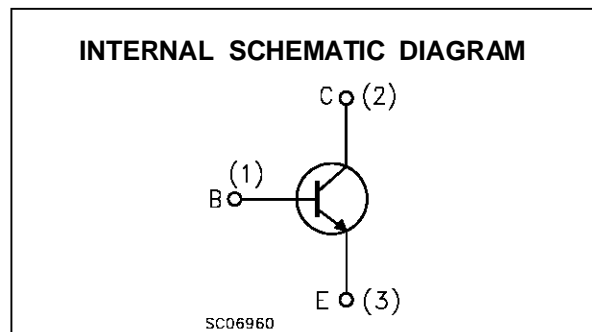
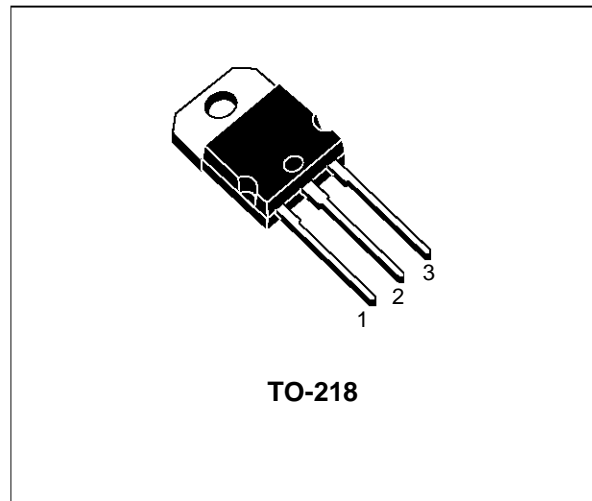


**SILICON NPN SWITCHING TRANSISTOR**

- SGS-THOMSON PREFERRED SALESTYPE
- HIGH VOLTAGE HIGH SPEED TRANSISTOR SUITED FOR USE ON THE 220 AND 380V MAINS
- SUITABLE FOR SWITCH MODE POWER SUPPLY UPS, DC AND AC MOTOR CONTROL



**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
$V_{CEV}$	Collector-Emitter Voltage ( $V_{EB} = -1.5V$ )	850	V
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )	450	V
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )	7	V
$I_E$	Emitter Current	30	A
$I_{EM}$	Emitter Peak Current	45	A
$I_B$	Base Current	6	A
$I_{BM}$	Base Peak Current	10	A
$P_{tot}$	Total Dissipation at $T_c < 25\text{ }^\circ\text{C}$	200	W
$T_{stg}$	Storage Temperature	-65 to 150	$^\circ\text{C}$
$T_j$	Max. Operating Junction Temperature	150	$^\circ\text{C}$

# BUX98P

## THERMAL DATA

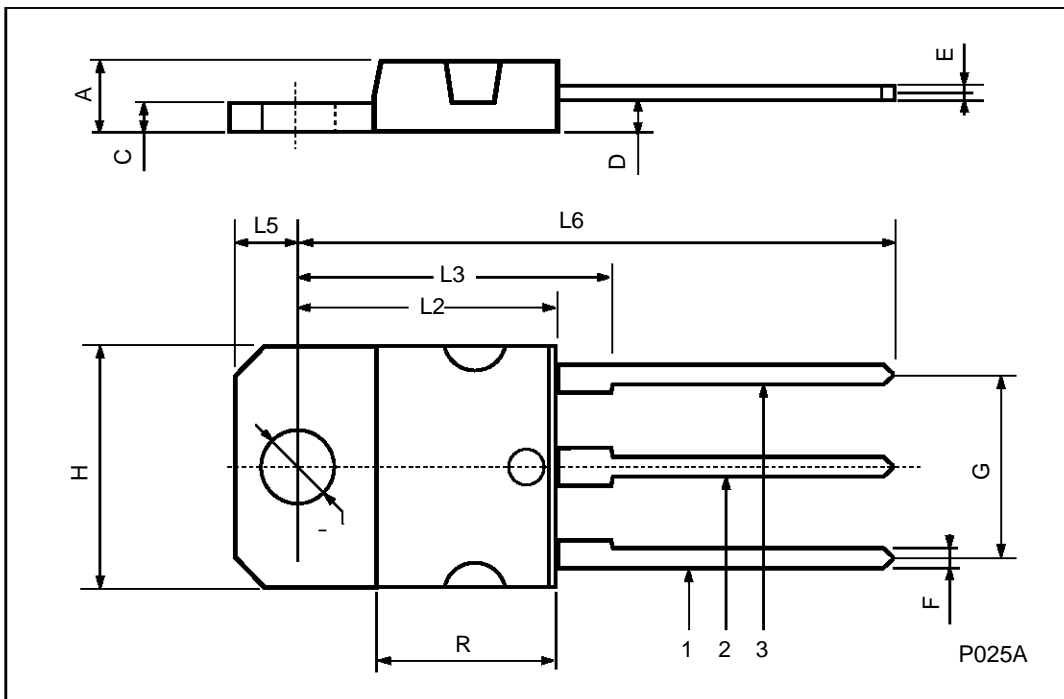
$R_{thj-case}$	Thermal Resistance Junction-case	Max	0.63	$^{\circ}C/W$
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## ELECTRICAL CHARACTERISTICS ( $T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CER}$	Collector Cut-off Current ( $R_{BE} = 5\Omega$ )	$V_{CE} = V_{CEV}$ $V_{CE} = V_{CEV}$ $T_c = 100^{\circ}C$			0.2 1	mA mA
$I_{CEV}$	Collector Cut-off Current	$V_{CE} = V_{CEV}$ $V_{BE} = -1.5V$ $V_{CE} = V_{CEV}$ $V_{BE} = -1.5V$ $T_c = 100^{\circ}C$			0.2 1	mA mA
$I_{EBO}$	Emitter Cut-off Current ( $I_C = 0$ )	$V_{EB} = 5V$			1	mA
$V_{CEO(sus)*}$	Collector-Emitter Sustaining Voltage	$I_C = 0.2A$ $L = 25mH$	450			V
$V_{EBO}$	Emitter-Base Voltage ( $I_C=0$ )	$I_E = 100mA$		7		V
$V_{CE(sat)*}$	Collector-Emitter Saturation Voltage	$I_C = 20A$ $I_B = 4A$ $I_C = 20A$ $I_B = 4A$ $T_j = 100^{\circ}C$		0.35 0.7	0.9 2	V V
$V_{BE(sat)*}$	Base-Emitter Saturation Voltage	$I_C = 20A$ $I_B = 4A$ $I_C = 20A$ $I_B = 4A$ $T_j = 100^{\circ}C$		1.05 1	1.5 1.5	V V
$di_c/dt$	Rate of Rise of on-state Collector Current	$V_{CC} = 300V$ $I_{B1} = 6A$ $R_C = 0$ $T_p = 3\mu s$ $T_j = 100^{\circ}C$	120	160		A/ $\mu s$
$V_{CE(3\mu s)}$	Collector-Emitter Dynamic Voltage	$V_{CC} = 300V$ $I_{B1} = 6A$ $R_C = 15\Omega$ $T_j = 100^{\circ}C$		4.5	8	V
$V_{CE(5\mu s)}$	Collector-Emitter Dynamic Voltage	$V_{CC} = 300V$ $I_{B1} = 6A$ $R_C = 15\Omega$ $T_j = 100^{\circ}C$		2.5	4	V
$t_s$ $t_f$ $t_c$	<b>INDUCTIVE LOAD</b> Storage time Fall Time Crossover Time	$V_{CC} = 50V$ $V_{clamp} = 450V$ $I_C = 20A$ $I_B = 4A$ $V_{BB} = -5V$ $R_{BB} = 0.62\Omega$ $L_C = 0.12mH$ $T_j = 100^{\circ}C$		3 0.25 0.5	4.5 0.4 0.7	$\mu s$ $\mu s$ $\mu s$
$V_{CEW}$	Maximun Collector Emitter Voltage without Snubber	$V_{CC} = 50V$ $I_{Cwoff} = 30A$ $V_{BB} = -5V$ $I_{B1} = 4A$ $L_C = 0.08mH$ $R_{BB} = 0.62\Omega$ $T_j = 125^{\circ}C$	450			V

**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



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