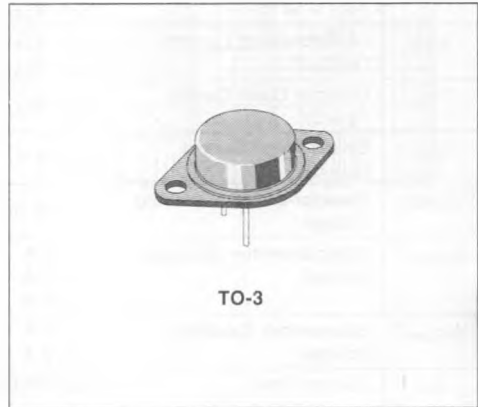


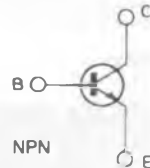
## HIGH VOLTAGE SWITCH

### DESCRIPTION

The BUX98B and BUX98C are silicon multiepitaxial mesa NPN transistors in Jedec TO-3 metal case intended for use in switching and industrial applications from single and three-phase mains operations.



### INTERNAL SCHEMATIC DIAGRAM



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		BUX98B	BUX98C	
$V_{CER}$	Collector-emitter Voltage	1200	1200	V
$V_{CES}$	Collector-emitter Voltage ( $V_{BE} = 0$ )	1200	1200	V
$V_{CEX}$	Collector-emitter Voltage	600	700	V
$V_{EBO}$	Emitter-base Voltage ( $I_C = 0$ )	7		V
$I_C$	Collector Current	30		A
$I_{CM}$	Collector Peak Current	60		A
$I_{CP}$	Collector Peak Current non Repetitive	80		A
$I_B$	Base Current	8		A
$I_{BM}$	Base Peak Current	30		A
$P_{tot}$	Total Dissipation at $T_c < 25\text{ }^\circ\text{C}$	250		W
$T_{stg}$	Storage Temperature	- 65 to 200		$^\circ\text{C}$
$T_j$	Max. Operating Junction Temperature	200		$^\circ\text{C}$

**THERMAL DATA**

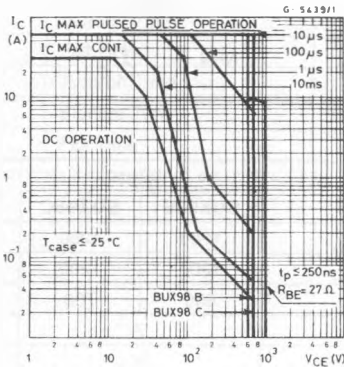
$R_{th(j-c)}$	Thermal Resistance Junction-case	Max	0.7	°C/W
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**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25\text{ °C}$  unless otherwise specified)

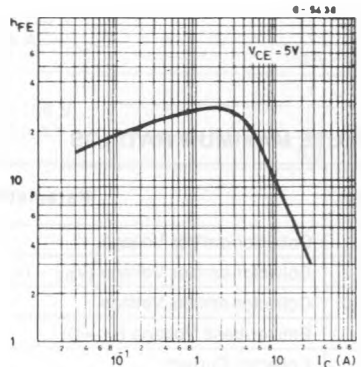
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CEr}$	Collector Cutoff Current ( $R_{BE} = 10\ \Omega$ )	$V_{CE} = V_{CES}$ $V_{CE} = V_{CES}$ $T_{case} = 125\text{ °C}$			1 8	mA mA
$I_{CES}$	Collector Cutoff Current ( $V_{BE} = 0$ )	$V_{CE} = V_{CES}$ $V_{CE} = V_{CES}$ $T_{case} = 125\text{ °C}$			1 6	mA mA
$I_{CEO}$	Collector Cutoff Current ( $I_B = 0$ )	$V_{CE} = V_{CEO}$			2	mA
$I_{EBO}$	Emitter Cutoff Current ( $I_C = 0$ )	$V_{EB} = 5\text{ V}$			2	mA
$V_{CEO(sus)}$ *	Collector-emitter Sustaining Voltage	$I_C = 100\text{ mA}$	700			V
$V_{CE(sat)}$ *	Collector-emitter Saturation Voltage	$I_C = 12\text{ A}$ $I_B = 3\text{ A}$ $I_C = 16\text{ A}$ $I_B = 5\text{ A}$ $I_C = 20\text{ A}$ $I_B = 8\text{ A}$			1.5 2 3	V V V
$V_{BE(sat)}$ *	Base-emitter Saturation Voltage	$I_C = 12\text{ A}$ $I_B = 3\text{ A}$ $I_C = 20\text{ A}$ $I_B = 8\text{ A}$			1.6 2	V V
$t_{on}$	Turn-on Time	RESISTIVE LOAD		0.5	1	$\mu\text{s}$
$t_s$	Storage Time	$V_{CC} = 250\text{ V}$ $I_C = 12\text{ A}$		1.5	3	$\mu\text{s}$
$t_f$	Fall Time	$I_{B1} = -I_{B2} = 3\text{ A}$		0.2	0.8	$\mu\text{s}$

\* Pulsed : pulse duration = 300  $\mu\text{s}$  duty cycle = 1.5 %.

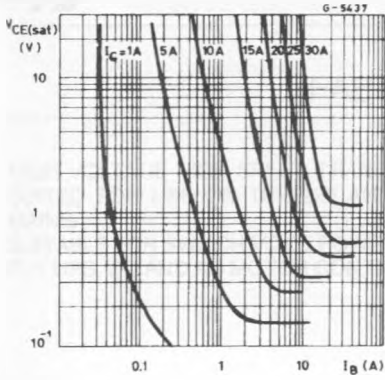
**Safe Operating Areas.**



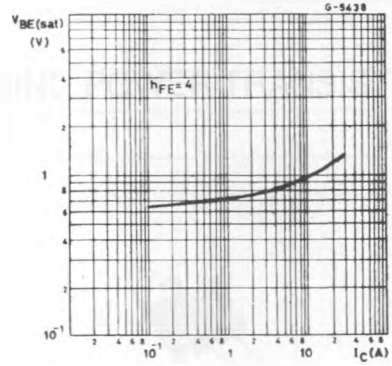
**DC Current Gain.**



Collector-emitter Saturation Voltage.



Base-emitter Saturation Voltage.



Reverse Biased Operating Area.

