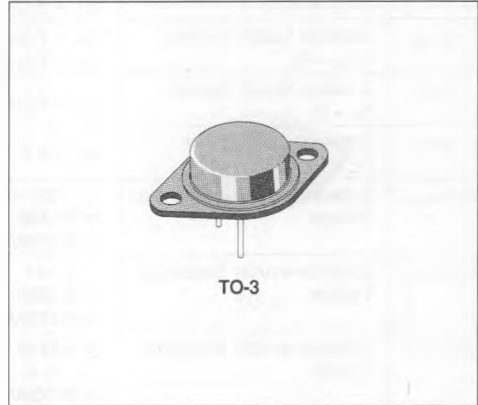


HIGH VOLTAGE FAST SWITCHING

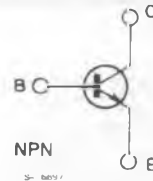
ADVANCE DATA

DESCRIPTION

The BUX98 and BUX98A are silicon multi-epitaxial mesa NPN transistors in Jedec TO-3 metal-case intended and industrial applications from single and three-phase mains operation.



INTERNAL SCHEMATIC DIAGRAMS



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		BUX98	BUX98A	
V_{CER}	Collector-emitter Voltage ($R_{BE} \leq 10 \Omega$)	850	1000	V
V_{CES}	Collector-base Voltage ($V_{BE} = 0$)	850	1000	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	400	450	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)	7		V
I_C	Collector Current	30		A
I_{CM}	Collector Peak Current ($t_p < 5$ ms)	60		A
I_{CP}	Collector Peak Current non Rep. ($t_p < 20 \mu s$)	80		A
I_B	Base Current	8		A
I_{BM}	Base Peak Current ($t_p < 5$ ms)	30		A
P_{Tot}	Total Power Dissipation at $T_{case} < 25^\circ C$	250		W
T_{stg}	Storage Temperature	- 65 to 200		$^\circ C$
T_J	Junction Temperature	200		$^\circ C$

THERMAL DATA

$R_{th(j-case)}$	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	μ A mA
I_{CES}	Collector Cutoff Current ($V_{BE} = 0$)	$V_{CE} = V_{CES}$ $V_{CE} = V_{CES}$ $T_{case} = 125\text{ °C}$			400 4	μ A 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	$I_C = 200\text{ mA}$ for BUX98 for BUX98A	400 450			V V
$V_{CER(sus)}^*$	Collector-emitter Sustaining Voltage	$L = 2\text{ mH}$ $I_C = 1\text{ A}$ for BUX98 for BUX98A	850 1000			V V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	for BUX98 $I_C = 20\text{ A}$ $I_B = 4\text{ A}$ for BUX98A $I_C = 16\text{ A}$ $I_B = 3.2\text{ A}$ $I_C = 24\text{ A}$ $I_B = 5\text{ A}$			1.5 1.5 5	V V V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	for BUX98 $I_C = 20\text{ A}$ $I_B = 4\text{ A}$ for BUX98A $I_C = 16\text{ A}$ $I_B = 3.2\text{ A}$			1.6 1.6	V V
t_{on}	Turn-on Time	for BUX98 $V_{CC} = 150\text{ V}$ $I_C = 20\text{ A}$, $I_{B1} = I_{B2} = 4\text{ A}$			1	μ s
t_s	Storage Time				3	μ s
t_f	Fall Time				0.8	μ s
t_{on}	Turn-on Time	for BUX98A $V_{CC} = 150\text{ V}$ $I_C = 16\text{ A}$; $I_{B1} = I_{B2} = 3.2\text{ A}$			1	μ s
t_s	Storage Time				3	μ s
t_f	Fall Time				0.8	μ s

* Pulsed : pulse duration = 300 μ s, duty cycle = 1.5 %.