

HIGH POWER NPN SILICON TRANSISTORS

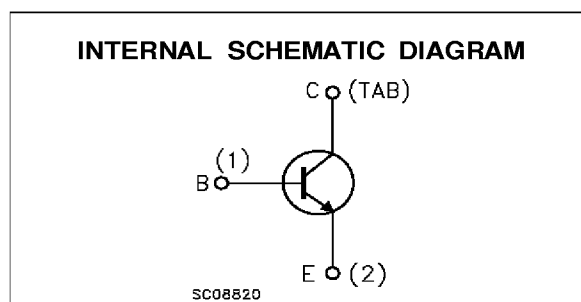
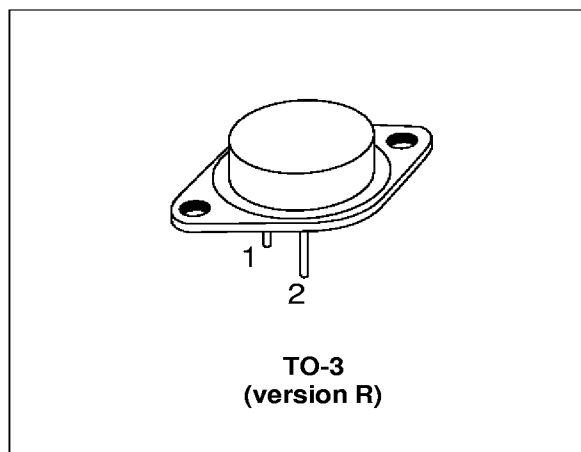
- SGS-THOMSON PREFERRED SALESTYPES
- NPN TRANSISTOR
- HIGH VOLTAGE CAPABILITY
- HIGH CURRENT CAPABILITY
- FAST SWITCHING SPEED

APPLICATIONS

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

DESCRIPTION

The BUX98 and BUX98A are silicon multiepitaxial mesa NPN transistor in jedec TO-3 metal case, intended and industrial applications from single and three-phase mains operation.



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	Max Operating Junction Temperature	200		$^\circ C$

BUX98 / BUX98A

THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	0.7	$^{\circ}C/W$
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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	μA 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	μA mA
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = V_{CEO}$			2	mA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 5 V$			2	mA
$V_{CEO(sus)*}$	Collector-Emitter Sustaining Voltage	$I_C = 200 mA$ for BUX98 for BUX98A	400 450			V V
$V_{CER(sus)*}$	Collector-Emitter Sustaining Voltage	$L = 2mH$ $I_C = 1 A$ for BUX98 for BUX98A	850 1000			V V
$V_{CE(sat)*}$	Collector-Emitter Saturation Voltage	for BUX98 $I_C = 20 A$ for BUX98A $I_C = 16 A$ $I_B = 4 A$ $I_C = 24 A$ $I_B = 3.2 A$ $I_C = 24 A$ $I_B = 5 A$			1.5 1.5 5	V V V
$V_{BE(sat)*}$	Base-Emitter Saturation Voltage	for BUX98 $I_C = 20 A$ for BUX98A $I_C = 16 A$ $I_B = 4 A$ $I_C = 16 A$ $I_B = 3.2 A$			1.6 1.6	V V
t_{on}	Turn-on Time	for BUX98			1	μs
t_s	Storage Time	$V_{CC} = 150 V$ $I_C = 20 A$			3	μs
t_f	Fall Time	$I_{B1} = - I_{B2} = 4 A$			0.8	μs
t_{on}	Turn-on Time	for BUX98A			1	μs
t_s	Storage Time	$V_{CC} = 150 V$ $I_C = 16 A$			3	μs
t_f	Fall Time	$I_{B1} = - I_{B2} = 3.2 A$			0.8	μs

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

TO-3 (version R) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		11.7			0.460	
B	0.96		1.10	0.037		0.043
C			1.70			0.066
D			8.7			0.342
E			20.0			0.787
G		10.9			0.429	
N		16.9			0.665	
P			26.2			1.031
R	3.88		4.09	0.152		0.161
U			39.50			1.555
V		30.10			1.185	

