

## Silicon NPN Power Transistors

## BUX98 BUX98A

## DESCRIPTION

- With TO-3 package
- High voltage capability
- High current capability
- Fast switching speed

## APPLICATIONS

- High frequency and efficiency converters
- Linear and switching industrial equipment

## PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

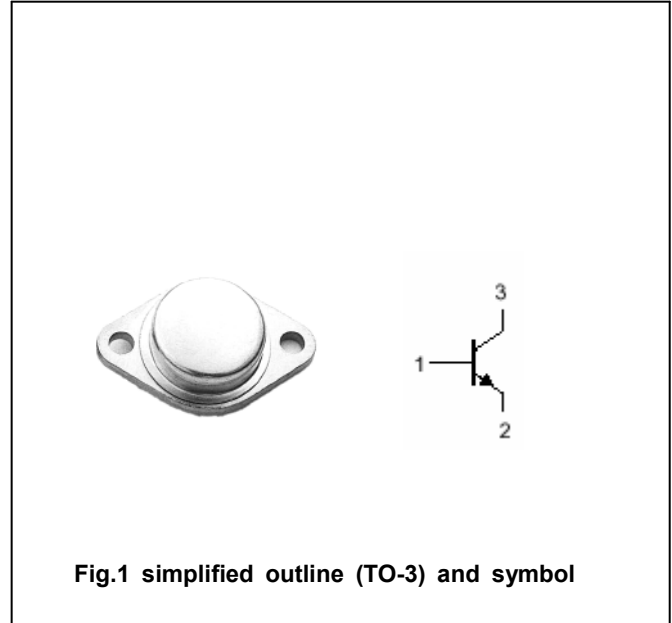


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings( $T_a=25^\circ\text{C}$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	BUX98	850	V
		BUX98A	1000	
$V_{CEO}$	Collector-emitter voltage	BUX98	400	V
		BUX98A	450	
$V_{EBO}$	Emitter-base voltage	Open collector	7	V
$I_C$	Collector current		30	A
$I_{CM}$	Collector current-peak ( $t_p < 5 \text{ ms}$ )		60	A
$I_B$	Base current		8	A
$I_{BM}$	Base current-peak ( $t_p < 5 \text{ ms}$ )		30	A
$P_T$	Total power dissipation	$T_c < 25^\circ\text{C}$	250	W
$T_j$	Junction temperature		200	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-65~200	$^\circ\text{C}$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance from junction to case	0.7	$^\circ\text{C}/\text{W}$

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## CHARACTERISTICS

T<sub>j</sub>=25 °C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CE0(SUS)</sub>	Collector-emitter sustaining voltage	BUX98	I <sub>C</sub> =0.2A ; I <sub>B</sub> =0	400			V
		BUX98A		450			
V <sub>CER(SUS)</sub>	Collector-emitter sustaining voltage	BUX98	I <sub>C</sub> =1A; L=2mH	850			V
		BUX98A		1000			
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	BUX98	I <sub>C</sub> =20A ; I <sub>B</sub> =4A			1.5	V
		BUX98A	I <sub>C</sub> =16A ; I <sub>B</sub> =3.2A				
V <sub>CEsat-2</sub>	Collector-emitter for BUX98A saturation voltage		I <sub>C</sub> =24A ; I <sub>B</sub> =5A			5.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	BUX98	I <sub>C</sub> =20A ; I <sub>B</sub> =4A			1.6	V
		BUX98A	I <sub>C</sub> =16A ; I <sub>B</sub> =3.2A				
I <sub>CES</sub>	Collector cut-off current		V <sub>CE</sub> =V <sub>CES</sub> ; V <sub>BE</sub> =0 T <sub>C</sub> =125 °C			0.4 4	mA
I <sub>CEO</sub>	Collector cut-off current		V <sub>CE</sub> =V <sub>CEO</sub> ; I <sub>B</sub> =0			2	mA
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =5V; I <sub>C</sub> =0			2	mA
h <sub>FE</sub>	DC current gain		I <sub>C</sub> =1A ; V <sub>CE</sub> =5V	15		50	

## Switching times

t <sub>on</sub>	Turn-on time	for BUX98 I <sub>C</sub> =20A ; I <sub>B1</sub> =-I <sub>B2</sub> =4A; V <sub>CC</sub> =150V			1.0	μs
t <sub>s</sub>	Storage time		for BUX98A I <sub>C</sub> =16A ; I <sub>B1</sub> =-I <sub>B2</sub> =3.2A; V <sub>CC</sub> =150V			3.0
t <sub>f</sub>	Fall time				0.8	μs

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PACKAGE OUTLINE

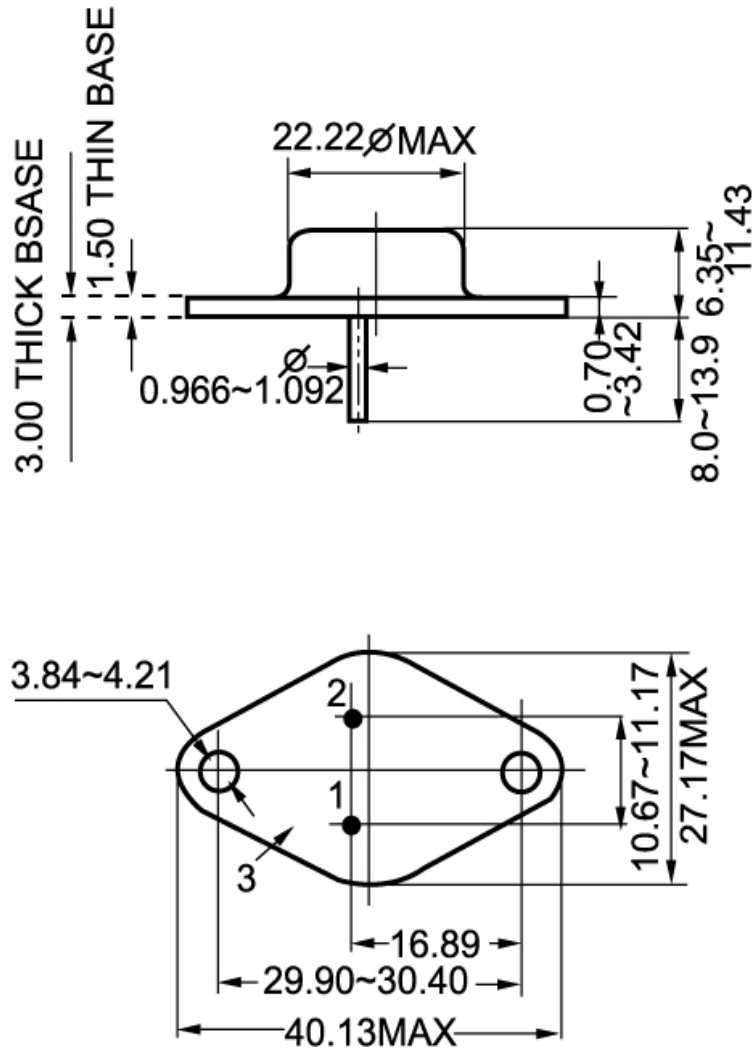


Fig.2 Outline dimensions