

## Silicon NPN Power Transistors

## BUX48 BUX48A

## DESCRIPTION

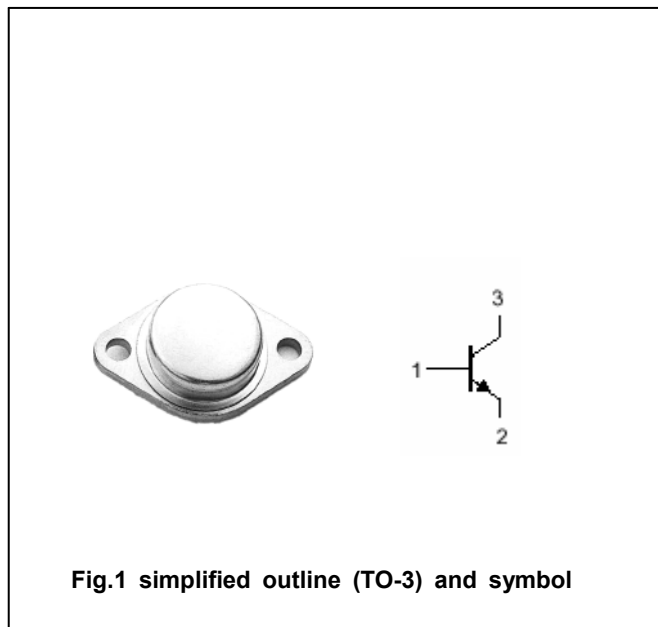
- With TO-3 package
- High voltage capability
- High current capability
- Fast switching speed

## APPLICATIONS

- Switch mode power supplies
- Transistor low power converters

## PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	BUX48	850	V
		BUX48A	1000	
$V_{CEO}$	Collector-emitter voltage	BUX48	400	V
		BUX48A	450	
$V_{EBO}$	Emitter-base voltage	Open collector	7	V
$I_C$	Collector current		15	A
$I_{CM}$	Collector current-peak		30	A
$I_B$	Base current		4	A
$I_{BM}$	Base current-peak		20	A
$P_T$	Total power dissipation	$T_C=25^\circ\text{C}$	175	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	1.0	$^\circ\text{C}/\text{W}$

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## CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	BUX48	I <sub>C</sub> =0.2A ; L=25mH	400			V
		BUX48A		450			
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage		I <sub>E</sub> =50mA; I <sub>C</sub> =0	7		30	V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	BUX48	I <sub>C</sub> =10A; I <sub>B</sub> =2A			1.5	V
		BUX48A	I <sub>C</sub> =8A ; I <sub>B</sub> =1.6A				
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	BUX48	I <sub>C</sub> =15A ; I <sub>B</sub> =4A			3.5	V
		BUX48A	I <sub>C</sub> =12A ; I <sub>B</sub> =2.4A				
V <sub>CEsat-3</sub>	Collector-emitter saturation voltage for BUX48		I <sub>C</sub> =15A ; I <sub>B</sub> =3A			5.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	BUX48	I <sub>C</sub> =10A ; I <sub>B</sub> =2A			1.6	V
		BUX48A	I <sub>C</sub> =8A ; I <sub>B</sub> =1.6A				
I <sub>CER</sub>	Collector cut-off current		V <sub>CE</sub> =rated V <sub>CE</sub> ; R <sub>BE</sub> =10Ω T <sub>C</sub> =125°C			0.5 4	mA
I <sub>CES</sub>	Collector cut-off current		V <sub>CE</sub> =rated V <sub>CE</sub> ; V <sub>BE</sub> =0 T <sub>C</sub> =125°C			0.2 2	mA
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =5V; I <sub>C</sub> =0			1	mA
h <sub>FE</sub>	DC current gain		I <sub>C</sub> =1A ; V <sub>CE</sub> =5V	15		50	

Switching times resistive load

t <sub>on</sub>	Turn-on time	for BUX48 I <sub>C</sub> =10A ; I <sub>B1</sub> =- I <sub>B2</sub> =2A; V <sub>CC</sub> =150V  for BUX48A I <sub>C</sub> =8A ; I <sub>B1</sub> =- I <sub>B2</sub> =1.6A; V <sub>CC</sub> =150V			1.0	μs
t <sub>s</sub>	Storage time				3.0	μs
t <sub>f</sub>	Fall time				0.8	μs

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PACKAGE OUTLINE

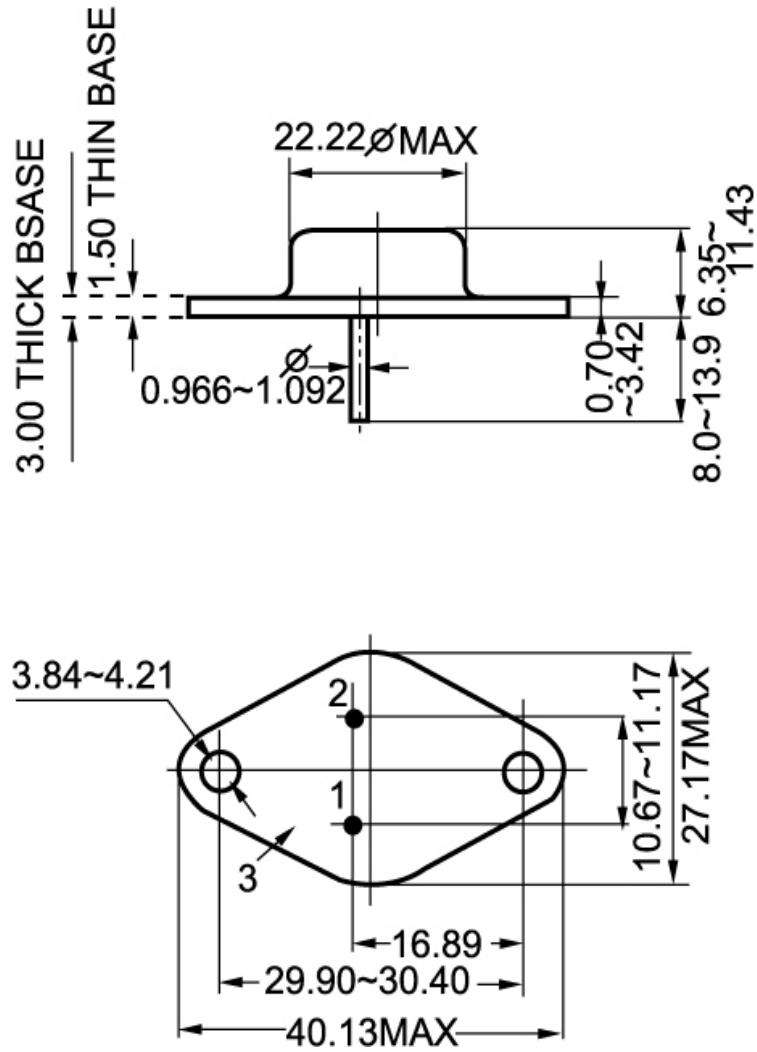


Fig.2 Outline dimensions