

## Silicon NPN Power Transistors

## BUW12 BUW12A

## DESCRIPTION

- With TO-3PN package
- High voltage,fast speed
- Low collector saturation voltage

## APPLICATIONS

- Specially intended for operating  
In industrial applications

## PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

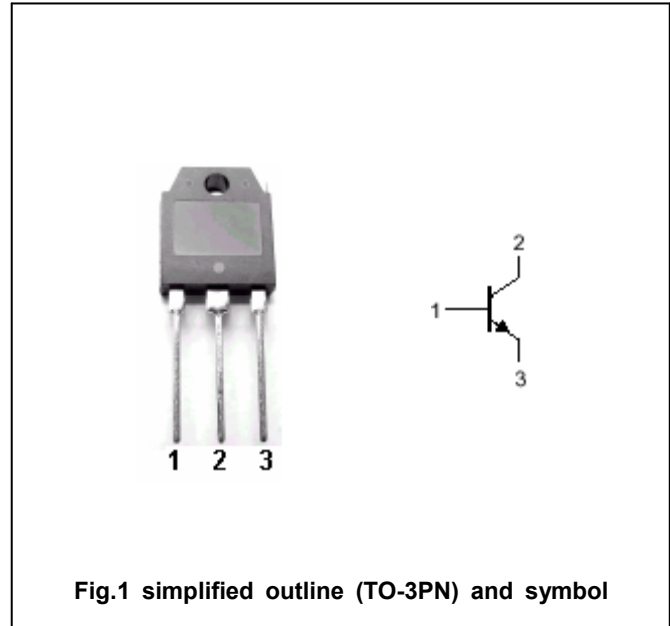


Fig.1 simplified outline (TO-3PN) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	BUW12	850	V
		BUW12A	1000	
$V_{CEO}$	Collector-emitter voltage	BUW12	400	V
		BUW12A	450	
$V_{EBO}$	Emitter-base voltage	Open collector	9	V
$I_C$	Collector current		8	A
$I_{CM}$	Collector current-peak		20	A
$I_B$	Base current		4	A
$P_T$	Total power dissipation	$T_C=25^\circ\text{C}$	125	W
$T_j$	Junction temperature		150	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-65~175	$^\circ\text{C}$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance from junction to case	1.2	$^\circ\text{C}/\text{W}$

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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	BUW12	I <sub>C</sub> =0.1A ; I <sub>B</sub> =0; L=25mH	400			V
		BUW12A		450			
V <sub>CEsat</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =6A; I <sub>B</sub> =1.2A			1.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage		I <sub>C</sub> =6A; I <sub>B</sub> =1.2A			1.5	V
I <sub>CES</sub>	Collector cut-off current	BUW12	V <sub>CE</sub> =850V; V <sub>BE</sub> =0			1.0	mA
		BUW12A	V <sub>CE</sub> =1000V; V <sub>BE</sub> =0				
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =9V; I <sub>C</sub> =0			10	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	I <sub>C</sub> =6A ; I <sub>B1</sub> =-I <sub>B2</sub> =1.2A V <sub>CC</sub> =240V			1.0	μs
t <sub>s</sub>	Storage time				4.0	μs
t <sub>f</sub>	Fall time				0.8	μs

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PACKAGE OUTLINE

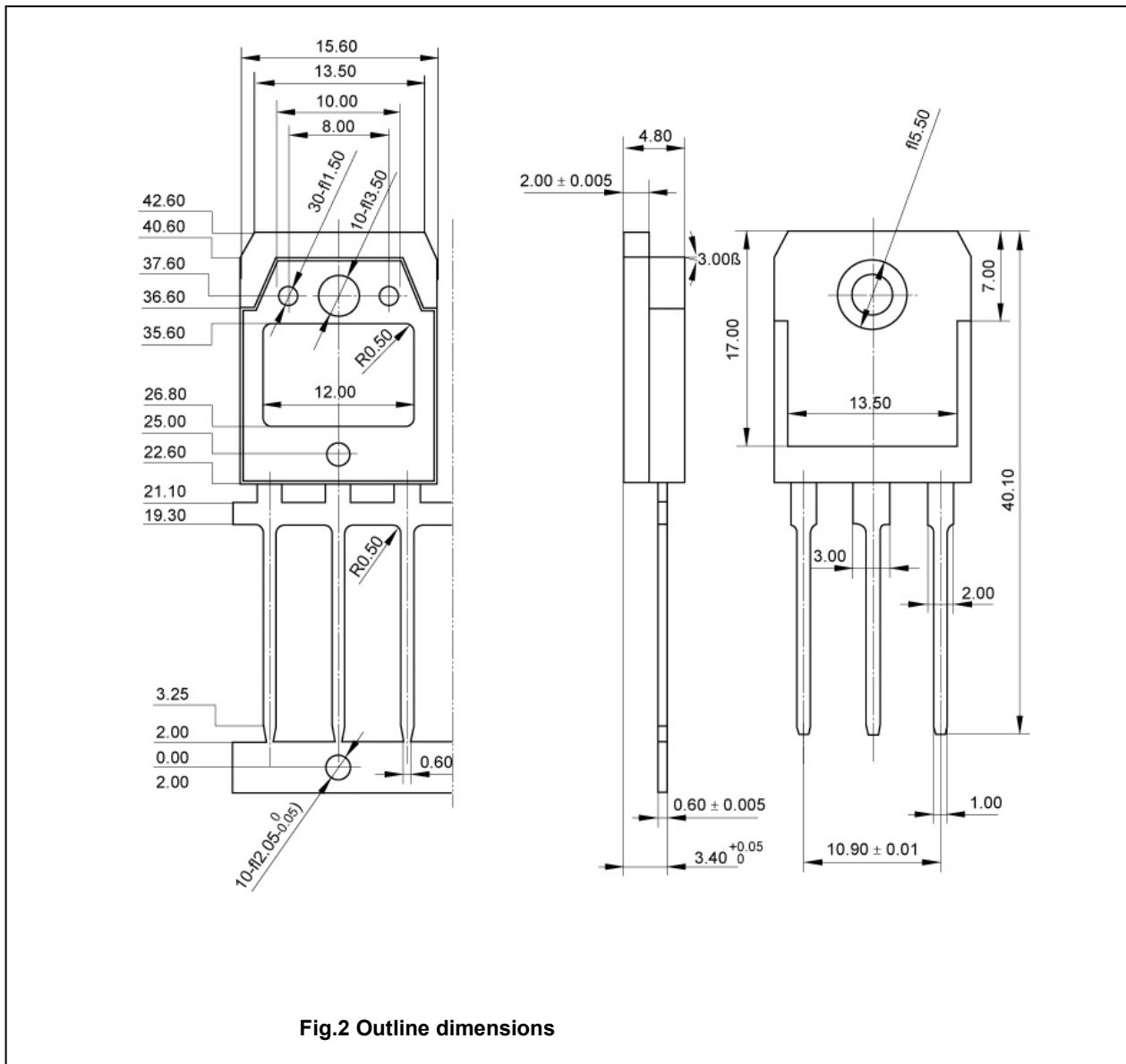


Fig.2 Outline dimensions