

Silicon NPN Power Transistors

BUW13W BUW13AW

DESCRIPTION

- With TO-247 package
- High voltage,high speed

APPLICATIONS

- Converters
- Inverters
- Switching regulators
- Motor control systems

PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

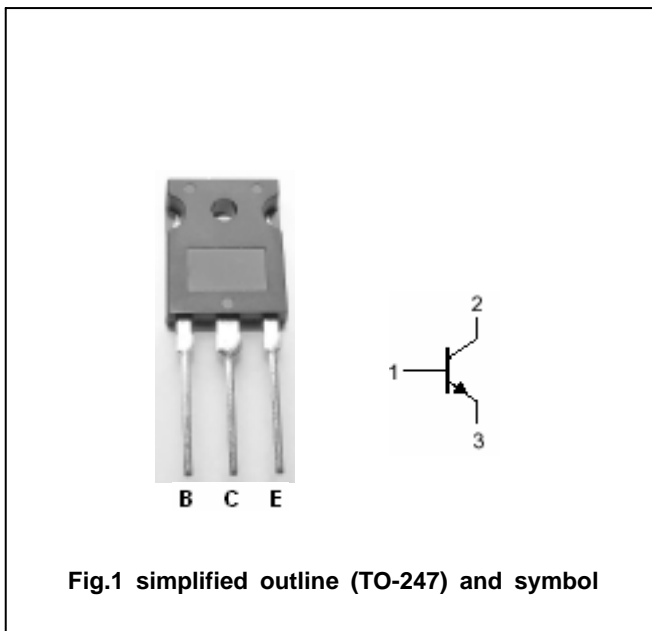


Fig.1 simplified outline (TO-247) and symbol

Absolute maximum ratings(Ta=25)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	BUW13W	850	V
		BUW13AW	1000	
V _{CEO}	Collector-emitter voltage	BUW13W	400	V
		BUW13AW	450	
V _{EBO}	Emitter-base voltage	Open collector	9	V
I _C	Collector current		15	A
I _{CM}	Collector current-peak		30	A
I _B	Base current		6	A
I _{BM}	Base current-peak		9	A
P _T	Total power dissipation	T _C =25	175	W
T _j	Junction temperature		150	
T _{stg}	Storage temperature		-65~150	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-mb}	Thermal resistance from junction to mounting base	0.7	K/W

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	BUW13W	I _C =0.1A ; I _B =0; L=25mH	400			V
		BUW13AW		450			
V _{CEsat}	Collector-emitter saturation voltage	BUW13W	I _C =10A; I _B =2A			1.5	V
		BUW13AW	I _C =8A; I _B =1.6A				
V _{BEsat}	Base-emitter saturation voltage	BUW13W	I _C =10A; I _B =2A			1.6	V
		BUW13AW	I _C =8A; I _B =1.6A				
I _{CES}	Collector cut-off current		V _{CE} =Rated V _{CEs} ; V _{BE} =0 T _j =125			1.0 4.0	mA
I _{EBO}	Emitter cut-off current		V _{EB} =9V; I _C =0			10	mA
h _{FE-1}	DC current gain		I _C =20mA ; V _{CE} =5V	10		35	
h _{FE-2}	DC current gain		I _C =1.5A ; V _{CE} =5V	10		35	

Switching times resistive load

t _{on}	Turn-on time	For BUW13W I _C =10A ; I _{B1} =-I _{B2} =-2A For BUW13AW I _C =8A ; I _{B1} =-I _{B2} =-1.6A			1.0	μs
t _s	Storage time				4.0	μs
t _f	Fall time				0.8	μs

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PACKAGE OUTLINE

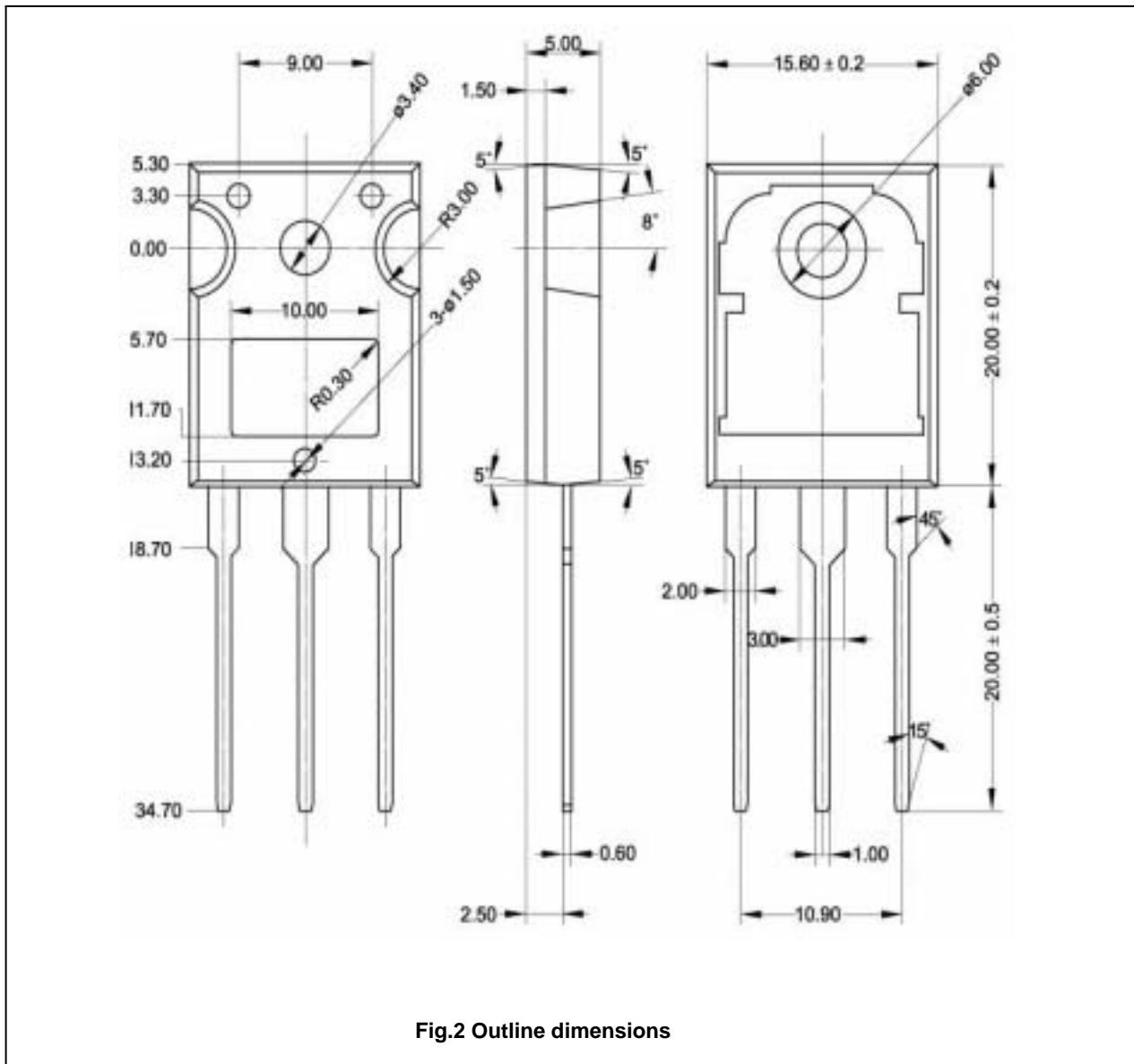


Fig.2 Outline dimensions