

**Silicon NPN Power Transistors**

**MJW16010**

**DESCRIPTION**

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

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**APPLICATIONS**

- Switching Regulators
- Inverters
- Solenoids
- Relay Drivers
- Motor Controls
- Deflection Circuits

**PINNING (see Fig.2)**

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

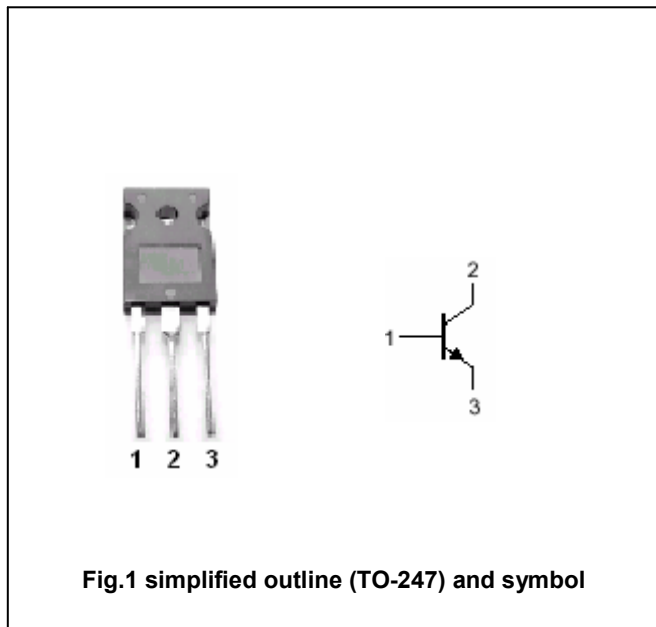


Fig.1 simplified outline (TO-247) and symbol

**ABSOLUTE MAXIMUM RATINGS(T<sub>c</sub>=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	850	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	450	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V
I <sub>C</sub>	Collector current		15	A
I <sub>CM</sub>	Collector current-peak		20	A
I <sub>B</sub>	Base current		10	A
I <sub>BM</sub>	Base current-peak		15	A
P <sub>D</sub>	Total Power Dissipation Derate above 25°C	T <sub>c</sub> =25°C	135 1.11	W W/°C
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	VALUE	UNIT
R <sub>th j-c</sub>	Thermal resistance junction to case	0.93	°C/W

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## CHARACTERISTICS

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

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEQ(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =0.1A ; I <sub>B</sub> =0	450			V
V <sub>CE(sat)-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5A ; I <sub>B</sub> =0.7A			2.5	V
V <sub>CE(sat)-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =10A ; I <sub>B</sub> =1.3A T <sub>C</sub> =100°C			3.0 3.0	V
V <sub>BE(sat)</sub>	Base-emitter saturation voltage	I <sub>C</sub> =10A ; I <sub>B</sub> =1.3A T <sub>C</sub> =100°C			1.5 1.5	V
I <sub>CER</sub>	Collector cut-off current	V <sub>CE</sub> =850V ; R <sub>BE</sub> =50Ω ; T <sub>C</sub> =100°C			2.5	mA
I <sub>CEV</sub>	Collector cut-off current	V <sub>CE</sub> =850V ; V <sub>BE(off)</sub> =1.5V T <sub>C</sub> =100°C			0.25 1.5	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =6V ; I <sub>C</sub> =0			1.0	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =15A ; V <sub>CE</sub> =5V	5			
C <sub>OB</sub>	Output capacitance	V <sub>CB</sub> =10V, I <sub>E</sub> =0 ; f=1.0KHz			400	pF

Switching times resistive load

t <sub>d</sub>	Delay time	I <sub>C</sub> =10A ; V <sub>CC</sub> =250V I <sub>B1</sub> =1.3A ; I <sub>B2</sub> =2.6A PW=30μs ; R <sub>B2</sub> =1.6Ω Duty Cycle≤2.0%		20		ns
t <sub>r</sub>	Rise time			200		ns
t <sub>s</sub>	Storage time			1200		ns
t <sub>f</sub>	Fall time			200		ns

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PACKAGE OUTLINE

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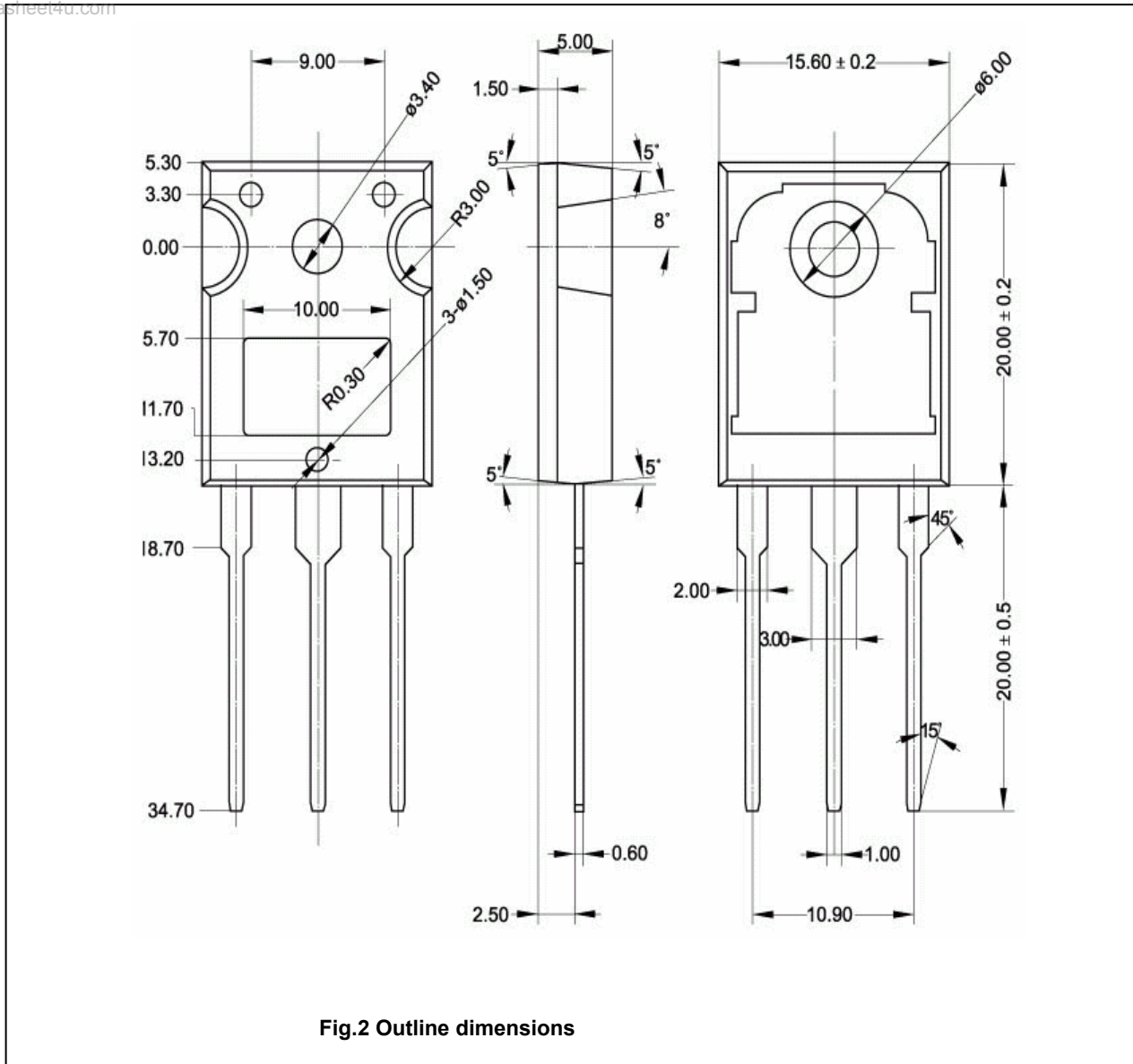


Fig.2 Outline dimensions