

**Inchange Semiconductor**

**Product Specification**

**Silicon NPN Power Transistors**

**2SC3317**

**DESCRIPTION**

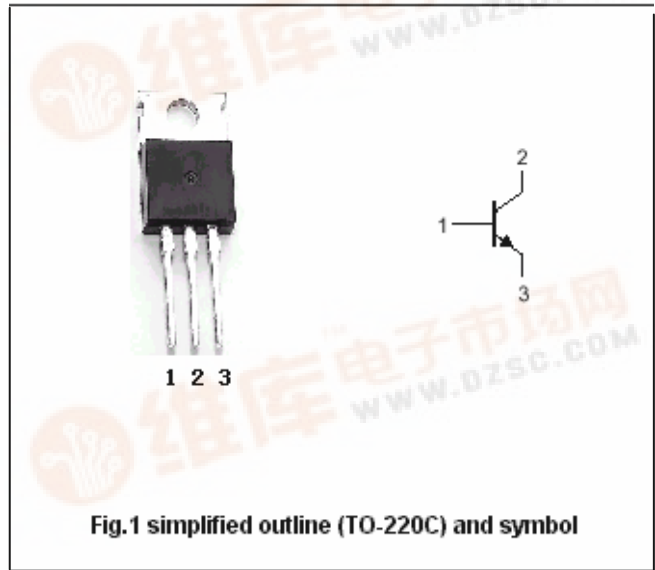
- With TO-220C package
- High voltage,high speed switching
- High reliability

**APPLICATIONS**

- Switching regulators
- Ultrasonic generators
- High frequency inverters
- General purpose power amplifiers

**PINNING**

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



**Absolute maximum ratings(Ta=25 °C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CB0</sub>	Collector-base voltage	Open emitter	500	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	400	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current		5	A
I <sub>B</sub>	Base current		2	A
P <sub>C</sub>	Collector dissipation	T <sub>C</sub> =25	40	W
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-65~150	

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal resistance junction to case	3.13	/W

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =10mA ; I <sub>B</sub> =0	400			V
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =0.2A ; I <sub>B</sub> =0	400			
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =1mA ; I <sub>E</sub> =0	500			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =1mA ; I <sub>B</sub> =0	7			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =2A; I <sub>B</sub> =0.4A			1.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =2A; I <sub>B</sub> =0.4A			1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =500V ; I <sub>E</sub> =0			1	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =7V; I <sub>C</sub> =0			1	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =2A ; V <sub>CE</sub> =5V	10			

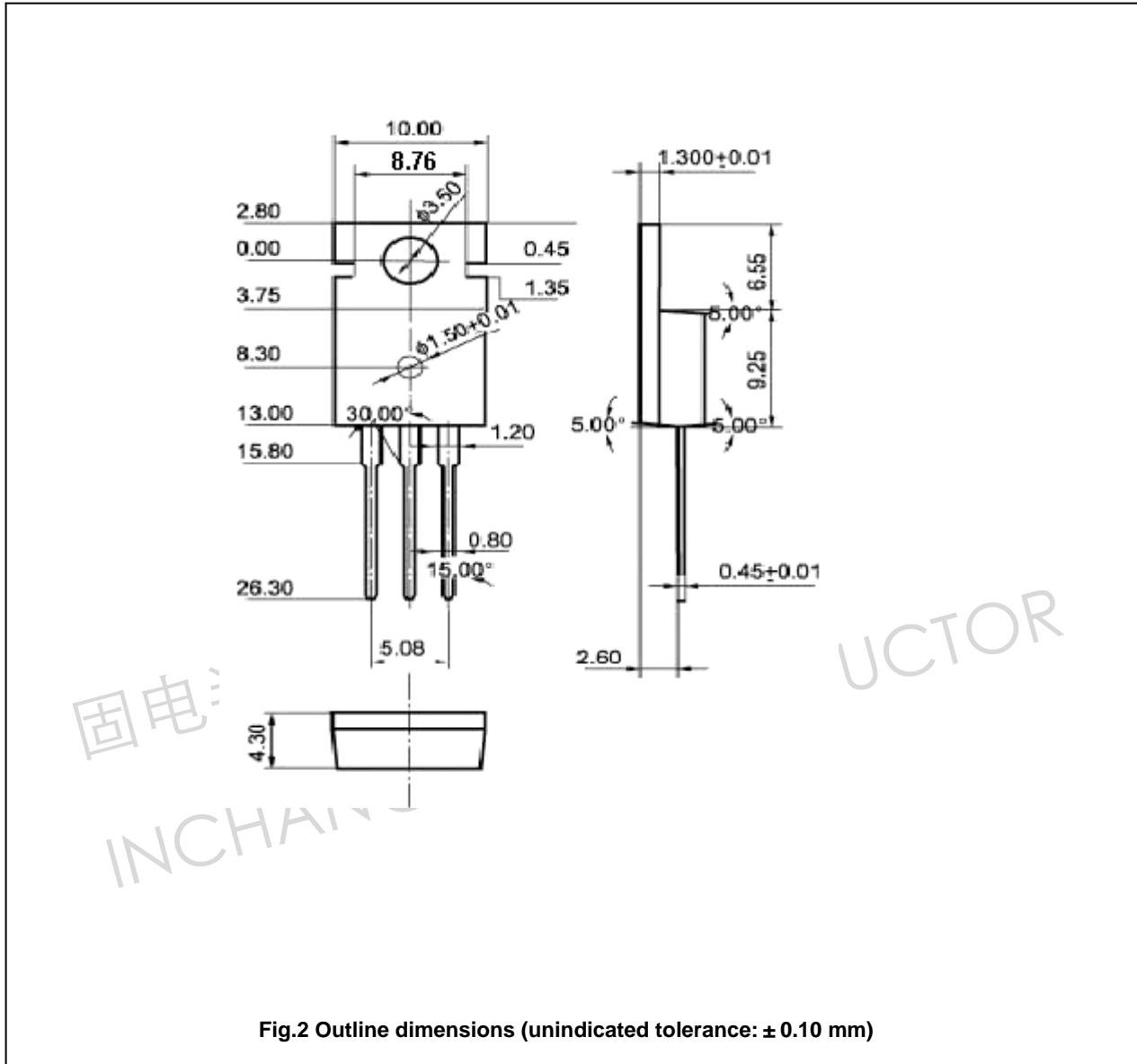
## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =2.5A; I <sub>B1</sub> =0.5A; I <sub>B2</sub> =-1A; R <sub>L</sub> =60 Pw=20 μs ; Duty 2%			0.50	μs
t <sub>stg</sub>	Storage time				1.50	μs
t <sub>f</sub>	Fall time				0.15	μs

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PACKAGE OUTLINE



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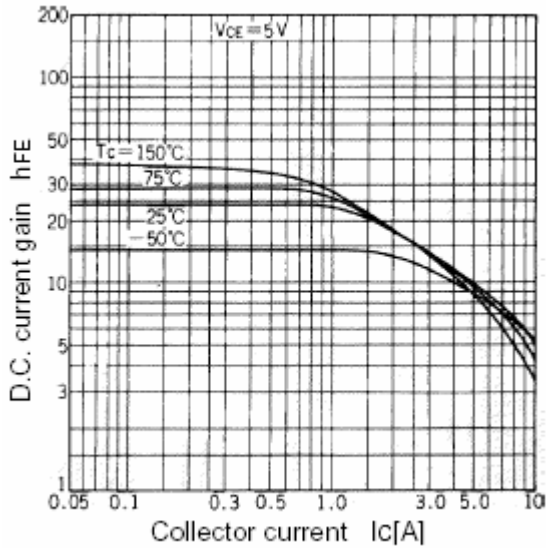


Fig.3 DC current Gain

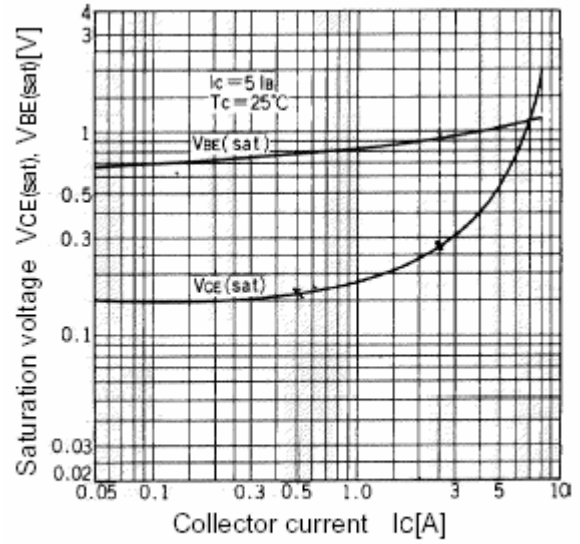


Fig.4 Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

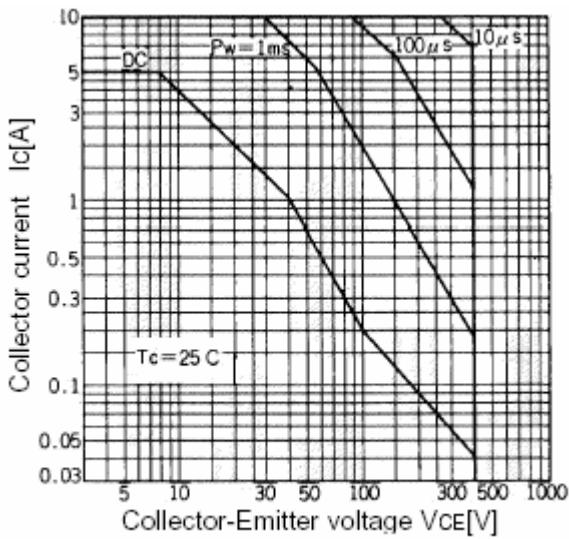


Fig.5 DC current Gain

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