

**Inchange Semiconductor**

**Product Specification**

**Silicon NPN Power Transistors 2SC2238 2SC2238A 2SC2238B**

**DESCRIPTION**

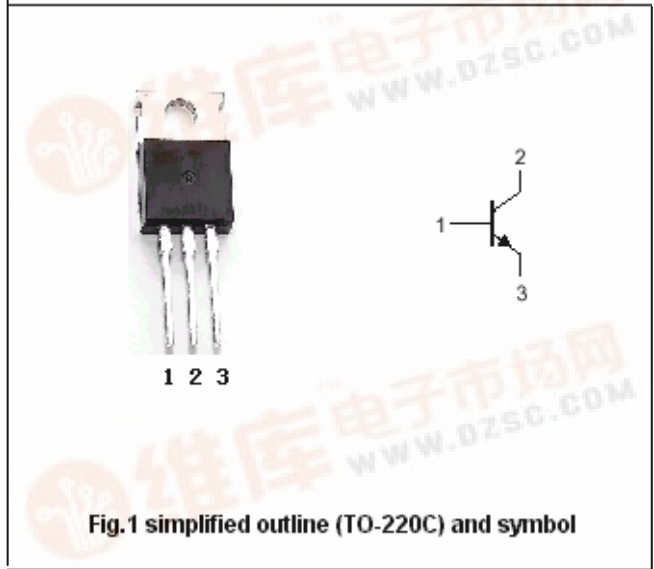
- With TO-220 package
- Complement to type 2SA968
- High breakdown vottage

**APPLICATIONS**

- Power amplifier applications
- Driver stage amplifier applications

**PINNING**

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



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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	2SC2238	160	V
		2SC2238A	180	
		2SC2238B	200	
V <sub>CEO</sub>	Collector-emitter voltage	2SC2238	160	V
		2SC2238A	180	
		2SC2238B	200	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	5	V
I <sub>C</sub>	Collector current		1.5	A
I <sub>E</sub>	Emitter current		-1.5	A
P <sub>T</sub>	Total power dissipation	T <sub>C</sub> =25	25	W
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-55~150	

## Silicon NPN Power Transistors

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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	2SC2238	160			V
		2SC2238A	180			
		2SC2238B	200			
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =1mA; I <sub>C</sub> =0	5			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =500mA; I <sub>B</sub> =50mA			1.5	V
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =500mA; V <sub>CE</sub> =5V			1.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =160V; I <sub>E</sub> =0			1.0	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			1.0	μA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =100mA; V <sub>CE</sub> =5V	70		240	
C <sub>ob</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =10V, f=1MHz		25		pF
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =100mA; V <sub>CE</sub> =10V		100		MHz

◆ h<sub>FE</sub> Classifications

O	Y
70-140	120-240

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PACKAGE OUTLINE

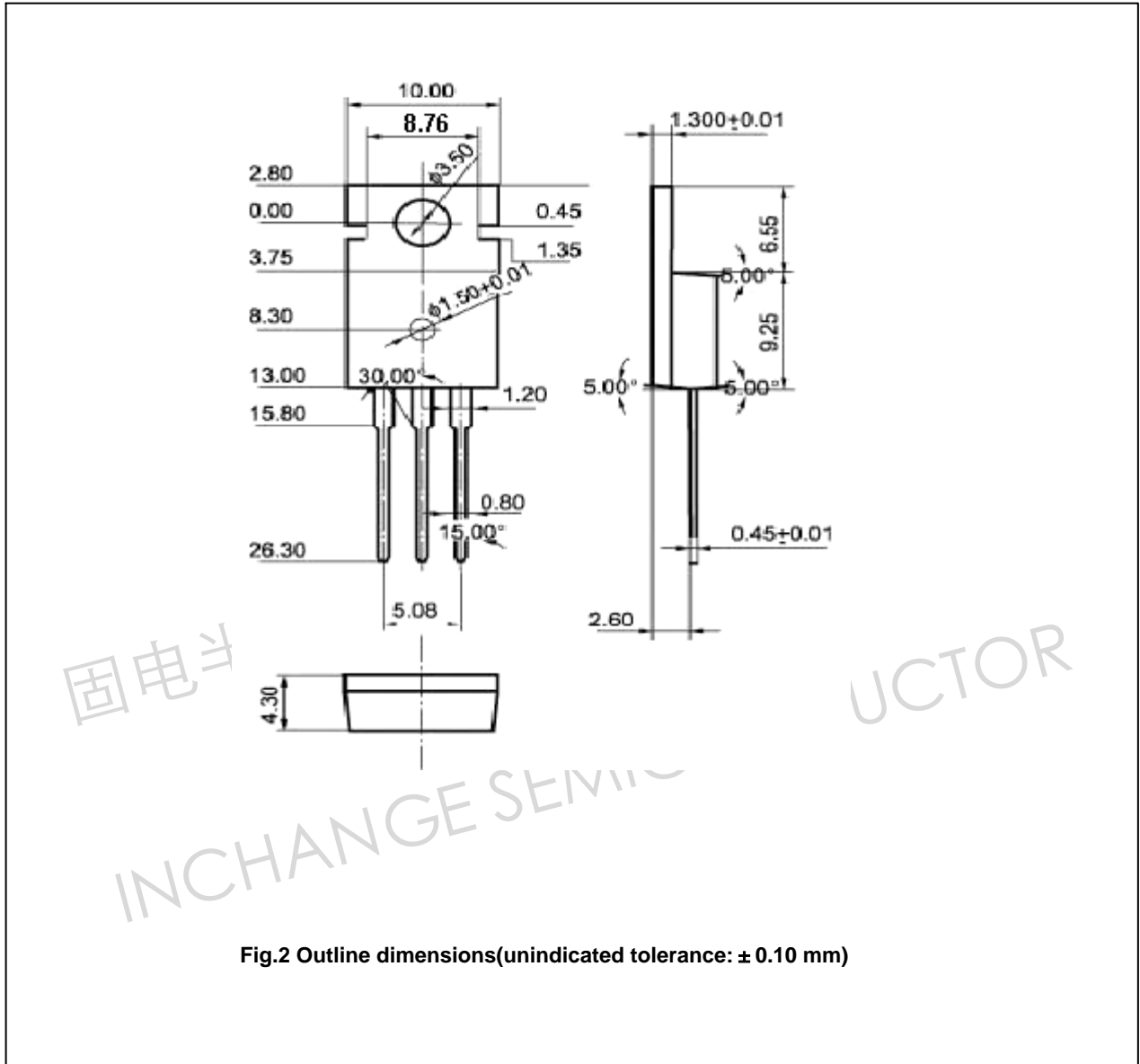


Fig.2 Outline dimensions(unindicated tolerance: ± 0.10 mm)