

**Inchange Semiconductor**

**Product Specification**

**Silicon PNP Power Transistors**

**D45H10**

**DESCRIPTION**

- With TO-220C package
- Fast switching speeds
- Low collector saturation voltage

**APPLICATIONS**

- For general purpose power amplifications and switching regulators, converters and power amplifiers applications

**PINNING**

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

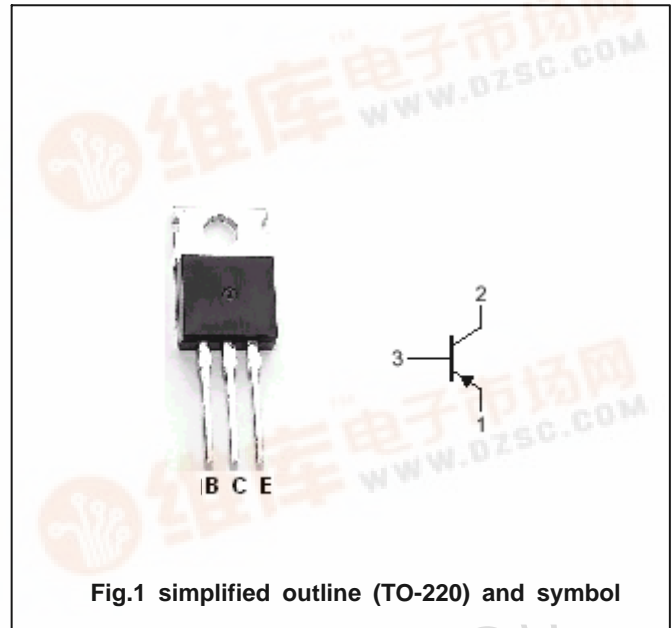


Fig.1 simplified outline (TO-220) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CB0</sub>	Collector-base voltage	Open emitter	-80	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	-80	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-5	V
I <sub>C</sub>	Collector current (DC)		-10	A
I <sub>CM</sub>	Collector current-Peak		-20	A
P <sub>D</sub>	Total power dissipation	T <sub>C</sub> =25	50	W
		T <sub>a</sub> =25	1.67	
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-55~150	

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	VALUE	UNIT
R <sub>th j-c</sub>	Thermal resistance from junction to case	2.5	/W

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEQ(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =-10mA I <sub>B</sub> =0,	-80			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-8A ; I <sub>B</sub> =-0.8A			-1.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-8A ; I <sub>B</sub> =-0.8A			-1.5	V
I <sub>CES</sub>	Collector cut-off current	V <sub>CE</sub> =-80V; V <sub>BE</sub> =0			-10	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-0.1	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-2A ; V <sub>CE</sub> =-1V	35			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-4A ; V <sub>CE</sub> =-1V	20			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-0.5A ; V <sub>CE</sub> =-10V		40		MHz
C <sub>cb</sub>	Collector capacitance	f=1MHz ; V <sub>CB</sub> =-10V		230		pF

## Switching times

t <sub>on</sub>	Turn-on time			135		ns
t <sub>s</sub>	Storage time	I <sub>C</sub> =-5A I <sub>B1</sub> =- I <sub>B2</sub> =-0.5A		0.5		μs
t <sub>f</sub>	Fall time			0.1		μs

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PACKAGE OUTLINE

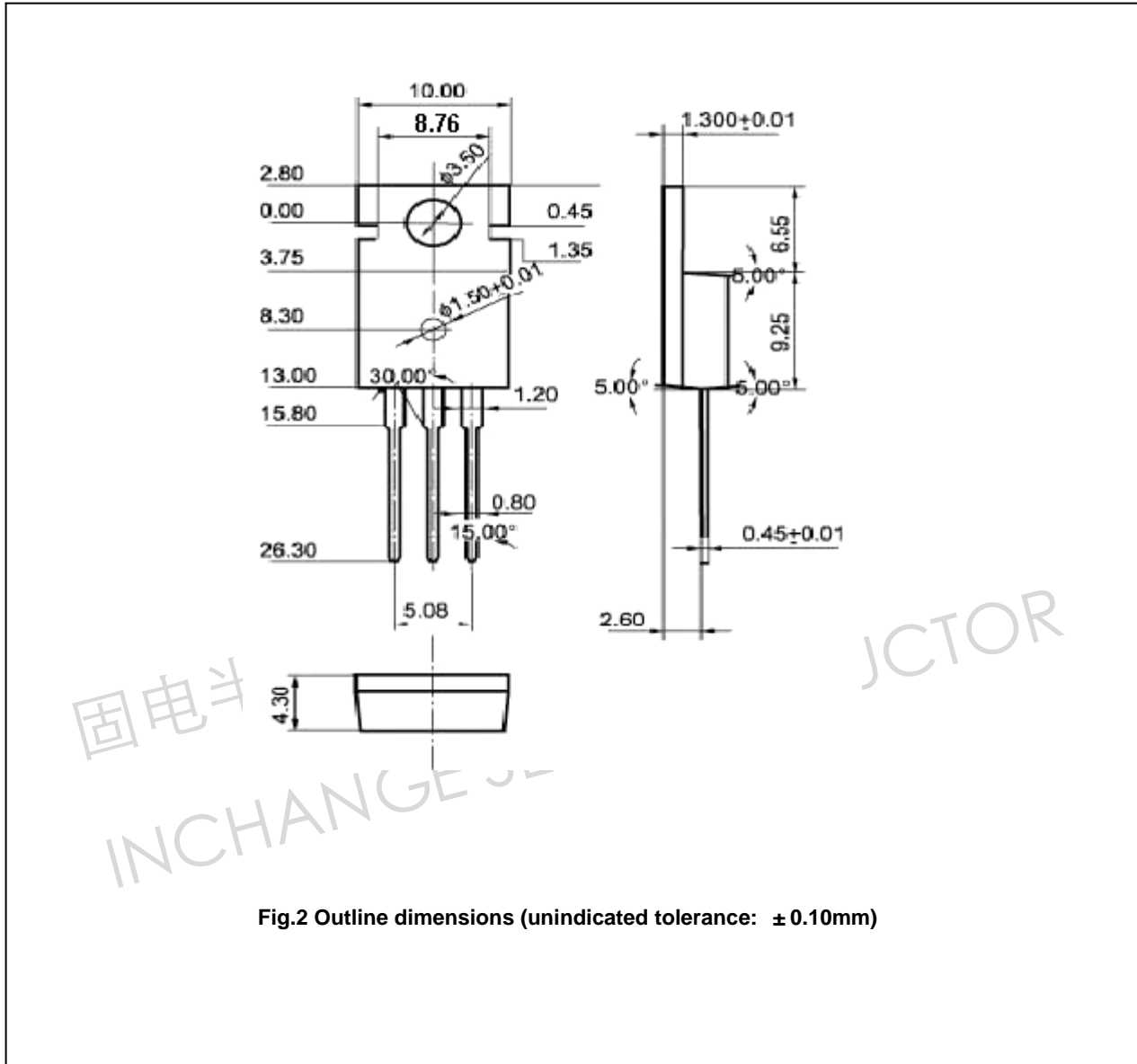


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.10\text{mm}$ )