

**Inchange Semiconductor**

**Product Specification**

**Silicon NPN Power Transistors**

**2SC3571**

**DESCRIPTION**

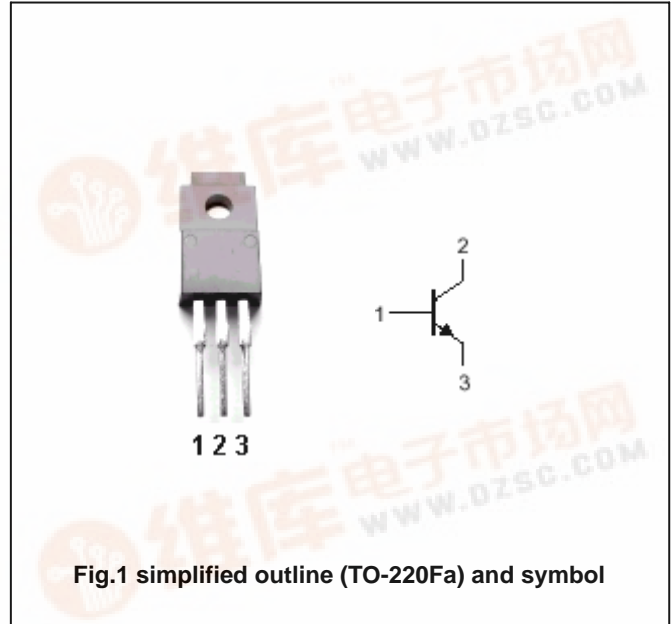
- With TO-220Fa package
- Low collector saturation voltage
- High switching speed

**APPLICATIONS**

- Switching regulator
- DC-DC converter
- High frequency power amplifier

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</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 (DC)		7	A
I <sub>CM</sub>	Collector current-Peak		15	A
I <sub>B</sub>	Base current		3.5	A
P <sub>T</sub>	Total power dissipation	T <sub>C</sub> =25°C	30	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	°C

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =3.0A, I <sub>B</sub> =0.6A, L=1mH	400			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =3A; I <sub>B</sub> =0.6A			1.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =3A; I <sub>B</sub> =0.6A			1.2	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =400V; I <sub>E</sub> =0			10	μ A
I <sub>CEX</sub>	Collector cut-off current	V <sub>CE</sub> =400V; V <sub>BE</sub> =-1.5V T <sub>a</sub> =125°C			10 1.0	μ A mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			10	μ A
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =0.1A; V <sub>CE</sub> =5V	20		80	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =1A; V <sub>CE</sub> =5V	20		80	
h <sub>FE-3</sub>	DC current gain	I <sub>C</sub> =3A; V <sub>CE</sub> =5V	10			

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =3.0A; I <sub>B1</sub> =-I <sub>B2</sub> =0.6A V <sub>CC</sub> ≈150V; R <sub>L</sub> =50Ω			1.0	μ s
t <sub>s</sub>	Storage time				2.5	μ s
t <sub>f</sub>	Fall time				1.0	μ s

◆ h<sub>FE-2</sub> classifications

M	L	K
20-40	30-60	40-80

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PACKAGE OUTLINE

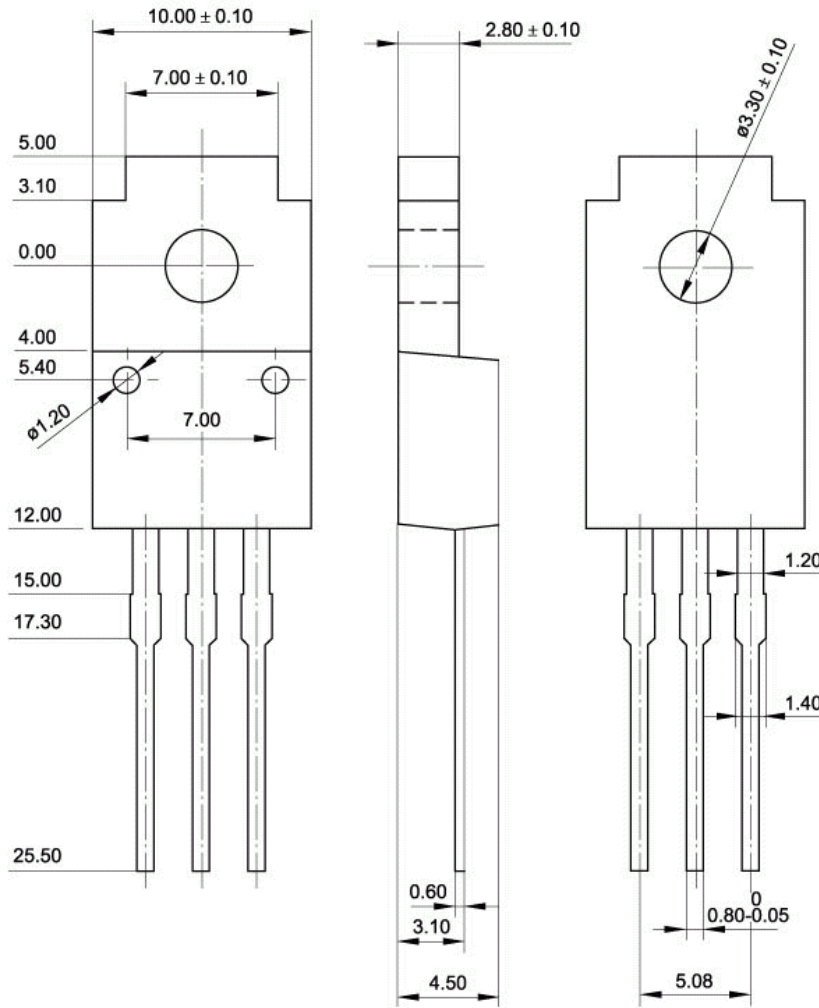


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.15$  mm)