

**Inchange Semiconductor**

**Product Specification**

**Silicon PNP Power Transistors**

**2SB1020**

**DESCRIPTION**

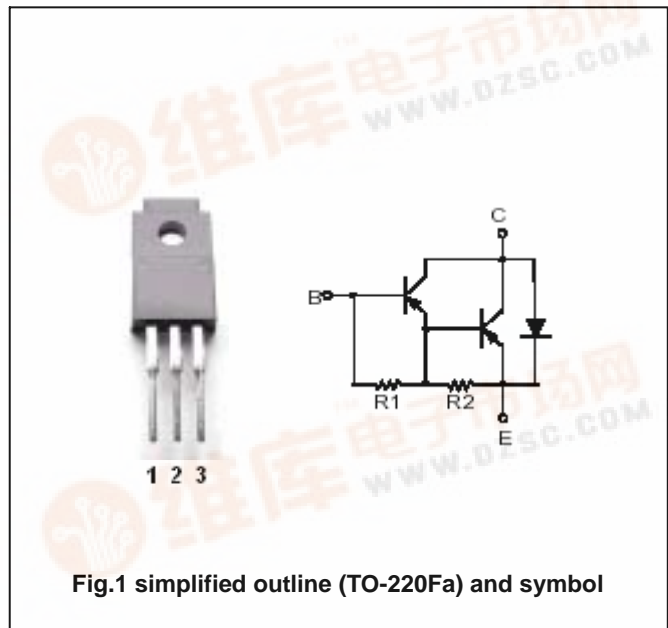
- With TO-220Fa package
- High DC current gain
- Low saturation voltage
- Complement to type 2SD1415

**APPLICATIONS**

- High power switching applications
- Hammer drive,pulse motor drive applications

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	-100	V
V <sub>CEO</sub>	Collector -emitter voltage	Open base	-100	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-5	V
I <sub>C</sub>	Collector current		-7	A
I <sub>B</sub>	Base current		-0.2	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25	30	W
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-55~150	

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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> =-50mA; I <sub>B</sub> =0	-100			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-3A ; I <sub>B</sub> =-6mA		-0.95	-1.5	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-7A ; I <sub>B</sub> =-14mA		-1.3	-2.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-3A ; I <sub>B</sub> =-6mA		-1.55	-2.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =-100V; I <sub>E</sub> =0			-100	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-4.0	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-3A ; V <sub>CE</sub> =-3V	2000		15000	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-7A ; V <sub>CE</sub> =-3V	1000			
Switching times						
t <sub>on</sub>	Turn-on time	I <sub>B1</sub> =-I <sub>B2</sub> =-6mA V <sub>CC</sub> =-45V , R <sub>L</sub> =15		0.8		μs
t <sub>stg</sub>	Storage time			2.0		μs
t <sub>f</sub>	Fall time			2.5		μs

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PACKAGE OUTLINE

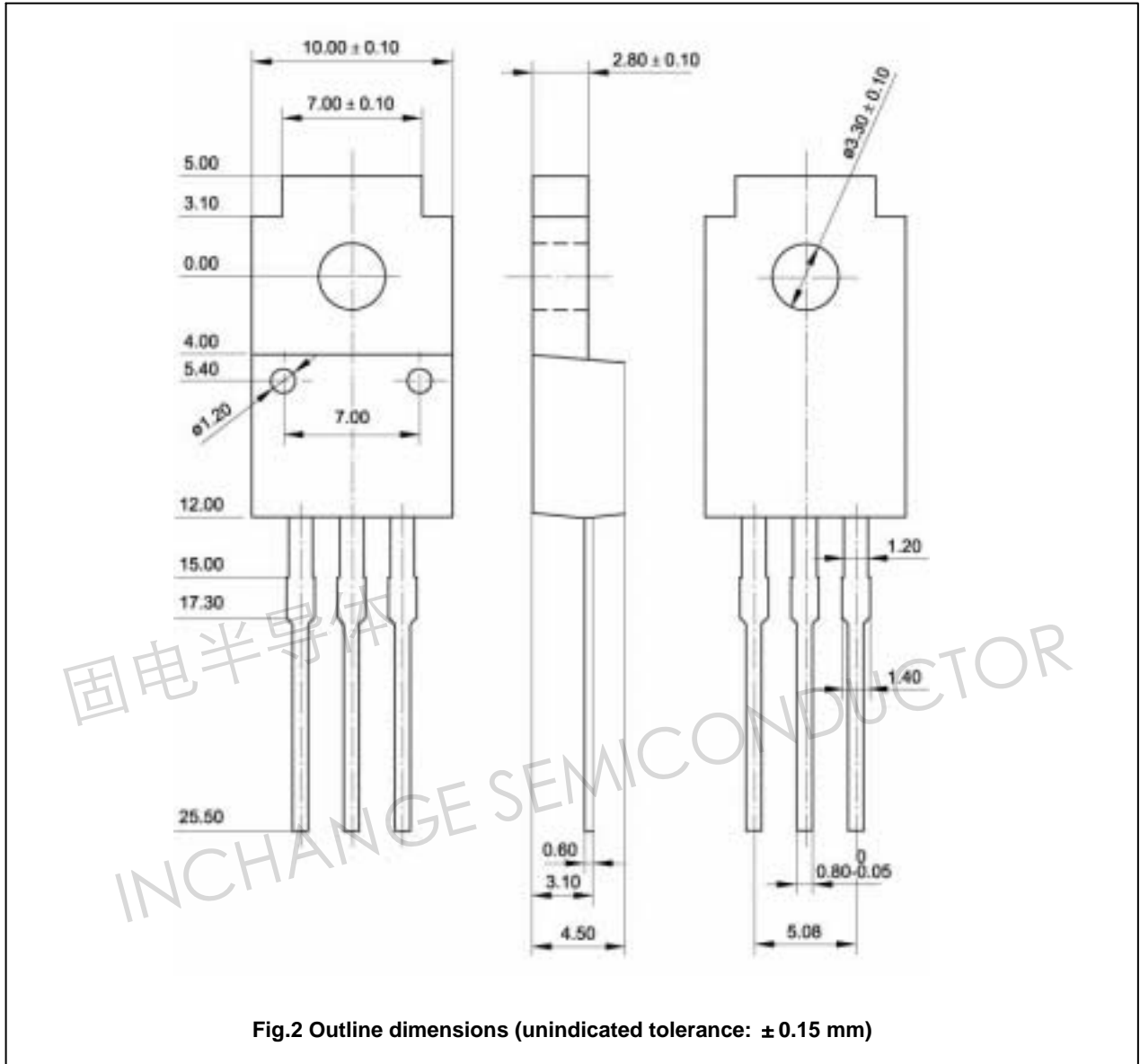


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.15$  mm)