

**Inchange Semiconductor**

**Product Specification**

**Silicon NPN Power Transistors**

**2SD2079**

**DESCRIPTION**

- With TO-220F package
- DARLINGTON
- High DC current gain
- Low collector saturation voltage
- Complement to type 2SB1381

**APPLICATIONS**

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

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

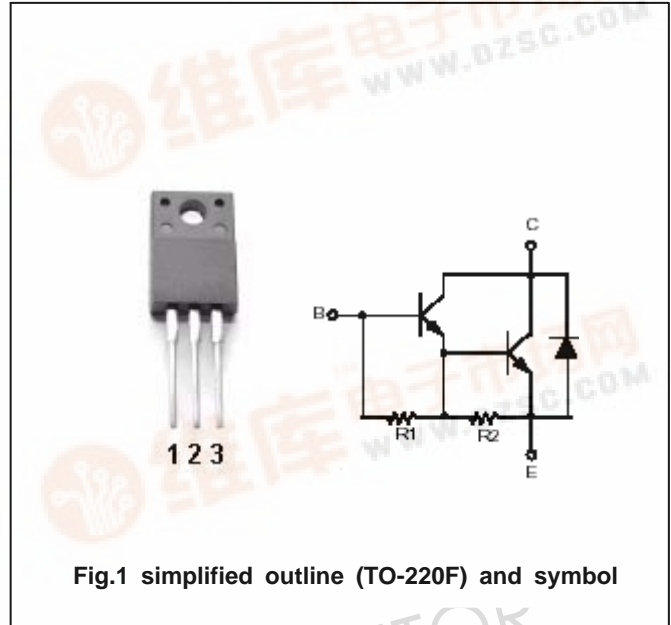


Fig.1 simplified outline (TO-220F) and symbol

**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	7	V
I <sub>C</sub>	Collector current		5	A
I <sub>CM</sub>	Collector current-peak		8	A
I <sub>B</sub>	Base current		0.5	A
P <sub>C</sub>	Collector dissipation	T <sub>a</sub> =25	2	W
		T <sub>C</sub> =25	30	
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> =30mA ; 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			1.5	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5A ; I <sub>B</sub> =20mA			2.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =3A ; I <sub>B</sub> =6mA			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> =6V; I <sub>C</sub> =0			2.5	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> =5A ; 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> 30V ,R <sub>L</sub> =10		1.0		μs
t <sub>s</sub>	Storage time			4.0		μs
t <sub>f</sub>	Fall time			2.5		μs

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PACKAGE OUTLINE

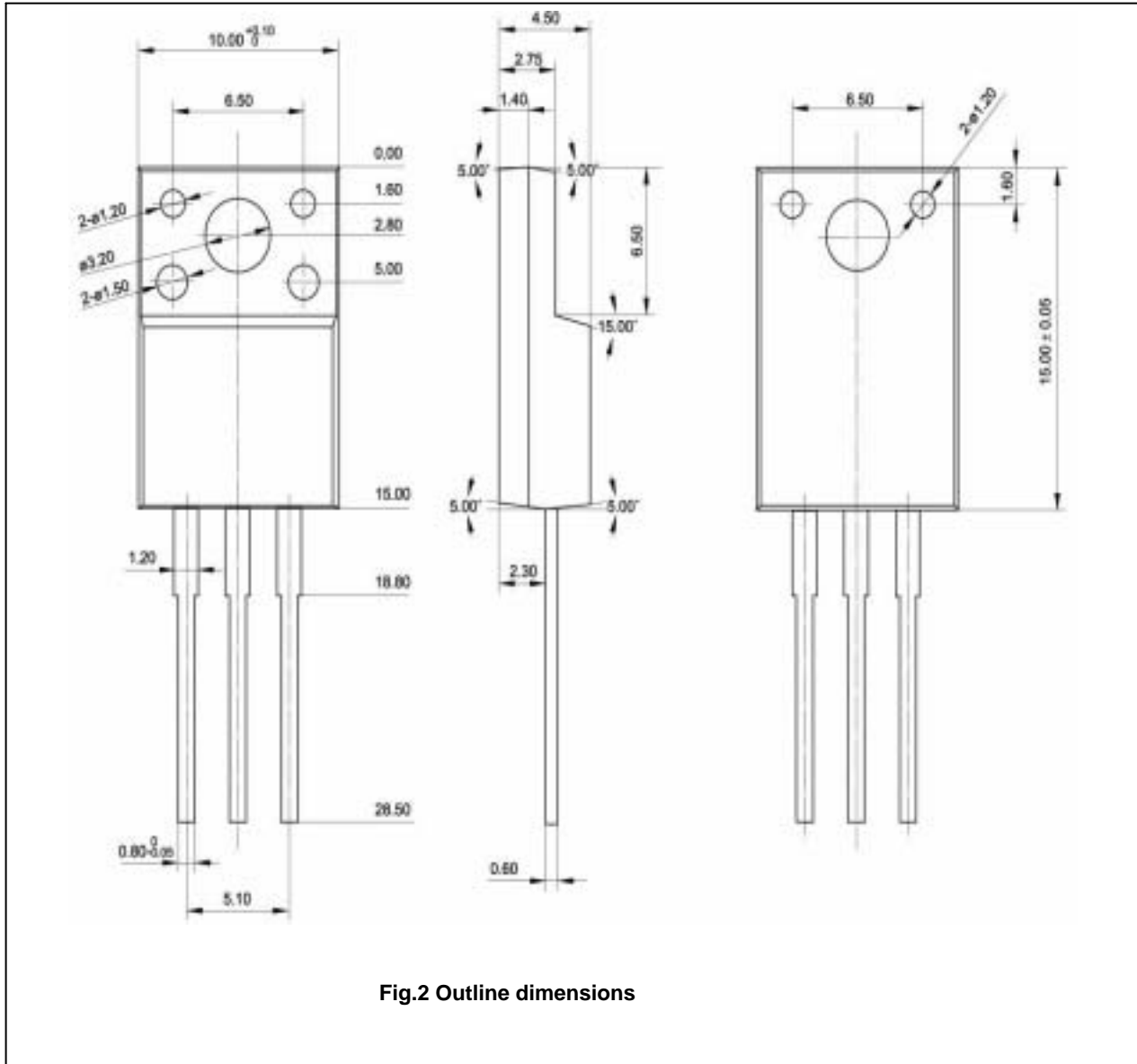


Fig.2 Outline dimensions