

**Silicon NPN Power Transistors**

**2SD1591**

**DESCRIPTION**

- With TO-220Fa package
- DARLINGTON
- Complement to type 2SB1100

**APPLICATIONS**

- Low frequency power amplification
- Low speed power switching applications

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

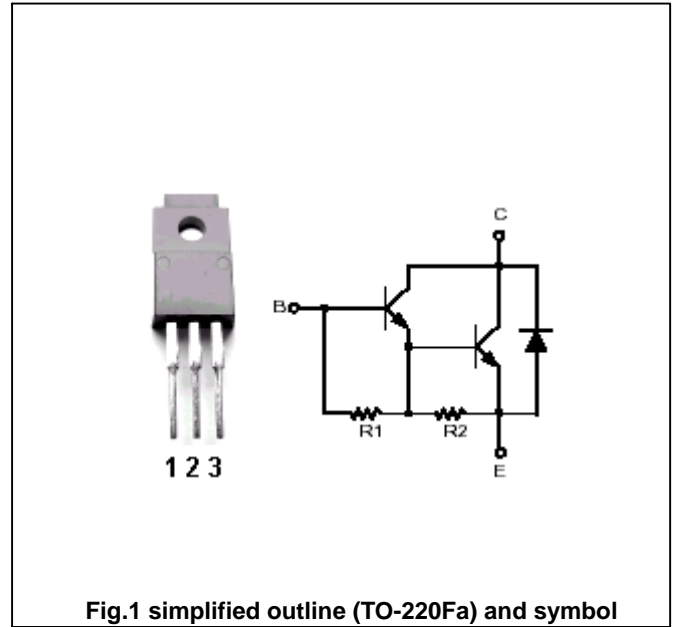


Fig.1 simplified outline (TO-220Fa) and symbol

**ABSOLUTE MAXIMUM RATINGS AT Tc=25**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CB0</sub>	Collector-base voltage	Open emitter	150	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	100	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current (DC)		10	A
I <sub>CM</sub>	Collector current-Peak		15	A
I <sub>B</sub>	Base current (DC)		0.5	A
P <sub>C</sub>	Collector power 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>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =0.1A ; I <sub>B</sub> =0	100			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =10A; I <sub>B</sub> =25mA			1.5	V
V <sub>BEsat</sub>	Emitter-base saturation voltage	I <sub>C</sub> =10A; I <sub>B</sub> =25mA			2.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =100V; I <sub>E</sub> =0			10	μA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =100V; I <sub>E</sub> =0			500	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =7V ; I <sub>C</sub> =0			5	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =10A ; V <sub>CE</sub> =2V	1000		30000	

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PACKAGE OUTLINE

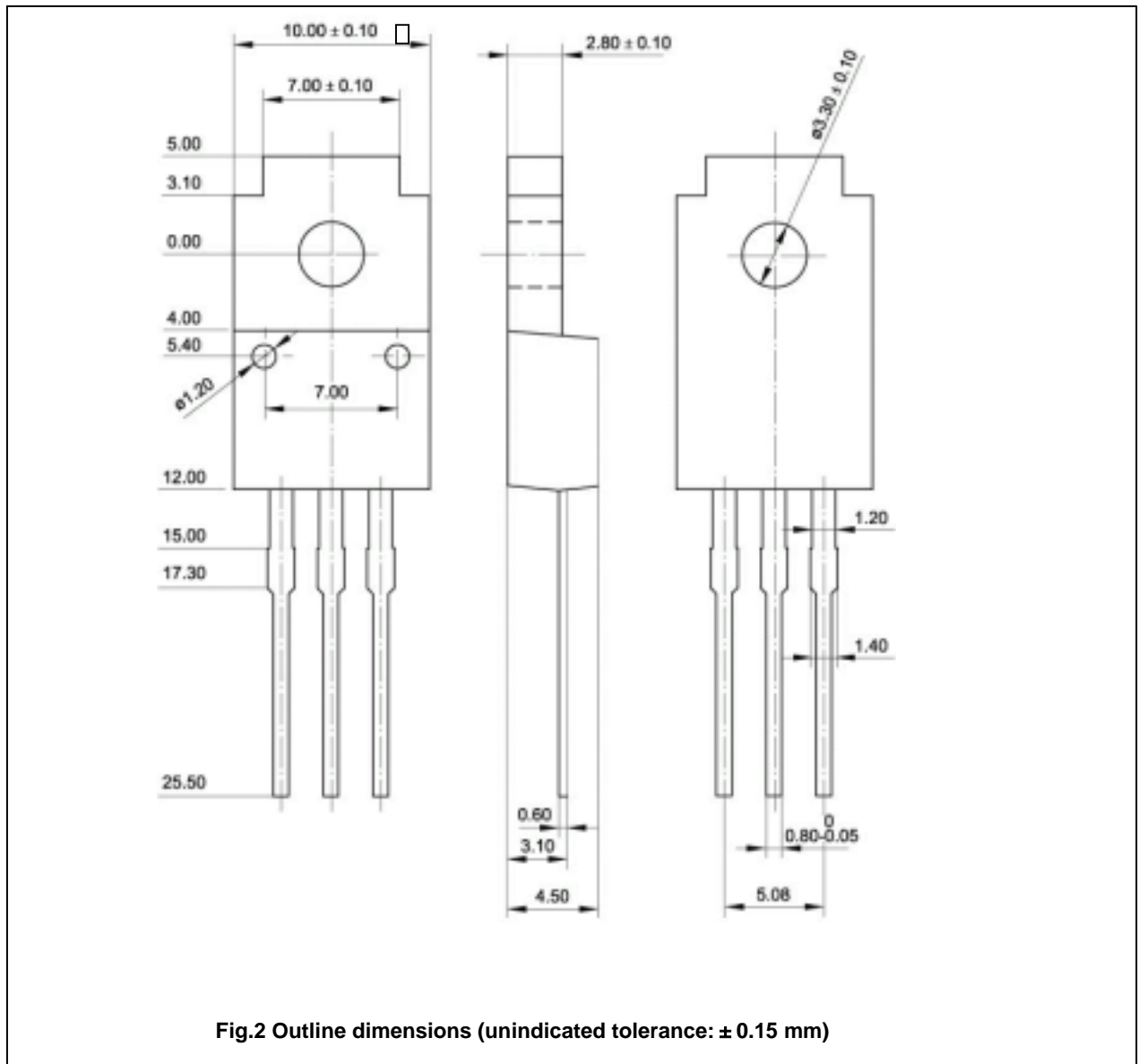


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.15$  mm)