

## Silicon NPN Power Transistors

2SD1827

## DESCRIPTION

- With TO-220F package
- Complement to type 2SB1225
- High DC current gain.
- Large current capacity and wide ASO.
- Low saturation voltage.
- DARLINGTON

## APPLICATIONS

- Suitable for use in control of motor drivers, printer hammer drivers, relay drivers, and constant-voltage regulators.

## PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

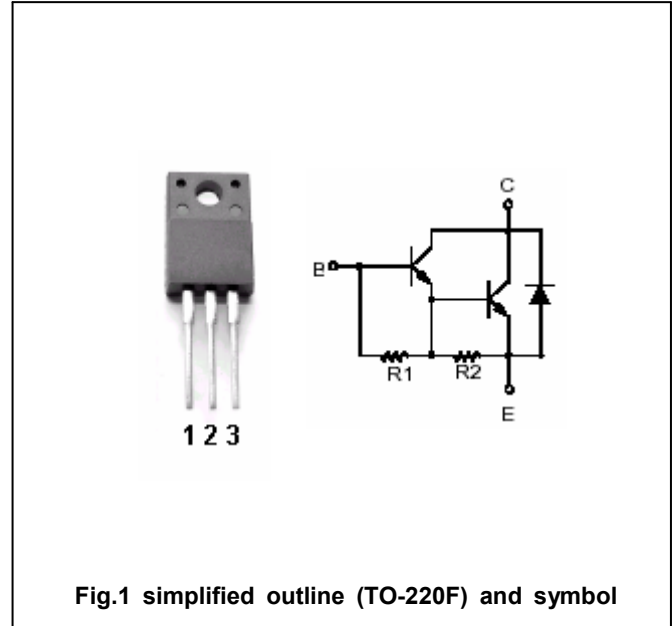


Fig.1 simplified outline (TO-220F) and symbol

## Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	70	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	60	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V
I <sub>C</sub>	Collector current		10	A
I <sub>CM</sub>	Collector current-peak		15	A
P <sub>C</sub>	Collector dissipation	T <sub>C</sub> =25°C	30	W
			2	
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>(BR)CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =5mA; I <sub>E</sub> =0	70			V
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =50mA; R <sub>BE</sub> =∞	60			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5A; I <sub>B</sub> =10mA		0.9	1.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =5A; I <sub>B</sub> =10mA			2.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =40V; I <sub>E</sub> =0			0.1	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			3.0	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =5A; V <sub>CE</sub> =2V	2000	5000		

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =5A; I <sub>B1</sub> =0.01A -I <sub>B2</sub> =0.01A V <sub>CC</sub> =20V, R <sub>L</sub> =4Ω		0.6		μs
t <sub>s</sub>	Storage time			3.0		μs
t <sub>f</sub>	Fall time			1.8		μs

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PACKAGE OUTLINE

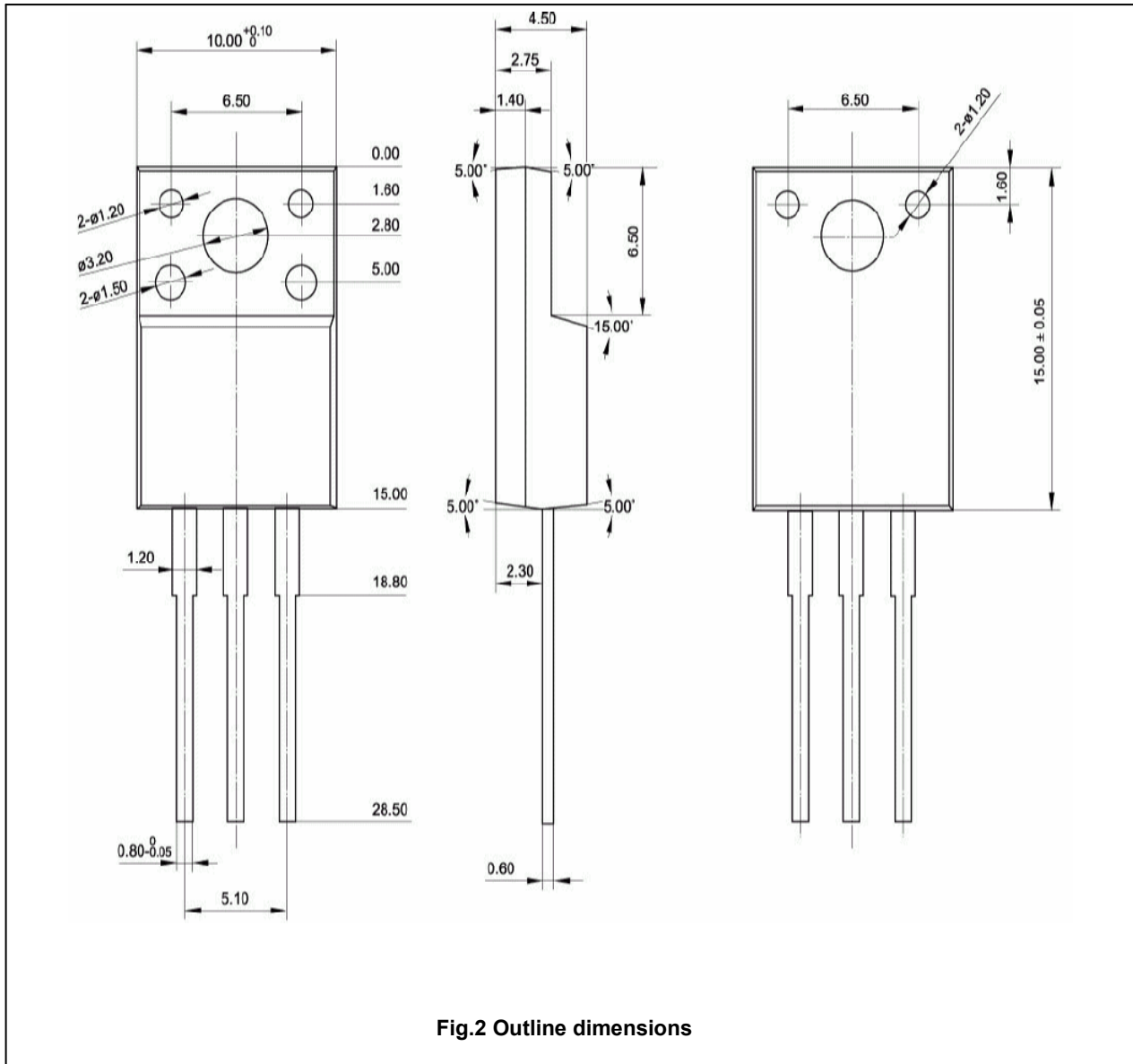


Fig.2 Outline dimensions