

## Silicon NPN Power Transistors

2SD1830

## DESCRIPTION

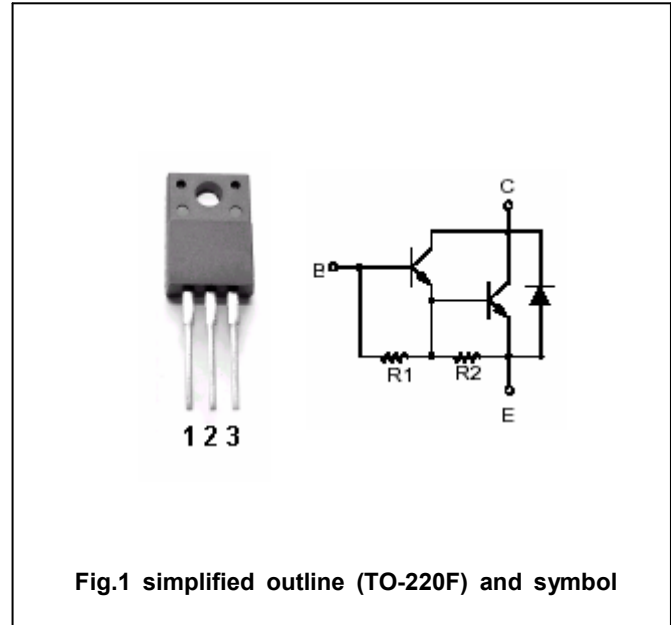
- With TO-220F package
- Complement to type 2SB1228
- High DC current gain.
- Large current capacity and wide ASO.
- Low saturation voltage.
- DARLINGTON

## 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



## Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	110	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	100	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V
I <sub>C</sub>	Collector current		8	A
I <sub>CM</sub>	Collector current-peak		12	A
P <sub>C</sub>	Collector dissipation	T <sub>C</sub> =25°C	20	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

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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	110			V
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =50mA; R <sub>BE</sub> =∞	100			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =4A ; I <sub>B</sub> =8mA		0.9	1.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =4A ; I <sub>B</sub> =8mA			2.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =80V; 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> =4A ; V <sub>CE</sub> =3V	1500	4000		
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =4A ; V <sub>CE</sub> =5V		20		MHz

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =500I <sub>B1</sub> =-500I <sub>B2</sub> =4A V <sub>CC</sub> =50V ,R <sub>L</sub> =12.5Ω		0.6		μs
t <sub>stg</sub>	Storage time			4.8		μs
t <sub>f</sub>	Fall time			1.6		μs

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PACKAGE OUTLINE

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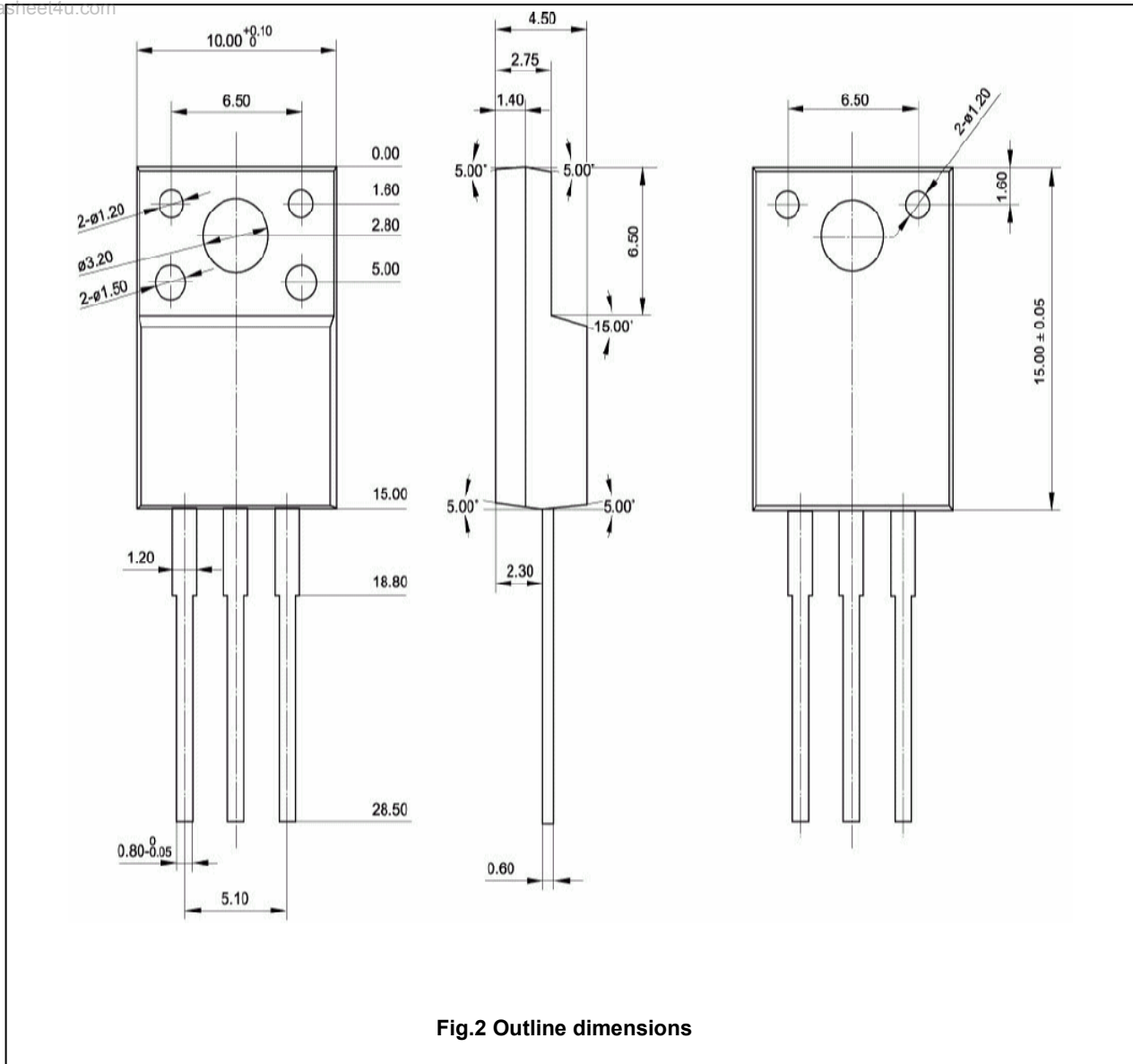


Fig.2 Outline dimensions