

**Silicon NPN Power Transistors**

**2SD1828**

**DESCRIPTION**

- With TO-220F package
- Complement to type 2SB1226
- High DC current gain.
- Large current capacity and wide ASO.
- DARLINGTON

**APPLICATIONS**

- Motor drivers,printer hammer drivers,relay drivers,voltage regulator control.

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

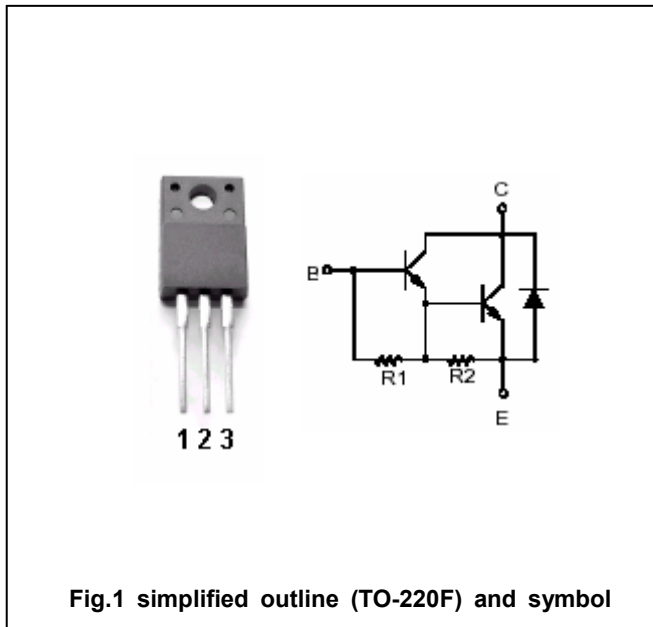


Fig.1 simplified outline (TO-220F) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	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		3	A
I <sub>CM</sub>	Collector current-peak		5	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

## Silicon NPN Power Transistors

## 2SD1828

## 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	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> =1.5A; I <sub>B</sub> =3mA		0.9	1.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =1.5A; I <sub>B</sub> =3mA			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> =1.5A; V <sub>CE</sub> =3V	1500	4000		
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =1.5A; 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> =1A V <sub>CC</sub> =50V, R <sub>L</sub> =50Ω		0.8		μs
t <sub>s</sub>	Storage time			5.0		μs
t <sub>f</sub>	Fall time			1.2		μs

Silicon NPN Power Transistors

2SD1828

PACKAGE OUTLINE

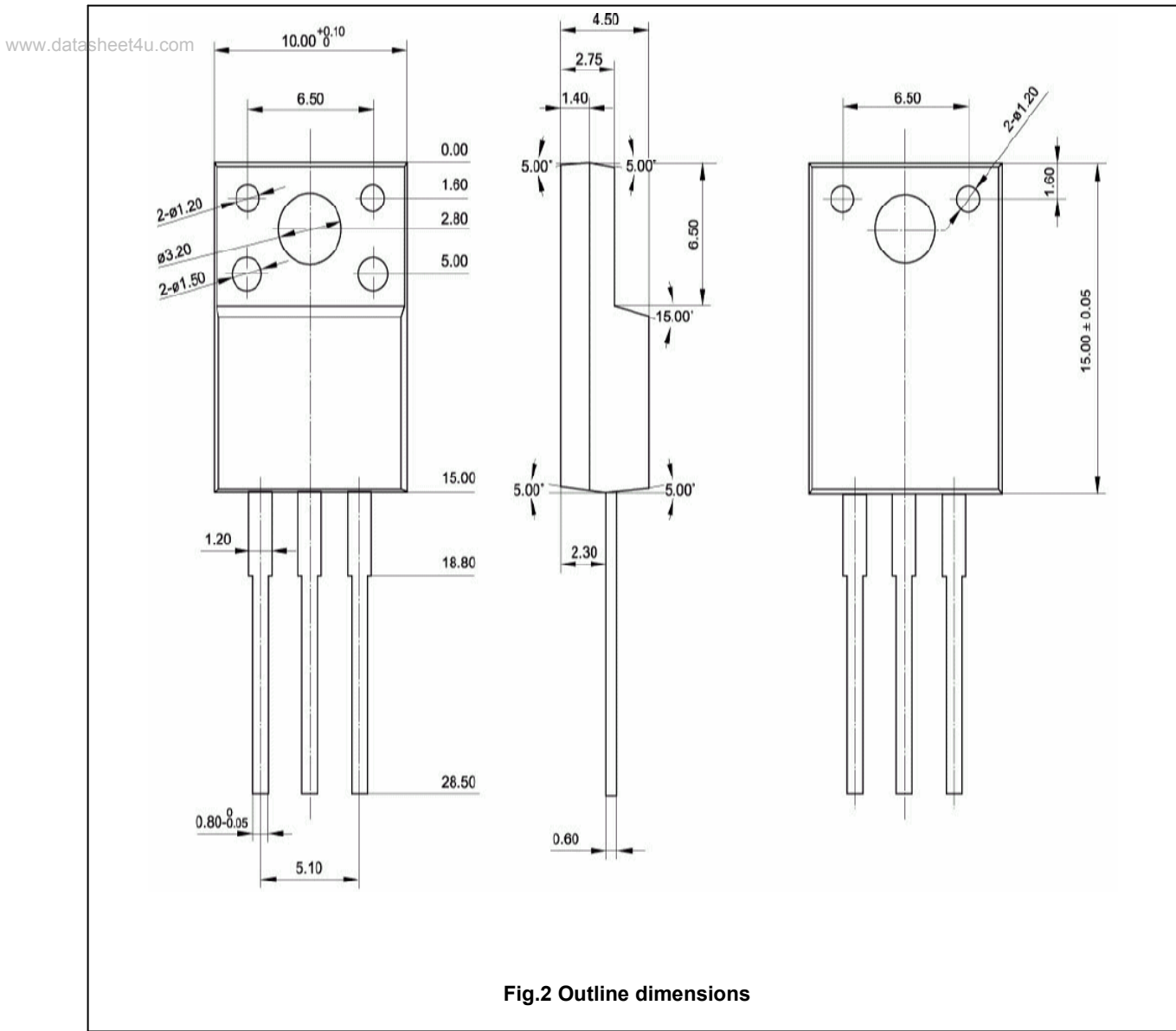


Fig.2 Outline dimensions