

Silicon NPN Power Transistors

2SD2017

**DESCRIPTION**

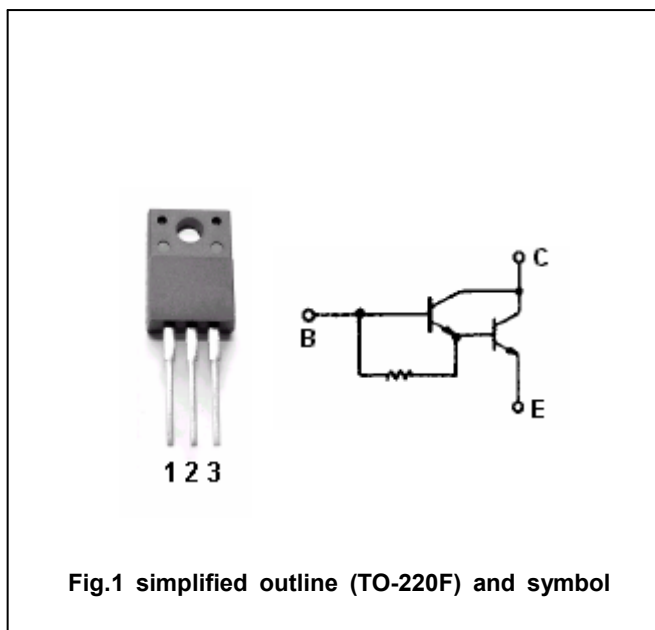
- With TO-220F package
- DARLINGTON

**APPLICATIONS**

- Driver for solenoid, relay and motor and general purpose applications

**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	300	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	250	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	20	V
I <sub>C</sub>	Collector current		6	A
I <sub>B</sub>	Base current		1	A
P <sub>C</sub>	Collector dissipation	T <sub>C</sub> =25°C	35	W
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)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =25mA ; I <sub>B</sub> =0	250			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =2A ; I <sub>B</sub> =2mA			1.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =2A ; I <sub>B</sub> =2mA			2.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =300V; I <sub>E</sub> =0			100	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =20V; I <sub>C</sub> =0			10	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =2A ; V <sub>CE</sub> =2V	2000			
f <sub>T</sub>	Transition frequency	I <sub>E</sub> =-1A ; V <sub>CE</sub> =12V		20		MHz
C <sub>OB</sub>	Collector output capacitance	f=1MHz; V <sub>CB</sub> =10V		65		pF

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =2.0A ; I <sub>B1</sub> =5mA; I <sub>B2</sub> =-10mA V <sub>CC</sub> =100V , R <sub>L</sub> =50Ω		0.6		μs
t <sub>s</sub>	Storage time			16.0		μs
t <sub>f</sub>	Fall time			3.0		μs

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PACKAGE OUTLINE

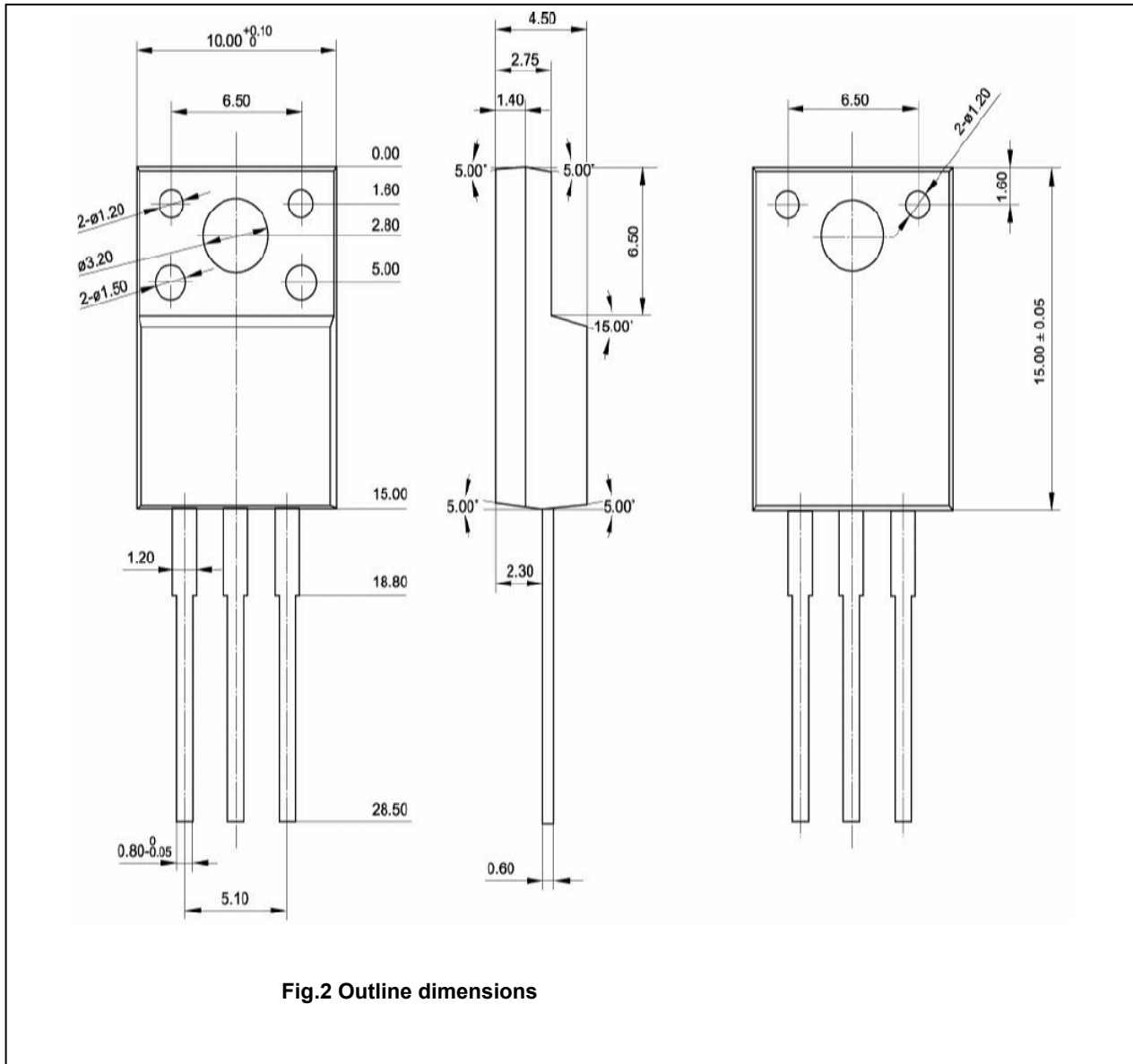


Fig.2 Outline dimensions