

## Silicon NPN Power Transistors

2SC4849

## DESCRIPTION

- With TO-220Fa package
- Low collector saturation voltage
- High switching speed
- Wide safe operating area

## APPLICATIONS

- For power supply

## PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

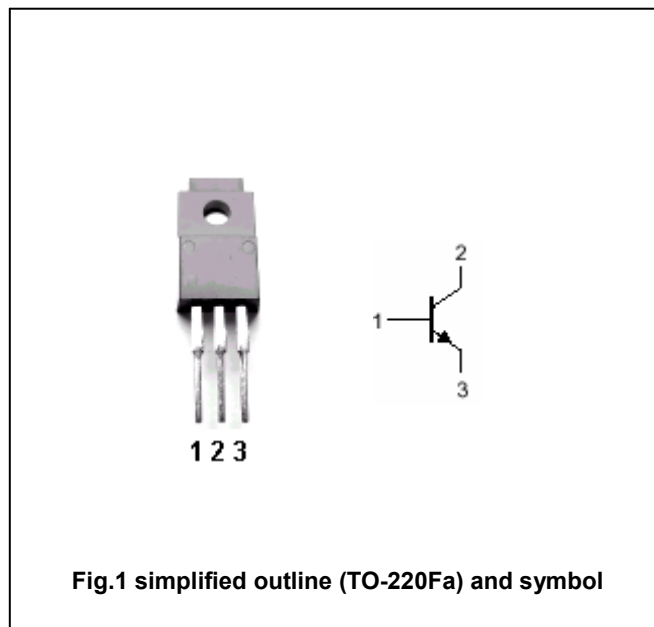


Fig.1 simplified outline (TO-220Fa) and symbol

Absolute maximum ratings( $T_a=25^\circ\text{C}$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	250	V
$V_{CEO}$	Collector-emitter voltage	Open base	120	V
$V_{EBO}$	Emitter-base voltage	Open collector	12	V
$I_C$	Collector current (DC)		7	A
$I_{CM}$	Collector current-Peak		15	A
$P_C$	Collector power dissipation	$T_a=25^\circ\text{C}$	2	W
		$T_C=25^\circ\text{C}$	30	
$T_j$	Junction temperature		150	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-55~150	$^\circ\text{C}$

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## CHARACTERISTICS

T<sub>j</sub>=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CE0(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =0.1A ; I <sub>B</sub> =0	120			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5A ; I <sub>B</sub> =0.5A			0.6	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =5A ; I <sub>B</sub> =0.5A			1.2	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =100V ; I <sub>E</sub> =0			10	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =12V ; I <sub>C</sub> =0			10	μA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =3A ; V <sub>CE</sub> =5V	100		200	
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =10V		20		MHz
C <sub>ob</sub>	Collector output capacitance	f=1MHz ; V <sub>CB</sub> =10V		150		pF

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =5A, I <sub>B1</sub> =0.5A I <sub>B2</sub> =-0.5A; V <sub>CC</sub> ≈50V R <sub>L</sub> =10Ω			0.5	μs
t <sub>s</sub>	Storage time				2.5	μs
t <sub>f</sub>	Fall time				0.5	μs

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PACKAGE OUTLINE

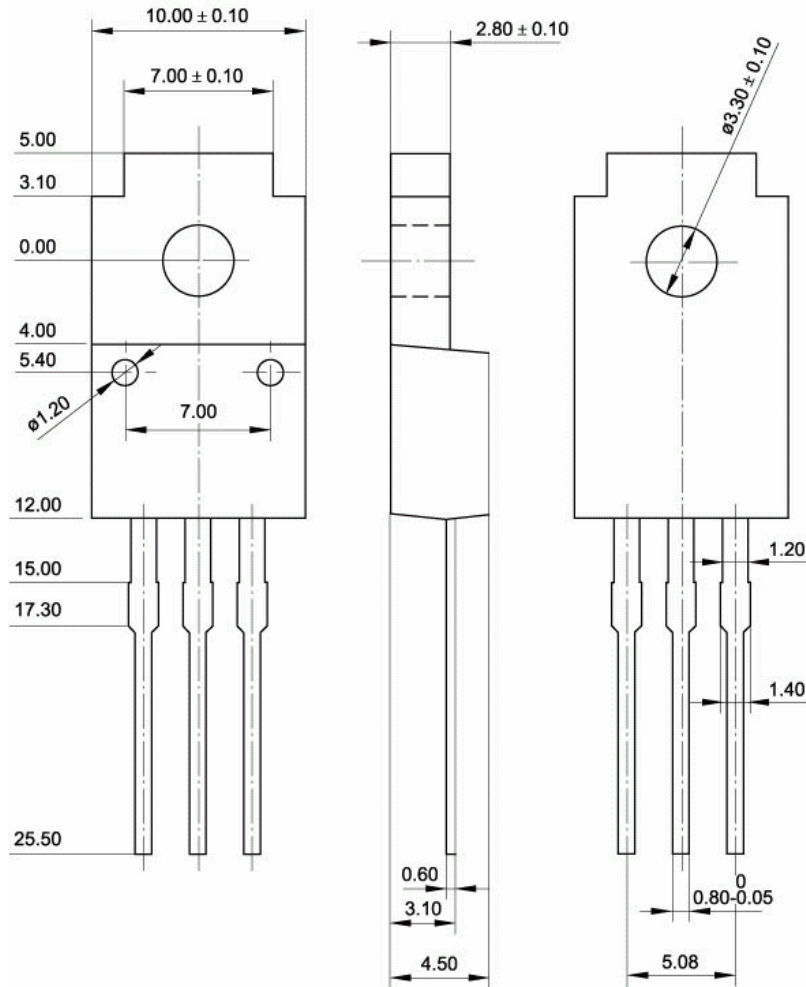


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.15$  mm)