

**Silicon NPN Power Transistors**

**2SC3170**

**DESCRIPTION**

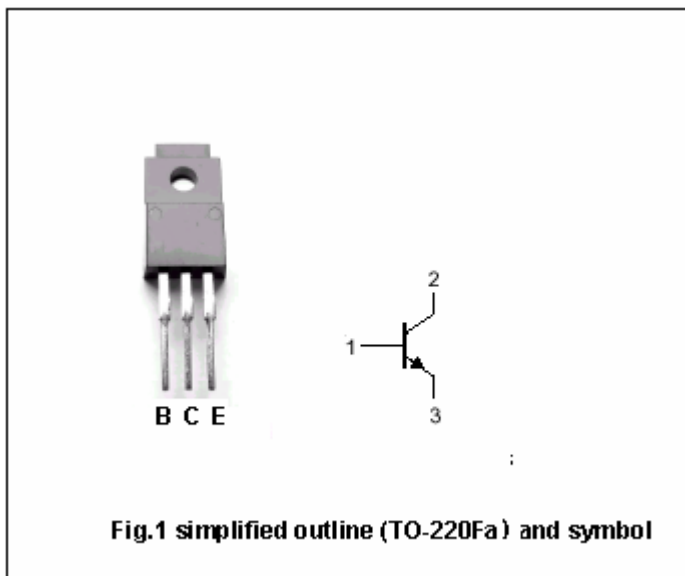
- With TO-220Fa package
- Low collector saturation voltage
- High breakdown voltage

**APPLICATIONS**

- For high speed switching 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	500	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	400	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current		7	A
I <sub>CM</sub>	Collector current-peak		15	A
P <sub>C</sub>	Collector power dissipation	T <sub>a</sub> =25°C	2	W
		T <sub>C</sub> =25°C	40	
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>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =0.2A, L=25mH	400			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =3A; I <sub>B</sub> =0.6A			1.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =3A; I <sub>B</sub> =0.6A			1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =500V; I <sub>E</sub> =0			100	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			100	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =0.1A; V <sub>CE</sub> =5V	15			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =3A; V <sub>CE</sub> =5V	8			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.5A; V <sub>CE</sub> =10V		8		MHz

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =3A; I <sub>B1</sub> =-I <sub>B2</sub> =0.6A V <sub>CC</sub> =100V			1.0	μs
t <sub>stg</sub>	Storage time				3.0	μs
t <sub>f</sub>	Fall time				1.0	μs

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PACKAGE OUTLINE

