

Silicon NPN Power Transistors

2SC2023

**DESCRIPTION**

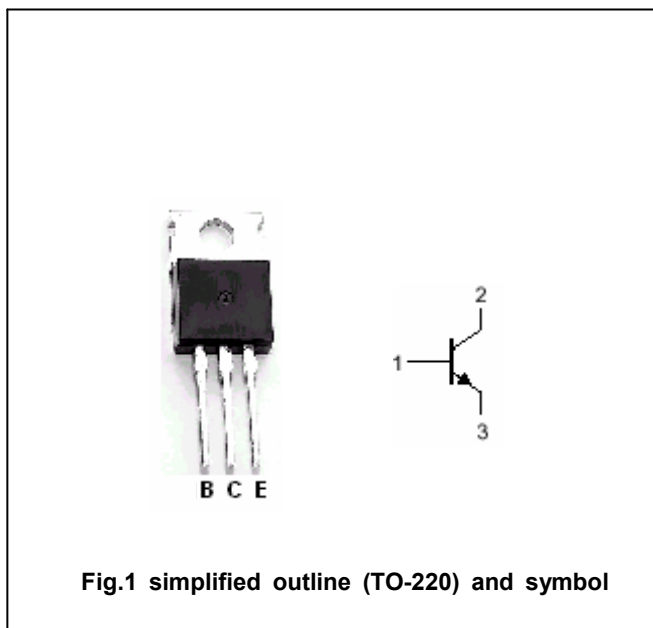
- With TO-220C package
- High breakdown voltage

**APPLICATIONS**

- Series regulator, switch, and general purpose applications

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
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	300	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V
I <sub>C</sub>	Collector current		2	A
I <sub>B</sub>	Base current		0.2	A
P <sub>C</sub>	Collector dissipation	T <sub>C</sub> =25°C	40	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-50~150	°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	300			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =1A; I <sub>B</sub> =0.2A			1.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =300V ; I <sub>E</sub> =0			1.0	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =6V; I <sub>C</sub> =0			1.0	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =0.5 A ; V <sub>CE</sub> =4V	30			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.2A ; V <sub>CE</sub> =12V		10		MHz
C <sub>ob</sub>	Collector output capacitance	f=1MHz ; V <sub>CB</sub> =10V		75		pF

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =1A, I <sub>B1</sub> =0.1A I <sub>B2</sub> =-0.2A; V <sub>CC</sub> =100V R <sub>L</sub> =100Ω		0.30		μs
t <sub>s</sub>	Storage time			4.00		μs
t <sub>f</sub>	Fall time			1.00		μs

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PACKAGE OUTLINE



Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)