

**Silicon NPN Power Transistors**

**2N6102 2N6103**

**DESCRIPTION**

- With TO-220 package
- 2N6102 with short pin

**APPLICATIONS**

- For use in general-purpose amplifier and switching applications

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector; connected to mounting base
3	Emitter

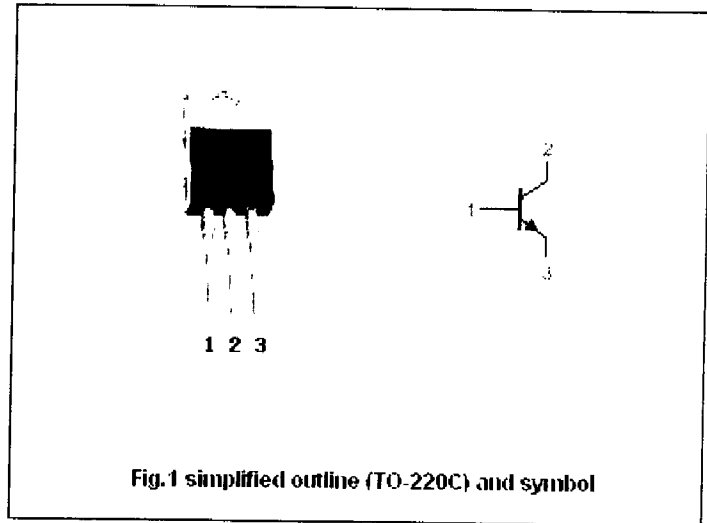


Fig. 1 simplified outline (TO-220C) and symbol

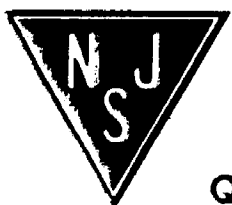
**Absolute maximum ratings(Ta=25 )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CB0</sub>	Collector-base voltage	Open emitter	45	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	45	V
V <sub>EB0</sub>	Emitter-base voltage	Open collector	8	V
I <sub>C</sub>	Collector current		16	A
P <sub>T</sub>	Total power dissipation	T <sub>C</sub> =25	75	W
T <sub>J</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-65-150	

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal resistance from junction to case	1.67	/W

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## CHARACTERISTICS

Tj=25 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	45			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5A; I <sub>B</sub> =0.5A			1.3	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =15A; I <sub>B</sub> =5A			3.5	V
V <sub>BE-1</sub>	Base-emitter on voltage	I <sub>C</sub> =5A ; V <sub>CE</sub> =4V			1.3	V
V <sub>BE-2</sub>	Base-emitter on voltage	I <sub>C</sub> =15A ; V <sub>CE</sub> =4V			3.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =Rated V <sub>CBO</sub> ; I <sub>E</sub> =0 T <sub>C</sub> =150			0.5 2.0	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =8V; I <sub>C</sub> =0			1.0	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =8A ; V <sub>CE</sub> =4V	15		80	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =15A ; V <sub>CE</sub> =4V	5			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =1A ; V <sub>CE</sub> =10V	0.8			MHz

