

**Silicon NPN Power Transistors**

**2SC2331**

**Absolute maximum ratings(Ta=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	100	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	100	V
V <sub>EB0</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current		2.0	A
I <sub>CM</sub>	Collector current-Peak		4.0	A
I <sub>B</sub>	Base current		1.0	A
P <sub>T</sub>	Total power dissipation	T <sub>a</sub> =25°C	1.5	W
		T <sub>C</sub> =25°C	15	
T <sub>J</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	

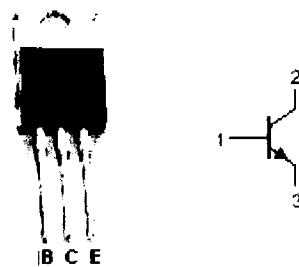
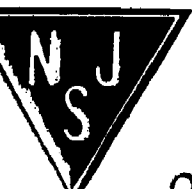


Fig.1 simplified outline (TO-220) and symbol



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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> =1.0A, I <sub>B</sub> =0.1A, L=1mH	100			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =1A; I <sub>B</sub> =0.1A			0.6	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =1A; I <sub>B</sub> =0.1A			1.5	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> =5V; I <sub>C</sub> =0			10	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =0.1A; V <sub>CE</sub> =5V	40			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =1A; V <sub>CE</sub> =5V	40		200	

Switching times resistive load

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =1.0A I <sub>B1</sub> =I <sub>B2</sub> =0.1A R <sub>L</sub> =50Ω; V <sub>CC</sub> ≈50V			0.5	μs
t <sub>s</sub>	Storage time				1.5	μs
t <sub>f</sub>	Fall time				0.5	μs

