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Silicon NPN Power Transistors

2SC2331

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	100	V
V_{CEO}	Collector-emitter voltage	Open base	100	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		2.0	A
I_{CM}	Collector current-Peak		4.0	A
I_B	Base current		1.0	A
P_T	Total power dissipation	$T_a=25^\circ\text{C}$	1.5	W
		$T_C=25^\circ\text{C}$	15	
T_J	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	

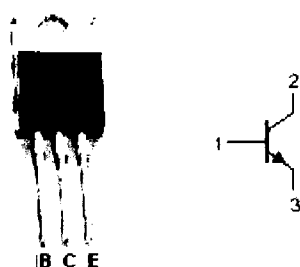


Fig.1 simplified outline (TO-220) and symbol



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Quality Semi-Conductors

CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	$I_C=1.0A, I_B=0.1A, L=1mH$	100			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=1A; I_B=0.1A$			0.6	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=1A; I_B=0.1A$			1.5	V
I_{CBO}	Collector cut-off current	$V_{CB}=100V; I_E=0$			10	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=5V; I_C=0$			10	μA
h_{FE-1}	DC current gain	$I_C=0.1A; V_{CE}=5V$	40			
h_{FE-2}	DC current gain	$I_C=1A; V_{CE}=5V$	40		200	

Switching times resistive load

t_{on}	Turn-on time	$I_C=1.0A, I_{B1}=I_{B2}=0.1A$ $R_L=50\Omega; V_{CC}=50V$			0.5	μs
t_s	Storage time				1.5	μs
t_f	Fall time				0.5	μs

