

isc Silicon NPN Power Transistor

2SC2331

DESCRIPTION

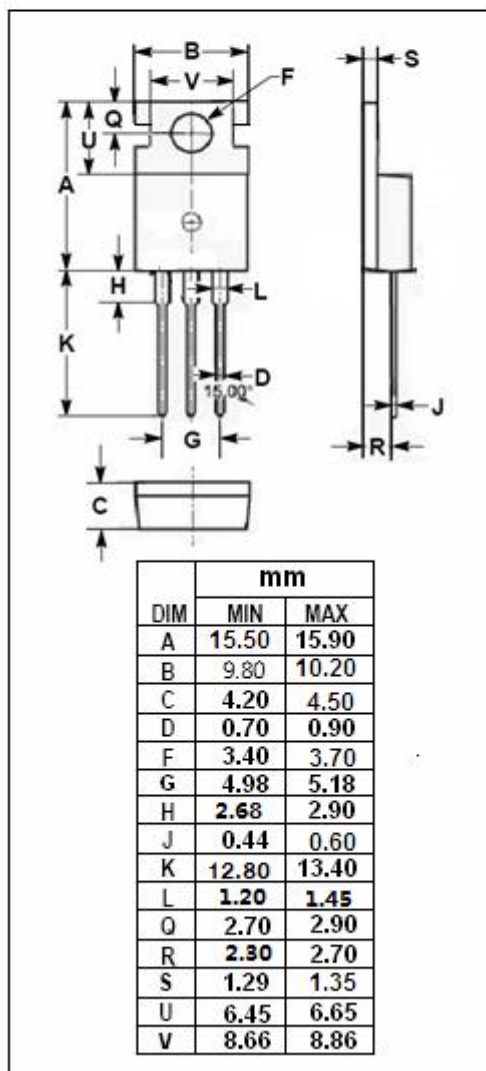
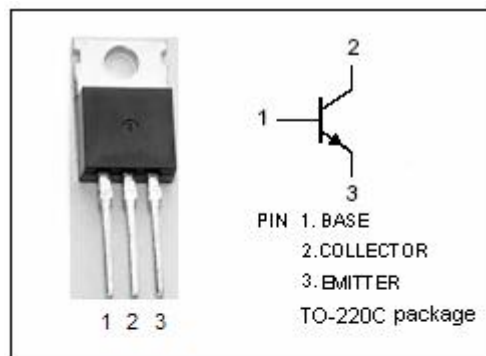
- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 0.6V(\text{Max.}) @ I_C = 1A$
- Fast Switching Speed
- Complement to Type 2SA1008
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for use as a driver in devices such as switching regulators, DC/DC converters, and high-frequency power amplifiers.

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	150	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	7.0	V
I_C	Collector Current-Continuous	2.0	A
I_{CM}	Collector Current-Peak	4.0	A
I_B	Base Current-Continuous	1.0	A
P_C	Collector Power Dissipation@ $T_a=25^\circ\text{C}$	1.5	W
	Collector Power Dissipation@ $T_c=25^\circ\text{C}$	15	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN		MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 50mA; I _B = 0	100			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 1A; I _B = 0.1A			0.6	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 1A; I _B = 0.1A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 100V; I _E = 0			10	μA
I _{CER}	Collector Cutoff Current	V _{CE} = 100V ; R _{BE} = 51 Ω, T _a =125°C			1.0	mA
I _{CEx}	Collector Cutoff Current	V _{CE} = 100V; V _{BE(off)} = -1.5V V _{CE} = 100V; V _{BE(off)} = -1.5V, T _a =125°C			10 1.0	μA mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5.0V; 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 = 1.0A; V _{CE} = 5V	40		200	
f _T	Current-Gain—Bandwidth Product	I _C = 0.1A; V _{CE} = 10V		100		MHz
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f _{test} = 1MHz		35		pF

Switching Times

t _{on}	Turn-On Time	I _C = 1.0A, R _L = 50 Ω, I _{B1} = -I _{B2} = 0.1A, V _{CC} ≈ 50V			0.5	μs
t _{stg}	Storage Time				1.5	μs
t _f	Fall Time				0.5	μs

◆ h_{FE-2} Classifications

M	L	K
40-80	60-120	100-200

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