

**isc Silicon NPN Power Transistor**
**2SC2333**
**DESCRIPTION**

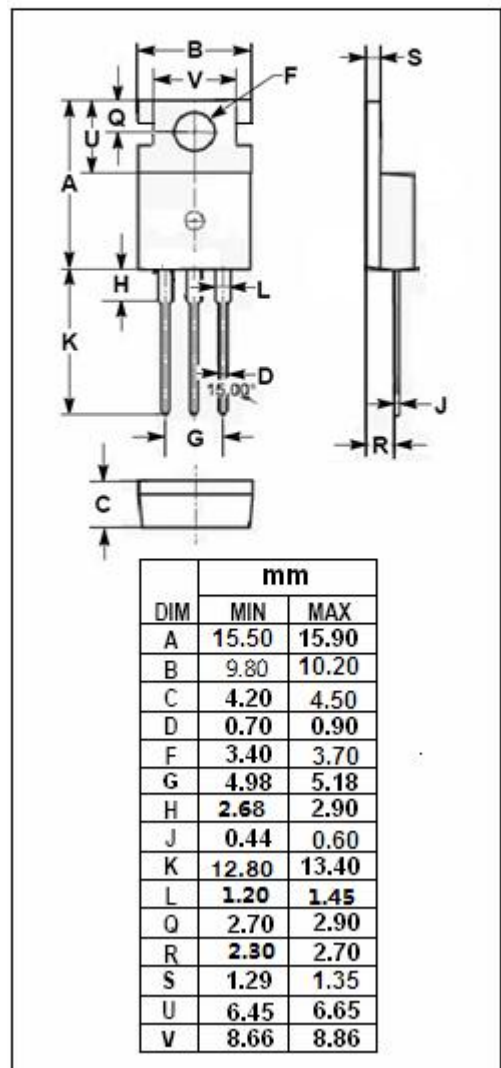
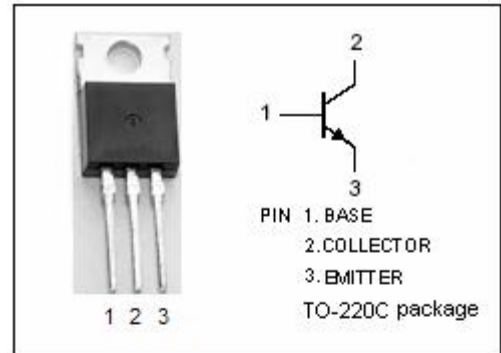
- Collector-Emitter Sustaining Voltage-  
:  $V_{CE0(SUS)} = 400V(\text{Min})$
- High Speed Switching
- Low Collector Saturation Voltage
- Wide Area of Safe Operation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for switching regulator, DC-DC converter and ultrasonic appliance applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	500	V
$V_{CEO}$	Collector-Emitter Voltage	400	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	2	A
$I_{CM}$	Collector Current-Peak	4	A
$I_B$	Base Current-Continuous	1	A
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	15	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



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## ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEQ(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 30mA; I <sub>B</sub> = 0	400			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 0.5A; I <sub>B</sub> = 0.1A			1.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 0.5A; I <sub>B</sub> = 0.1A			1.2	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 400V ; I <sub>E</sub> = 0			10	μ A
I <sub>CEX</sub>	Collector Cutoff Current	V <sub>CE</sub> = 400V; V <sub>BE(off)</sub> =-5V V <sub>CE</sub> = 400V; V <sub>BE(off)</sub> =-5V; T <sub>a</sub> = 125°C			10 1.0	μ A mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			10	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 0.1A ; V <sub>CE</sub> = 5V	20		80	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 0.5A ; V <sub>CE</sub> = 5V	10			

## Switching Times

t <sub>on</sub>	Turn-on Time				1.0	μ s
t <sub>stg</sub>	Storage Time	I <sub>C</sub> = 0.5A , R <sub>L</sub> = 300 Ω , I <sub>B1</sub> = -I <sub>B2</sub> = 0.1A, V <sub>CC</sub> ≈ 150V			2.5	μ s
t <sub>f</sub>	Fall Time				1.0	μ s

◆ h<sub>FE-1</sub> Classifications

M	L	K
20-40	30-60	40-80

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