

**isc Silicon NPN Power Transistor**
**2ST31A**
**DESCRIPTION**

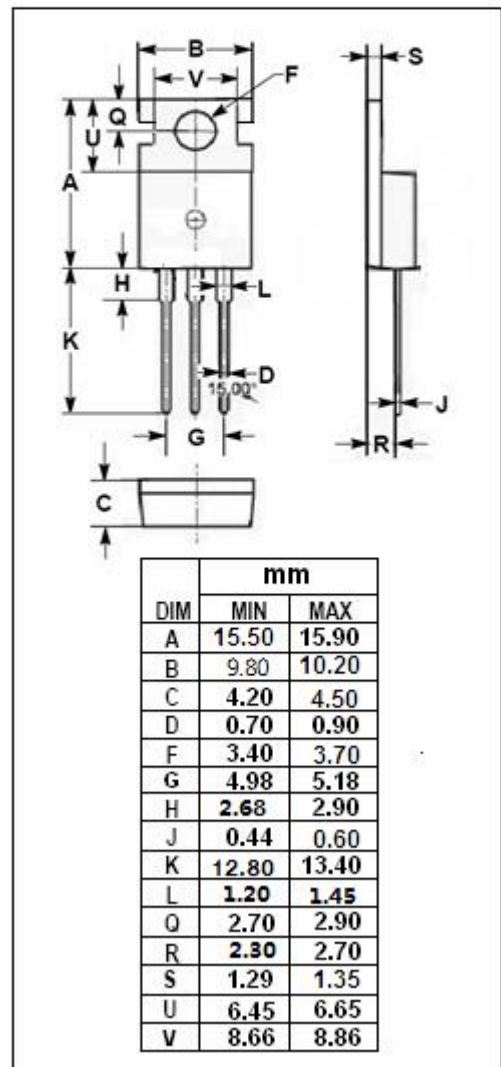
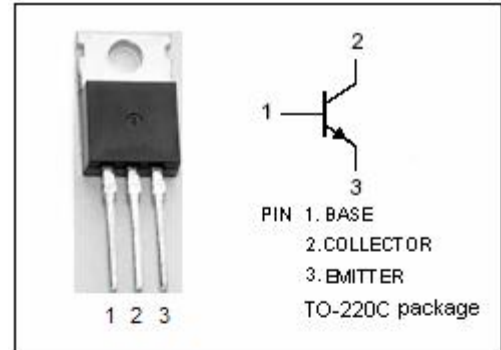
- Collector-Emitter sustaining Voltage  
:  $V_{CE0}=60V(\text{Min})$
- Good Linearity of  $h_{FE}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Linear and switching industrial applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	3	A
$I_B$	Base Current- Continuous	1	A
$P_C$	Total Power Dissipation @ $T_C=25^\circ\text{C}$	40	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$



**isc Silicon NPN Power Transistor****2ST31A****ELECTRICAL CHARACTERISTICS**T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(sus)</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> =30mA ; I <sub>B</sub> = 0	60			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 3A; I <sub>B</sub> = 375mA			1.2	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 3A; I <sub>B</sub> = 375mA			1.45	V
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 30V ; I <sub>E</sub> = 0			0.3	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> =5V; I <sub>C</sub> = 0			1.0	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> =20mA ; V <sub>CE</sub> =4V	100		150	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> =1A ; V <sub>CE</sub> =4V	25			

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