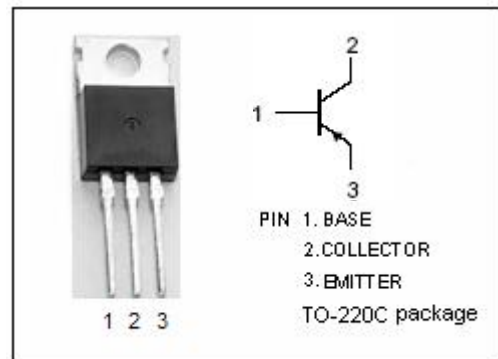


**isc Silicon PNP Power Transistor**
**2SA1009**
**DESCRIPTION**

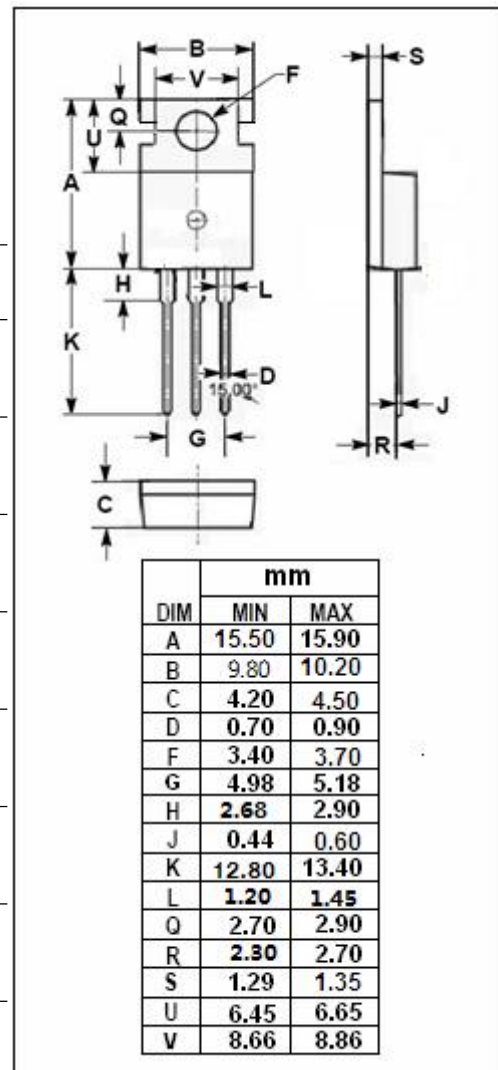
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = -1V(\text{Max.}) @ I_C = -0.3A$
- Fast Switching Speed
- Wide Reverse Bias Safe Operating Area
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation


**APPLICATIONS**

- Designed for switching regulators, DC/DC converters and High frequency power amplifier application.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-350	V
$V_{CEO}$	Collector-Emitter Voltage	-350	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
$P_C$	Collector Power Dissipation@ $T_a=25^\circ\text{C}$	15	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



**isc Silicon PNP Power Transistor**
**2SA1009**
**ELECTRICAL CHARACTERISTICS**
**T<sub>c</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = -0.3A; I <sub>B</sub> = -0.06A, L=1mH	-350		V
V <sub>CEX(SUS)-1</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = -0.3A; I <sub>B1</sub> =-I <sub>B2</sub> = -0.06A, L=180 μ H, clamped	-350		V
V <sub>CEX(SUS)-2</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = -0.6A; I <sub>B1</sub> = -0.2A; -I <sub>B2</sub> = 0.06A, L= 180 μ H, clamped	-350		V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -0.3A; I <sub>B</sub> = -0.06A		-1	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = -0.3A; I <sub>B</sub> = -0.06A		-1.2	V
I <sub>CB0</sub>	Collector Cutoff Current	V <sub>CB</sub> = -350V; I <sub>E</sub> = 0		-10	μ A
I <sub>CER</sub>	Collector Cutoff Current	V <sub>CE</sub> =-350 ;R <sub>BE</sub> = 51 Ω ,T <sub>a</sub> =125°C		-1.0	mA
I <sub>CEx</sub>	Collector Cutoff Current	V <sub>CE</sub> = -250V; V <sub>BE(off)</sub> = -1.5V V <sub>CE</sub> =-250; V <sub>BE(off)</sub> = -1.5V, T <sub>a</sub> =125°C		-10 -1.0	μ A mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = -5.0V; 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	200	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = -0.3A; V <sub>CE</sub> = -5V	10		

**◆ h<sub>FE-1</sub> Classifications**

M	L	K	J	H
20-40	30-60	40-80	60-120	100-200

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