

# isc Silicon PNP Power Transistor

2SA1109

## DESCRIPTION

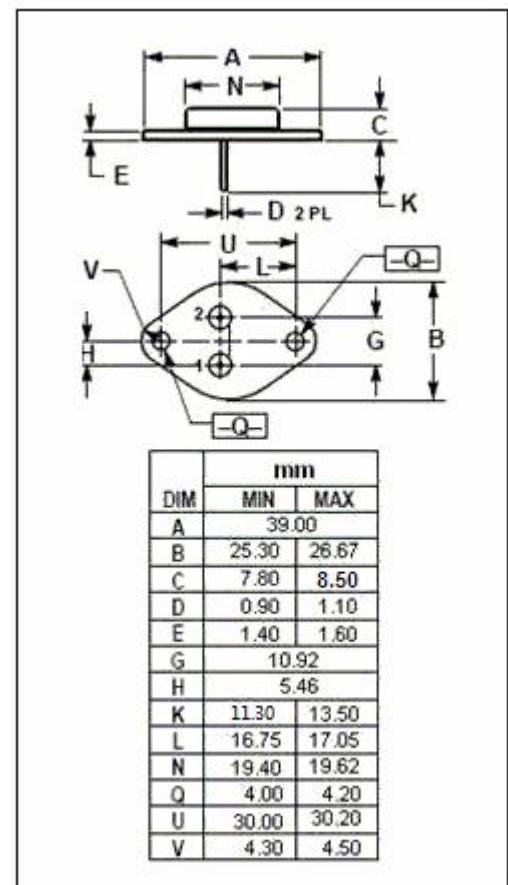
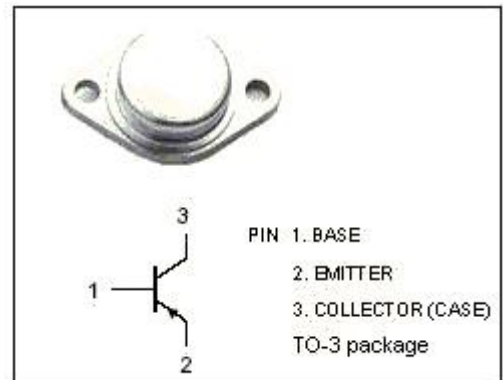
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = -180V(\text{Min.})$
- High Power Dissipation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Designed for audio frequency amplifier and high power amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-180	V
$V_{CEO}$	Collector-Emitter Voltage	-180	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current-Continuous	-10	A
$I_{CM}$	Collector Current-Peak	-14	A
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	200	W
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$



**isc Silicon PNP Power Transistor****2SA1109****ELECTRICAL CHARACTERISTICS****T<sub>j</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = -25mA; I <sub>B</sub> = 0	-180			V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = -1mA; I <sub>E</sub> = 0	-180			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = -1mA; I <sub>C</sub> = 0	-5			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -5A; I <sub>B</sub> = -0.5A			-2.0	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = -5A; V <sub>CE</sub> = -5V			-1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -180V; I <sub>E</sub> = 0			-100	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = -5V; I <sub>C</sub> = 0			-100	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = -2A ; V <sub>CE</sub> = -5V	55		160	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = -5A ; V <sub>CE</sub> = -5V	30			
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = -0.5A; V <sub>CE</sub> = -10V		60		MHz

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