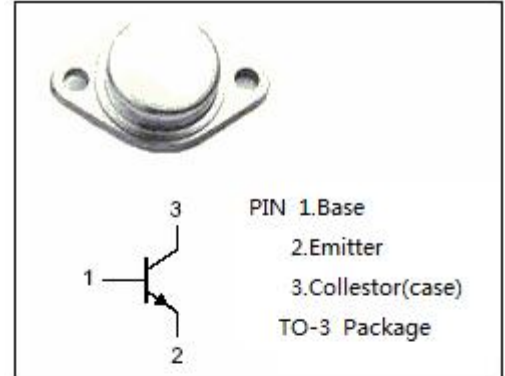


**isc Silicon NPN Power Transistor**
**2SC3094**
**DESCRIPTION**

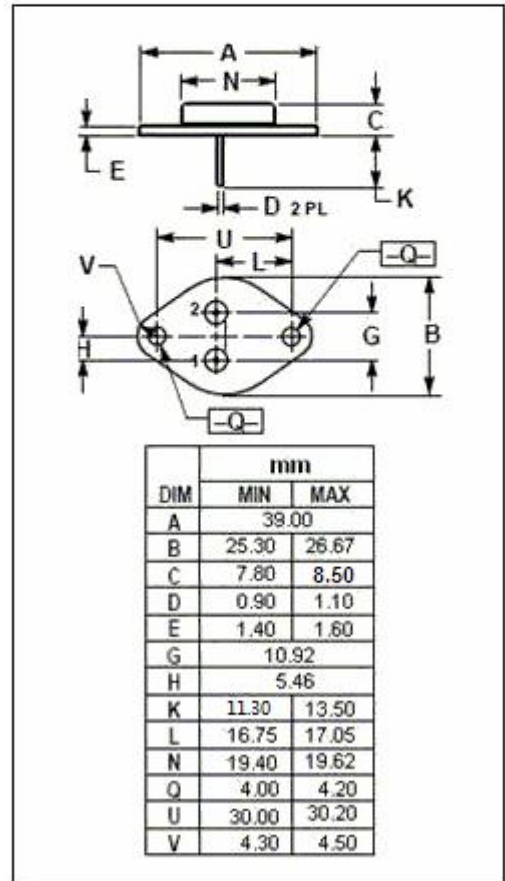
- High Breakdown Voltage-  
:  $V_{(BR)CBO} = 800V(\text{Min})$
- Fast Switching Speed
- Wide Area of Safe Operation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for switching regulator applications


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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	800	V
$V_{CEO}$	Collector-Emitter Voltage	500	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	20	A
$I_{CM}$	Collector Current-Peak	40	A
$I_B$	Base Current-Continuous	8	A
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	160	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



## isc Silicon NPN Power Transistor

## 2SC3094

## ELECTRICAL CHARACTERISTICS

T<sub>C</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> = 10mA; R <sub>BE</sub> = ∞	500			V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 1mA; I <sub>E</sub> = 0	800			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 1mA; I <sub>C</sub> = 0	7			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 12A; I <sub>B</sub> =2.4A			1.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 12A; I <sub>B</sub> =2.4A			1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 400V; I <sub>E</sub> =0			10	μ A
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> = 2.4A; V <sub>CE</sub> = 5V	15			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 12A; V <sub>CE</sub> = 5V	8			
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f <sub>test</sub> =1.0MHz		320		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 2.4A; V <sub>CE</sub> = 10V		18		MHz

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