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## Silicon NPN Power Transistor

## 2SC4434

### DESCRIPTION

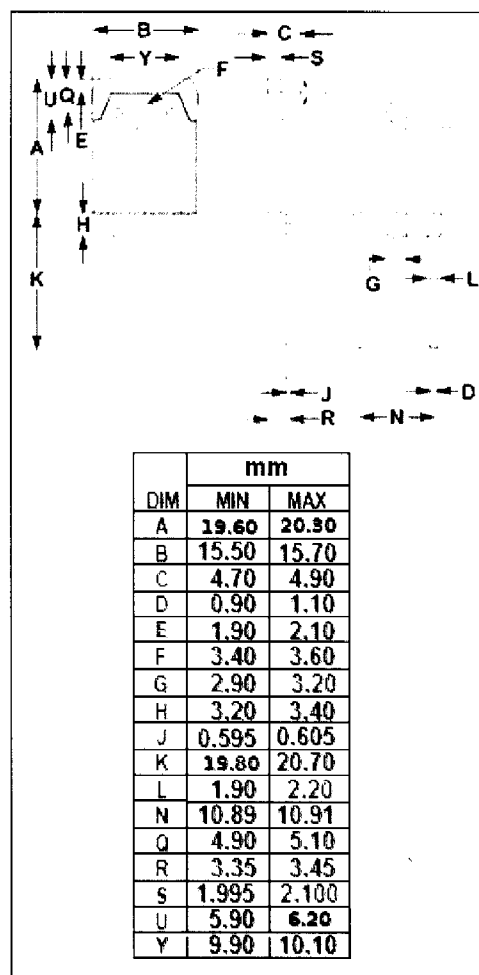
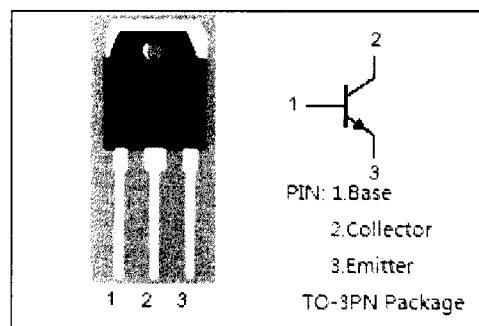
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 400V(\text{Min})$
- High Switching Speed

### APPLICATIONS

- Designed for switching regulator, lighting inverter, and general purpose 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	10	V
$I_C$	Collector Current-Continuous	15	A
$I_{CM}$	Collector Current-Peak	30	A
$I_B$	Base Current-Continuous	5	A
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	120	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

**Quality Semi-Conductors**

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## 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	400			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 8A; I <sub>B</sub> = 1.6A			0.7	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 8A; I <sub>B</sub> = 1.6A			1.3	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 500V; I <sub>E</sub> = 0			100	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 10V; I <sub>C</sub> = 0			100	μ A
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 8A; V <sub>CE</sub> = 4V	10		25	
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f= 1MHz		135		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>E</sub> = -1.5A; V <sub>CE</sub> = 12V		10		MHz

## Switching Times

t <sub>on</sub>	Turn-On Time	I <sub>C</sub> = 8A; I <sub>B1</sub> = 1.6A; I <sub>B2</sub> = -3.2A; V <sub>CC</sub> = 200V; R <sub>L</sub> = 25Ω			0.5	μ s
t <sub>stg</sub>	Storage Time				2.0	μ s
t <sub>f</sub>	Fall Time				0.15	μ s