

**isc Silicon NPN Power Transistors**
**D44H8**
**DESCRIPTION**

- Low Saturation Voltage
- Fast Switching Speeds
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

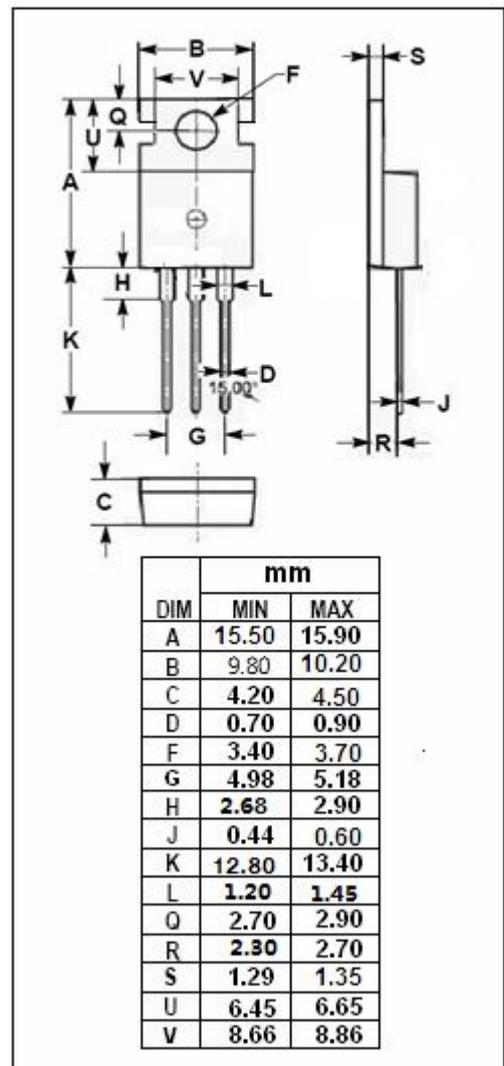
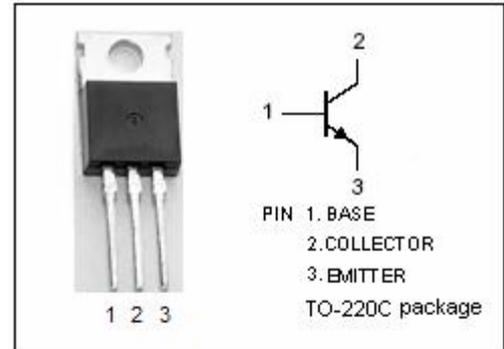
- Designed for general purpose power amplification and switching such as output or driver stages in applications such as switching regulators, converters and power amplifier.

**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub>=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CEO</sub>	Collector-Emitter Voltage	60	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current-Continuous	10	A
I <sub>CM</sub>	Collector Current-Peak	20	A
P <sub>C</sub>	Collector Power Dissipation @T <sub>C</sub> =25°C	50	W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-55~150	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	2.5	°C/W
R <sub>th j-a</sub>	Thermal Resistance, Junction to Ambient	75	°C/W



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## ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 8A ; I <sub>B</sub> = 0.8 A			1	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 8A ; I <sub>B</sub> = 0.8 A			1.5	V
I <sub>CES</sub>	Collector Cutoff Current	V <sub>CE</sub> =Rated V <sub>CEO</sub> ;			10	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> = 1V	60			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 4A ; V <sub>CE</sub> = 1V	40			
C <sub>OB</sub>	Output Capacitance	V <sub>CB</sub> = 10V, f= 0.1MHz		130		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 10V; f <sub>test</sub> =20MHz		50		MHz

## Switching Times

t <sub>s</sub>	Storage Time	I <sub>C</sub> = 5A; I <sub>B1</sub> = -I <sub>B2</sub> = 0.5A V <sub>CC</sub> = 20V		0.5		μ s
t <sub>f</sub>	Fall Time			0.14		μ s

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