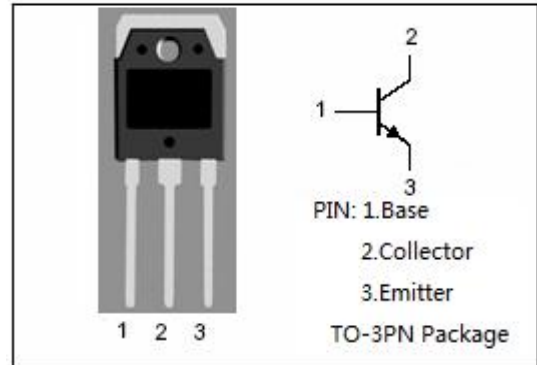


**isc Silicon NPN Power Transistor**
**BUW51**
**DESCRIPTION**

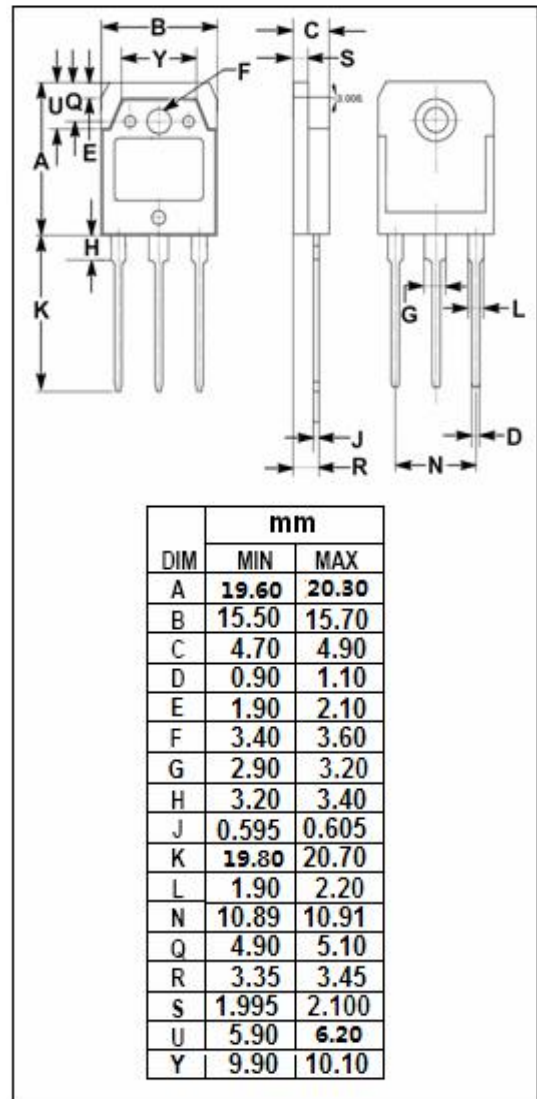
- High Current Capability
- Fast Switching Speed
- Low Saturation Voltage and High Gain
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for use in general purpose power amplifier applications.


**Absolute maximum ratings(Ta=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CEV</sub>	Collector-Emitter Voltage (V <sub>BE</sub> = -1.5V)	300	V
V <sub>CEO</sub>	Collector-Emitter Voltage	200	V
V <sub>EBO</sub>	Emitter-Base Voltage	7	V
I <sub>C</sub>	Collector Current-Continuous	20	A
I <sub>CM</sub>	Collector Current-Peak	28	A
I <sub>B</sub>	Base Current-Continuous	4	A
I <sub>BM</sub>	Base Current-peak	7	A
P <sub>C</sub>	Collector Power Dissipation @T <sub>C</sub> =25°C	150	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-65~150	°C


**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	1.0	°C/W

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## BUW51

## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 50mA; I <sub>B</sub> = 0	200			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 50mA; I <sub>C</sub> = 0	7			V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 5A; I <sub>B</sub> = 0.25A			0.8	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 10A; I <sub>B</sub> = 1A			0.9	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 10A; I <sub>B</sub> = 1A			1.4	V
I <sub>CBO</sub>	Collector -Base Cutoff Current	V <sub>CB</sub> = 300V; I <sub>E</sub> = 0 V <sub>CB</sub> = 300V; I <sub>E</sub> = 0; T <sub>C</sub> =100°C			0.5 2.0	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			1.0	mA
Switching times; Resistive Load						
t <sub>r</sub>	Rise Time	I <sub>C</sub> = 14A; I <sub>B1</sub> = 1.7A; V <sub>CC</sub> = 160V; V <sub>BB</sub> = -5V; R <sub>B2</sub> = 1.4 Ω; t <sub>p</sub> = 30 μs			0.6	μs
t <sub>s</sub>	Storage Time				1.4	μs
t <sub>f</sub>	Fall Time				0.3	μs

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