

**isc Silicon NPN Power Transistor**
**BUW57**
**DESCRIPTION**

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 125V(\text{Min.})$
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = 1.5V(\text{Max.}) @ I_C = 18A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

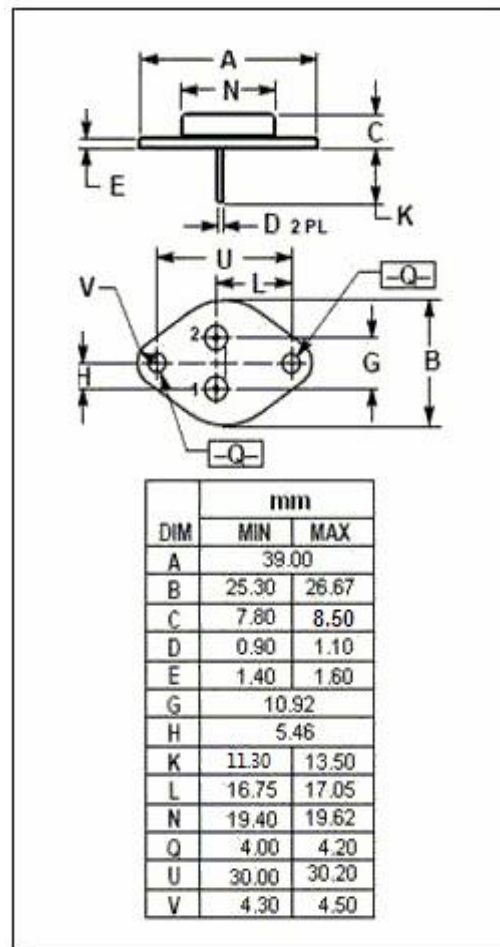
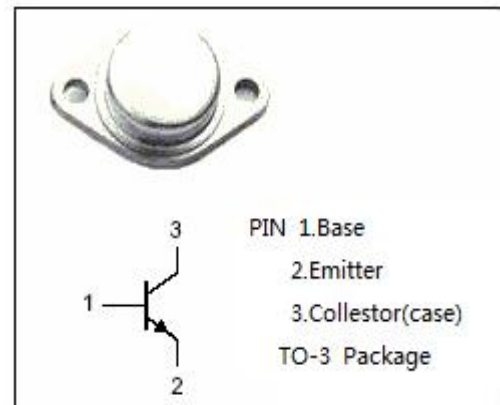
- Designed for high current, high speed, high power applications.

**Absolute maximum ratings(Ta=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CES}$	Collector-Emitter Voltage	150	V
$V_{CEO}$	Collector-Emitter Voltage	125	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	20	A
$I_{CM}$	Collector Current-Peak	25	A
$I_B$	Base Current-Continuous	4	A
$I_{BM}$	Base Current-peak	6	A
$P_C$	Collector Power Dissipation @T <sub>c</sub> =25°C	120	W
$T_j$	Junction Temperature	150	°C
$T_{stg}$	Storage Temperature Range	-65~150	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Thermal Resistance, Junction to Case	1.25	°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>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 50mA; I <sub>B</sub> = 0	125			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 18A; I <sub>B</sub> = 1.8A			1.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 18A; I <sub>B</sub> = 1.8A			1.7	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 150V; I <sub>E</sub> = 0 V <sub>CB</sub> = 150V; I <sub>E</sub> = 0; T <sub>C</sub> =125°C			1.0 10	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 7V; I <sub>C</sub> = 0			5.0	mA
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 1A; V <sub>CE</sub> = 10V		15		MHz

## Switching times

t <sub>on</sub>	Turn-on Time				1.0	μs
t <sub>s</sub>	Storage Time	I <sub>C</sub> = 15A; I <sub>B1</sub> = -I <sub>B2</sub> = 1.5A; V <sub>CC</sub> = 60V; t <sub>p</sub> = 10 μs			1.5	μs
t <sub>f</sub>	Fall Time				0.5	μs

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