

# isc Silicon NPN Power Transistor

# BUX41

### DESCRIPTION

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 200V(\text{Min})$
- High Current Capability
- Good Linearity of  $h_{FE}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

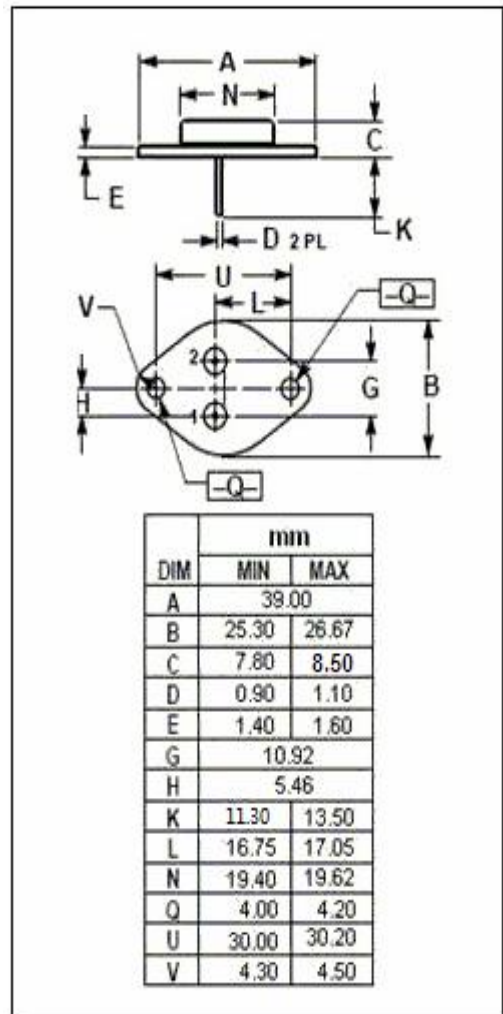
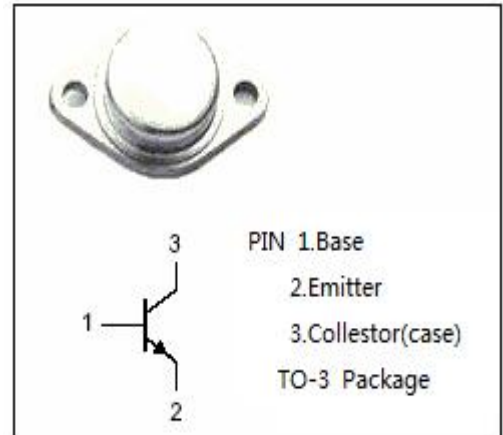
- Designed for high speed, high current, high power applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	250	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	200	V
$V_{CEX}$	Collector-Emitter Voltage $V_{BE} = -2.5V$	250	V
$V_{CER}$	Collector-Emitter Voltage $R_{BE} = 100\Omega$	240	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	15	A
$I_{CM}$	Collector Current-Peak	20	A
$I_B$	Base Current-Continuous	3	A
$P_C$	Collector Power Dissipation @ $T_c=100^\circ\text{C}$	120	W
$T_J$	Junction Temperature	200	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-65~200	$^\circ\text{C}$

### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.46	$^\circ\text{C/W}$



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**BUX41**
**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> = 0.5A			1.2	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 8A; I <sub>B</sub> = 1A			1.6	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 8A; I <sub>B</sub> = 1A			2.0	V
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 160V; I <sub>B</sub> = 0			1.0	mA
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 250V; I <sub>E</sub> = 0 V <sub>CB</sub> = 250V; I <sub>E</sub> = 0; T <sub>C</sub> = 125°C			1.0 5.0	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> =0			1.0	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 5A ; V <sub>CE</sub> = 4V	15		45	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 8A ; V <sub>CE</sub> = 4V	8			

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