

# isc Silicon NPN Power Transistor

**BUX42**

## DESCRIPTION

- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = 1.2V$  (Max.) @  $I_C = 4A$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

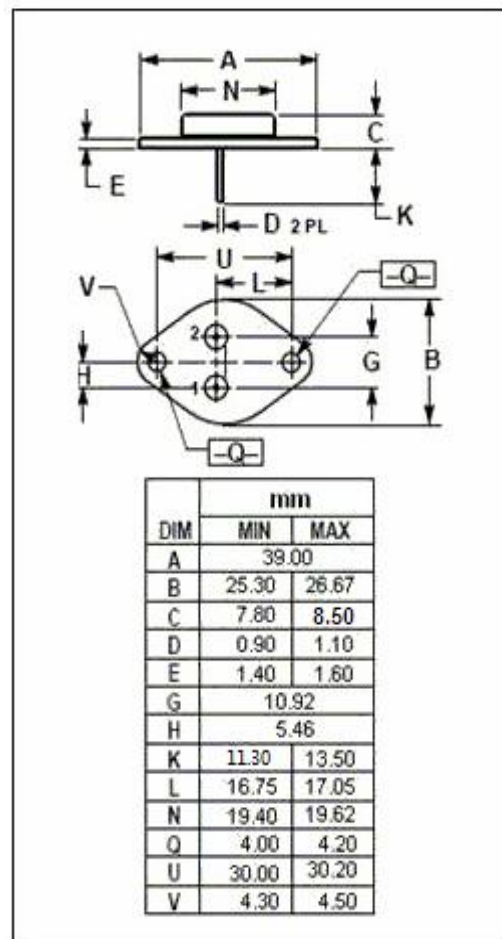
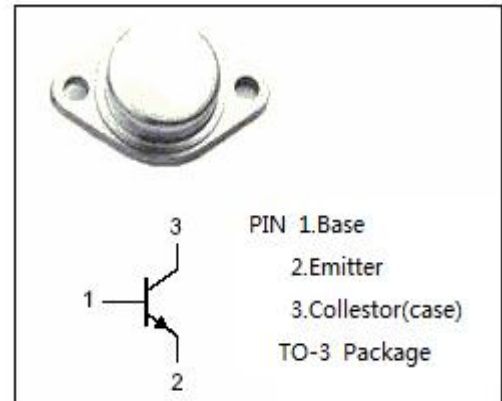
- Designed for use in switching and linear applications in military and industrial equipment.

## Absolute maximum ratings( $T_a = 25^\circ C$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CEO}$	Collector-Emitter Voltage	250	V
$V_{CEX}$	Collector-Emitter Voltage $V_{BE} = -1.5V$	300	V
$V_{CBO}$	Collector-Base Voltage	300	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	12	A
$I_{CM}$	Collector Current-Peak	15	A
$I_B$	Base Current-Continuous	2.4	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ C$	120	W
$T_j$	Junction Temperature	200	$^\circ C$
$T_{stg}$	Storage Temperature Range	-65~200	$^\circ C$

## THERMAL CHARACTERISTICS

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



**isc Silicon NPN Power Transistor****BUX42****ELECTRICAL CHARACTERISTICS****T<sub>c</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEQ(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> =50mA ; I <sub>B</sub> = 0	250			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)</sub> -1	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 0.4A			1.2	V
V <sub>CE(sat)</sub> -2	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 6A ;I <sub>B</sub> = 0.75A			1.6	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 6A ;I <sub>B</sub> = 0.75A			2.0	V
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 200V; I <sub>B</sub> = 0			1.0	mA
I <sub>CBO</sub>	Collector 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> =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	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 4A ; V <sub>CE</sub> = 4V	15		45	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 6A ; V <sub>CE</sub> = 4V	8			

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