

**isc Silicon NPN Power Transistor**

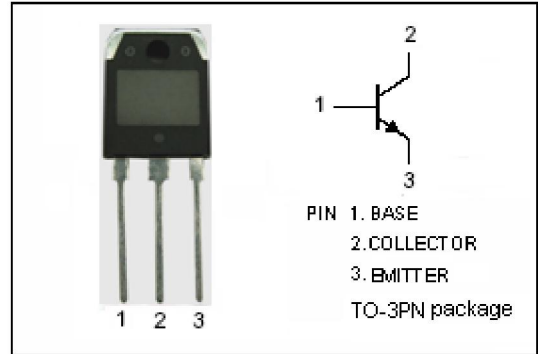
**BUX11P**

**DESCRIPTION**

- Low Collector Saturation Voltage
- High Switching Speed
- High Current Current Capability

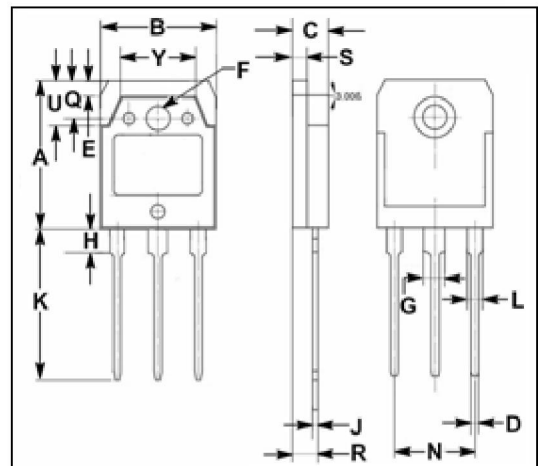
**APPLICATIONS**

- Motor control
- Linear and switching industrial equipment



**Absolute maximum ratings(Ta=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CBO</sub>	Collector-Base Voltage	250	V
V <sub>CEX</sub>	Collector-Emitter Voltage V <sub>BE</sub> = -1.5V	250	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	25	A
I <sub>B</sub>	Base Current-Continuous	4	A
P <sub>C</sub>	Collector Power Dissipation @T <sub>C</sub> =25°C	106	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-65~150	°C



DIM	mm	
	MIN	MAX
A	19.90	20.10
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.10
H	3.20	3.40
J	0.595	0.605
K	20.50	20.70
L	1.90	2.10
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.005
U	5.90	6.10
Y	9.90	10.10

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	1.17	°C/W

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## BUX11P

## ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.2\text{A}; I_B=0$	200			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=50\text{mA}; I_C=0$	7			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=6\text{A}; I_B=0.6\text{A}$			0.6	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=12\text{A}; I_B=1.5\text{A}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=12\text{A}; I_B=1.5\text{A}$			1.5	V
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=160\text{V}; I_B=0$			1.5	mA
$I_{CEX}$	Collector Cutoff Current	$V_{CE}=250\text{V}; V_{BE}=-1.5\text{V}$ $V_{CE}=250\text{V}; V_{BE}=-1.5\text{V}; T_C=125^{\circ}\text{C}$			1.5 6.0	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			1.0	mA
$h_{FE-1}$	DC Current Gain	$I_C=6\text{A}; V_{CE}=2\text{V}$	20		60	
$h_{FE-2}$	DC Current Gain	$I_C=12\text{A}; V_{CE}=4\text{V}$	10			
$f_T$	Current-Gain—Bandwidth Product	$I_C=1\text{A}; V_{CE}=15\text{V}; f_{test}=10\text{MHz}$	8			MHz

## Switching Times

$t_{on}$	Turn-on Time	$I_C=12\text{A}; I_{B1}=1.5\text{A}; V_{CC}=150\text{V}$			1.0	$\mu\text{s}$
$t_s$	Storage Time	$I_C=12\text{A}; I_{B1}=-I_{B2}=1.5\text{A};$ $V_{CC}=150\text{V}$			1.8	$\mu\text{s}$
$t_f$	Fall Time				0.4	$\mu\text{s}$