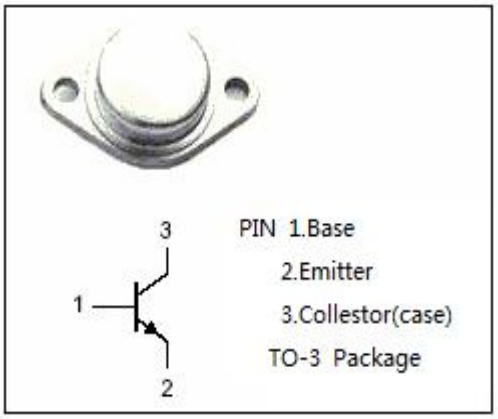
isc Silicon NPN Power Transistor — BUX11N

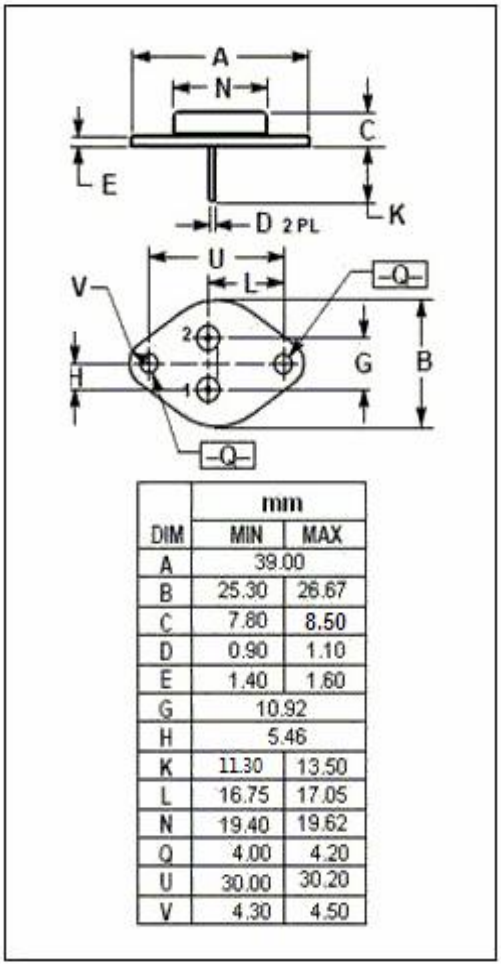
DESCRIPTION

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

APPLICATIONS

- Motor control
- Linear and switching industrial equipment





DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

Absolute maximum ratings(Ta=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	220	V
V_{CER}	Collector-Emitter Voltage R_{BE}= 100Ω	200	V
V_{CEX}	Collector-Emitter Voltage V_{BE}= -1.5V	220	V
V_{CEO}	Collector-Emitter Voltage	160	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	5	A
P_C	Collector Power Dissipation @T_C=25℃	150	W
T_j	Junction Temperature	200	℃
T_{stg}	Storage Temperature Range	-65~200	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.17	℃/W

isc Silicon NPN Power Transistor BUX11N

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 50mA; I_B= 0	160			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 50mA; I_C= 0	7			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 8A; I_B= 0.8A			0.6	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 15A ;I_B= 1.88A			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 15A ;I_B= 1.88A			1.8	V
I_{CEO}	Collector Cutoff Current	V_{CE}= 130V; I_B= 0			1.5	mA
I_{CBO}	Collector-Base Cutoff Current	V_{CB}=V_{CBO}; I_E= 0 V_{CB}=V_{CBO}; I_E= 0;T_C=125℃			1.5 6.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			1.0	mA
h_{FE-1}	DC Current Gain	I_C= 8A; V_{CE}= 2V	20		60	
h_{FE-2}	DC Current Gain	I_C= 15A; V_{CE}= 4V	10			
f_T	Current-Gain—Bandwidth Product	I_C= 1A; V_{CE}= 15V, f_{test}= 10MHz	8			MHz
Switching Times						
t_{on}	Turn-on Time	I_C= 15A; I_{B1}= 1.88A; V_{CC}= 30V			1.5	μs
t_s	Storage Time	I_C= 15A; I_{B1}= -I_{B2}= 1.88A; V_{CC}= 30V			1.5	μs
t_f	Fall Time				0.5	μs

NOTICE：

ISC reserves the rights to make changes of the content herein the datasheet at any time without notification. The information contained herein is presented only as a guide for the applications of our products.

ISC products are intended for usage in general electronic equipment. The products are not designed for use in equipment which require specialized quality and/or reliability, or in equipment which could have applications in hazardous environments, aerospace industry, or medical field. Please contact us if you intend our products to be used in these special applications.

ISC makes no warranty or guarantee regarding the suitability of its products for any particular purpose, nor does ISC assume any liability arising from the application or use of any products, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages.