

INCHANGE Semiconductor

isc Product Specification

isc Silicon NPN Power Transistor

BUX99

DESCRIPTION

- High Collector Current- $I_C=1.5A$
- High Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)}=300V(\text{Min})$
- High Switching Speed

APPLICATIONS

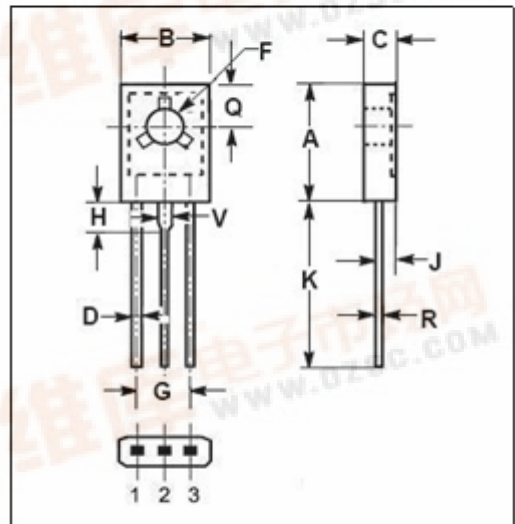
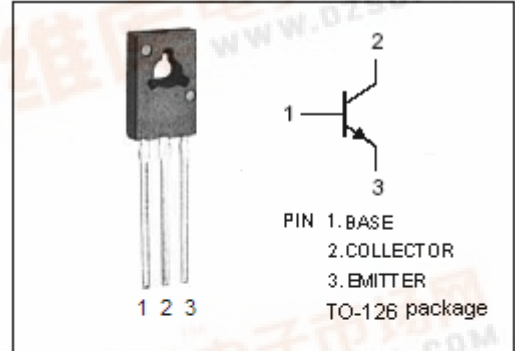
- Designed for use in fast switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CES}$	Collector-Emitter Voltage $V_{BE}=0$	730	V
$V_{CEO}$	Collector-Emitter Voltage	300	V
$V_{EBO}$	Emitter-Base Voltage	12	V
$I_C$	Collector Current-Continuous	1.5	A
$I_{CM}$	Collector Current-Peak	3	A
$I_B$	Base Current-Continuous	0.75	A
$I_{BM}$	Base Current-Peak	1.5	A
$I_E$	Emitter Current-Continuous	2.25	A
$I_{EM}$	Emitter Current-Peak	4.5	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	28	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	4.5	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	100	$^\circ\text{C/W}$



DIM	mm	
	MIN	MAX
A	10.70	10.90
B	7.70	7.90
C	2.60	2.80
D	0.66	0.86
F	3.10	3.30
G	4.48	4.68
H	2.00	2.20
J	1.35	1.55
K	16.10	16.30
Q	3.70	3.90
R	0.40	0.60
V	1.17	1.37



## isc Silicon NPN Power Transistor

## BUX99

## 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	$I_C=0.1\text{A}; I_B=0; L=25\text{mH}$	300			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=0.2\text{A}; I_B=20\text{mA}$			2	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=0.2\text{A}; I_B=20\text{mA}$			1	V
$I_{CES}$	Collector Cutoff Current	$V_{CE}=400\text{V}; V_{BE}=0$			5	$\mu\text{A}$
$I_{CEX}$	Collector Cutoff Current	$V_{CE}=730\text{V}; V_{BE}=-1.5\text{V}$ $V_{CE}=730\text{V}; V_{BE}=-1.5\text{V}; T_J=100^{\circ}\text{C}$			50 250	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=12\text{V}; I_C=0$			1	mA
$h_{FE-1}$	DC Current Gain	$I_C=10\text{mA}; V_{CE}=2\text{V}$	10			
$h_{FE-2}$	DC Current Gain	$I_C=50\text{mA}; V_{CE}=5\text{V}$	16		42	
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.1\text{A}; V_{CE}=10\text{V}$		4		MHz
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=10\text{V}, f_{test}=1\text{MHz}$		12		pF

## Switching times

$t_{stg}$	Storage Time	$I_C=1\text{A}, V_{CC}=250\text{V},$ $I_{B1}=20\text{mA}; I_{B2}=-40\text{mA}$			2	$\mu\text{s}$
$t_f$	Fall Time				0.8	$\mu\text{s}$