

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

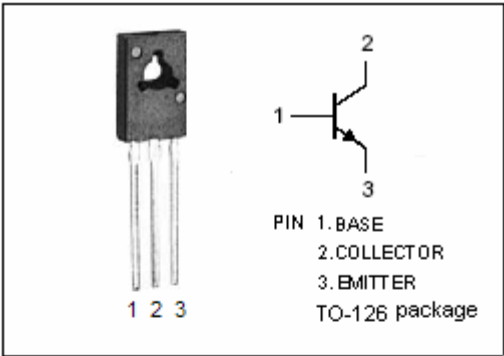
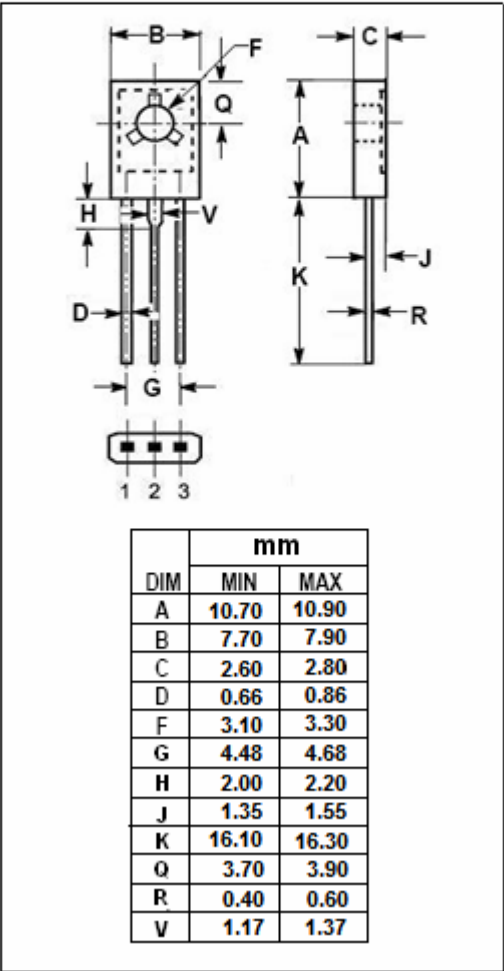
- Designed for use in fast switching applications

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

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 @ $T_C=25^{\circ}C$	28	W
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-65~150	$^{\circ}C$

THERMAL CHARACTERISTICS

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



isc Silicon NPN Power Transistor**BUX99****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEQ(SUS)}$	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	μA
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	μA
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	$I_E=0$; $V_{CB}=10\text{V}$; $f_{\text{test}}=1\text{MHz}$		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	μs
t_f	Fall Time				0.8	μs