

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

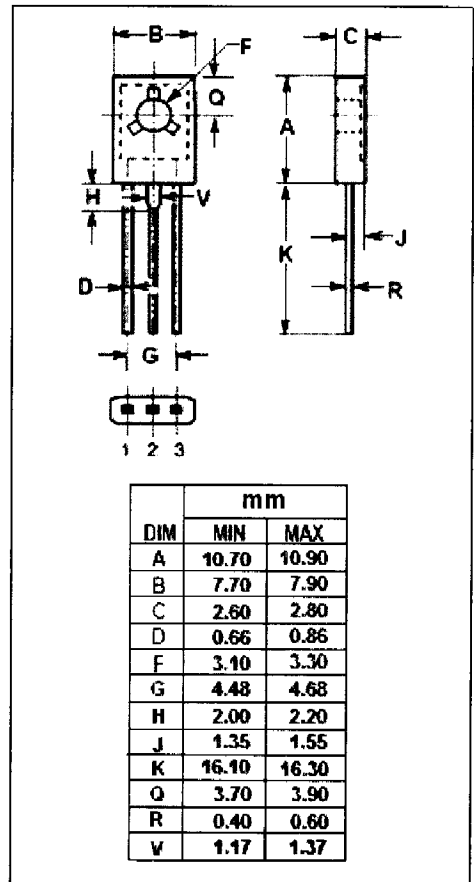
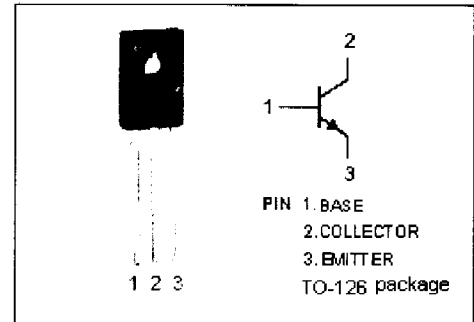
- Designed for use in fast switching applications

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

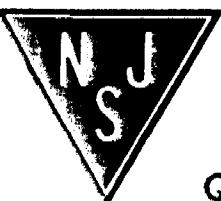
SYMBOL	PARAMETER	VALUE	UNIT
V_{CES}	Collector-Emitter Voltage $V_{BE}= 0$	730	V
V_{CEO}	Collector-Emitter Voltage	300	V
V_{EBO}	Emitter-Base Voltage	12	V
I_C	Collector Current-Continuous	1.5	A
I_{CM}	Collector Current-Peak	3	A
I_B	Base Current-Continuous	0.75	A
I_{BM}	Base Current-Peak	1.5	A
I_E	Emitter 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	$^\circ\text{C/W}$



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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	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	$I_E = 0; V_{CB} = 10\text{V}; f_{test} = 1\text{MHz}$		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