

isc Silicon NPN Power Transistor

BUX97A

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 400V(\text{Min.})$
- High Speed Switching

APPLICATIONS

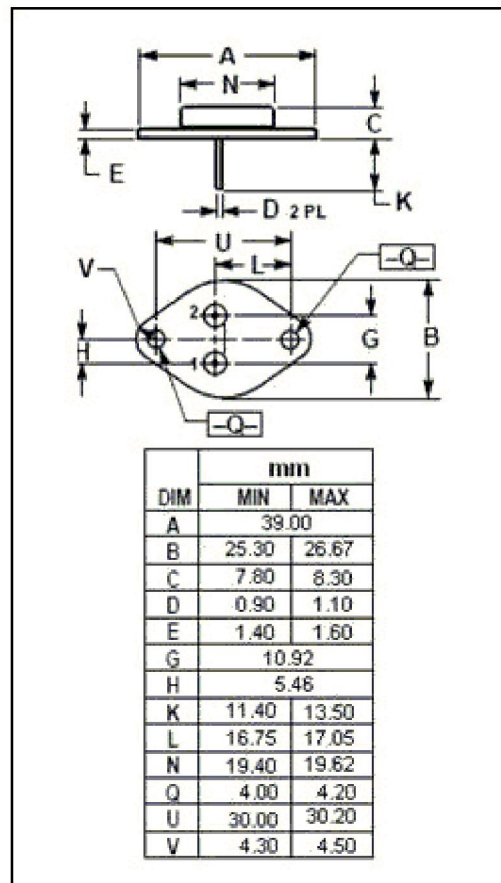
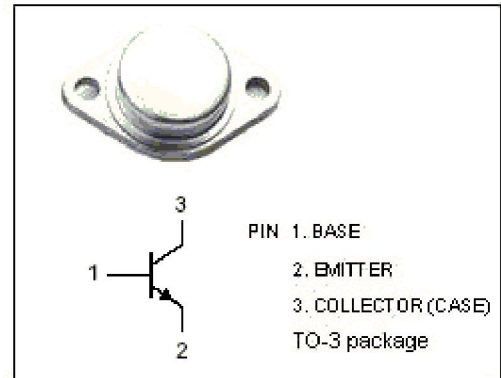
- Designed for use in off-line power supplies and are also well suited for use in a wide range of inverter or converter circuits and pulse-width-modulated regulators.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CES}	Collector-Emitter Voltage	800	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	6	A
I_{CM}	Collector Current-Peak	8	A
I_B	Base Current	3	A
P_C	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	60	W
T_j	Junction Temperature	175	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~175	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.67	$^\circ\text{C/W}$



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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	$I_C=0.1\text{A}; I_B=0$	400			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=0.2\text{A}$			1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=1.25\text{A}$			3.0	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=0.2\text{A}$			1.3	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=1.25\text{A}$			1.8	V
I_{CES}	Collector Cutoff Current	$V_{CE}=800\text{V}; V_{BE}=0$ $V_{CE}=800\text{V}; V_{BE}=0; T_C=150^{\circ}\text{C}$			1.0 3.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=7\text{V}; I_C=0$			1.0	mA
h_{FE}	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	10		70	
f_T	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=10\text{V}$		20		MHz

Switching Times ;Resistive Load

t_{on}	Turn-on Time	$I_C=4\text{A}; I_{B1}=-I_{B2}=1.25\text{A};$ $V_{CC}=100\text{V}$		0.6		μs
t_s	Storage Time			3.5		μs
t_f	Fall Time			0.5		μs