

isc Silicon NPN Power Transistors

BUX31/A/B

DESCRIPTION

- High Switching Speed
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 400V$ (Min)-BUX31
= 450V (Min)-BUX31A
= 450V (Min)-BUX31B
- Low Saturation Voltage

APPLICATIONS

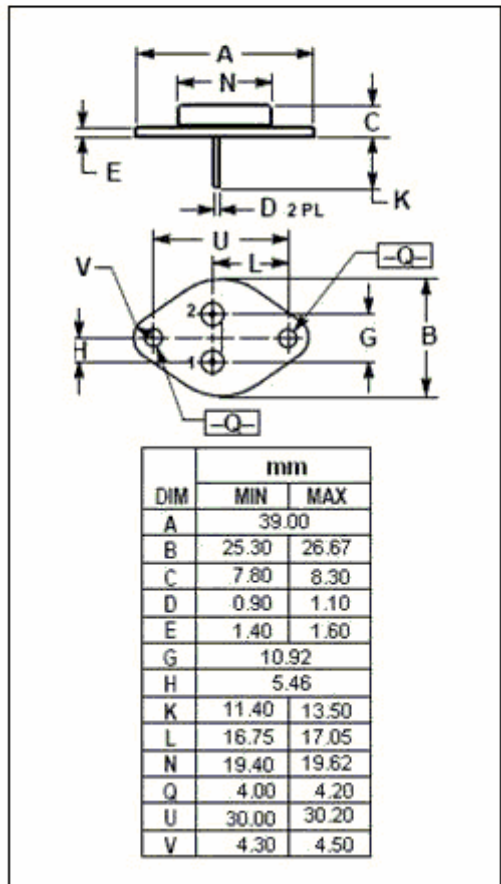
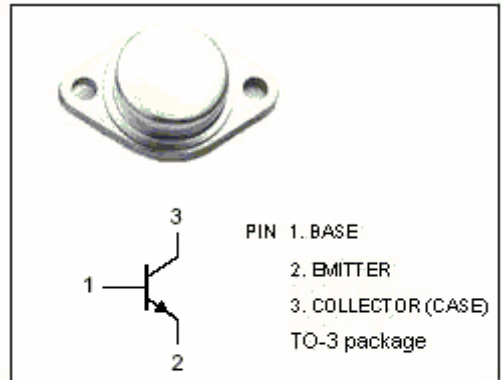
- Designed for off-line power supplies and are also well suited for use in a wide range of inverter or converter circuits and pulse-width-modulated regulators.

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

SYMBOL	PARAMETER	MAX	UNIT	
V_{CES}	Collector- Emitter Voltage($V_{BE}= 0$)	BUX31	800	V
		BUX31A	900	
		BUX31B	1000	
V_{CEO}	Collector-Emitter Voltage	BUX31	400	V
		BUX31A	450	
		BUX31B	500	
V_{EBO}	Emitter-Base Voltage	8	V	
I_C	Collector Current-Continuous	8	A	
I_{CM}	Collector Current-Peak	10	A	
I_B	Base Current-Continuous	5	A	
P_C	Collector Power Dissipation @ $T_C=25^\circ C$	150	W	
T_j	Junction Temperature	200	$^\circ C$	
T_{stg}	Storage Temperature Range	-65~200	$^\circ C$	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.0	$^\circ C/W$



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ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	BUX31	$I_C=0.2\text{A}; I_B=0$	400			V
		BUX31A		450			
		BUX31B		500			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		$I_C=4\text{A}; I_B=0.8\text{A}$			1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		$I_C=8\text{A}; I_B=2\text{A}$			2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage		$I_C=4\text{A}; I_B=0.8\text{A}$			1.3	V
I_{CEV}	Collector Cutoff Current	BUX31	$V_{CE}=800\text{V}; V_{BE}=-1.5\text{V}$ $V_{CE}=800\text{V}; V_{BE}=-1.5\text{V}, T_C=125^\circ\text{C}$			0.1 1.0	mA
		BUX31A	$V_{CE}=900\text{V}; V_{BE}=-1.5\text{V}$ $V_{CE}=900\text{V}; V_{BE}=-1.5\text{V}, T_C=125^\circ\text{C}$			0.1 1.0	
		BUX31B	$V_{CE}=1000\text{V}; V_{BE}=-1.5\text{V}$ $V_{CE}=1000\text{V}; V_{BE}=-1.5\text{V}, T_C=125^\circ\text{C}$			0.1 1.0	
I_{EBO}	Emitter Cutoff Current		$V_{EB}=8\text{V}; I_C=0$			2	mA
h_{FE}	DC Current Gain		$I_C=4\text{A}; V_{CE}=3\text{V}$	8			
f_T	Current-Gain—Bandwidth Product		$I_C=0.2\text{A}; V_{CE}=10\text{V}$	15			MHz