

isc Silicon NPN Power Transistors

BUX46/A

DESCRIPTION

- High Switching Speed
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 400V$ (Min)-BUX46
450V (Min)-BUX46A

APPLICATIONS

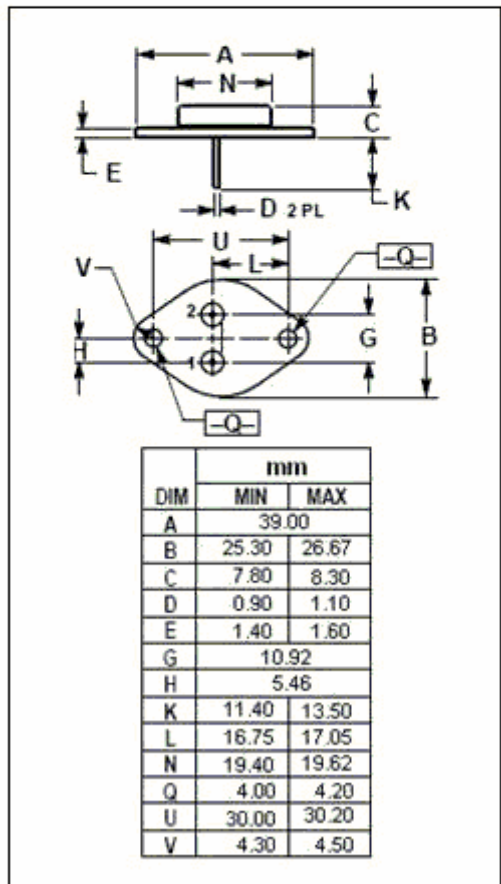
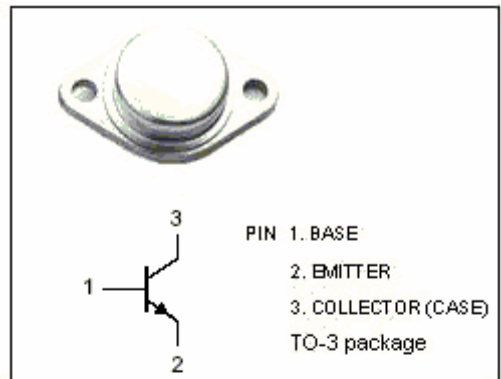
- Designed for use in converters, inverters, switching regulators, motor control systems etc.

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

SYMBOL	PARAMETER	MAX	UNIT	
V_{CES}	Collector- Emitter Voltage($V_{BE} = 0$)	BUX46	850	V
		BUX46A	1000	
V_{CEO}	Collector-Emitter Voltage	BUX46	400	V
		BUX46A	450	
V_{EBO}	Emitter-Base Voltage	5	V	
I_C	Collector Current-Continuous	3.5	A	
I_{CM}	Collector Current-Peak	5	A	
I_B	Base Current	1.5	A	
I_{BM}	Base Current-Peak	3	A	
P_C	Collector Power Dissipation @ $T_C=25^\circ C$	85	W	
T_j	Junction Temperature	175	$^\circ C$	
T_{stg}	Storage Temperature Range	-65~175	$^\circ C$	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.75	$^\circ C/W$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{\text{CEO(SUS)}}$	Collector-Emitter Sustaining Voltage	BUX46	$I_C=0.2\text{A}; I_B=0; L=25\text{mH}$	400			V
		BUX46A		450			
$V_{(\text{BR})\text{EBO}}$	Emitter-Base Breakdown Voltage		$I_E=0.5\text{A}; I_C=0$			30	V
$V_{\text{CE(sat)-1}}$	Collector-Emitter Saturation Voltage		$I_C=3.5\text{A}; I_B=0.7\text{A}$			5	V
$V_{\text{CE(sat)-2}}$	Collector-Emitter Saturation Voltage		$I_C=2.5\text{A}; I_B=0.5\text{A}$			1.5	V
$V_{\text{BE(sat)}}$	Base-Emitter Saturation Voltage		$I_C=2.5\text{A}; I_B=0.5\text{A}$			1.3	V
I_{CER}	Collector Cutoff Current		$V_{\text{CE}}=V_{\text{CESmax}}; R_{\text{BE}} \leq 10\ \Omega$ $V_{\text{CE}}=V_{\text{CESmax}}; R_{\text{BE}} \leq 10\ \Omega; T_J=124^{\circ}\text{C}$			0.3 2	mA
I_{CEX}	Collector Cutoff Current		$V_{\text{CE}}=V_{\text{CESmax}}; V_{\text{BE}}=-2.5\text{V}$ $V_{\text{CE}}=V_{\text{CESmax}}; V_{\text{BE}}=-2.5\text{V}; T_J=124^{\circ}\text{C}$			0.1 1	mA
I_{EBO}	Emitter Cutoff Current		$V_{\text{EB}}=5\text{V}; I_C=0$			1	mA
h_{FE}	DC Current Gain		$I_C=1\text{A}; V_{\text{CE}}=5\text{V}$	15		50	

Switching Times , Resistive Load

t_{on}	Turn-On Time	$I_C=2.5\text{A}; I_{\text{B1}}=-I_{\text{B2}}=0.5\text{A}$		0.5	1.0	μs
t_{stg}	Storage Time			1.5	3.0	μs
t_f	Fall Time			0.5	0.8	μs