

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

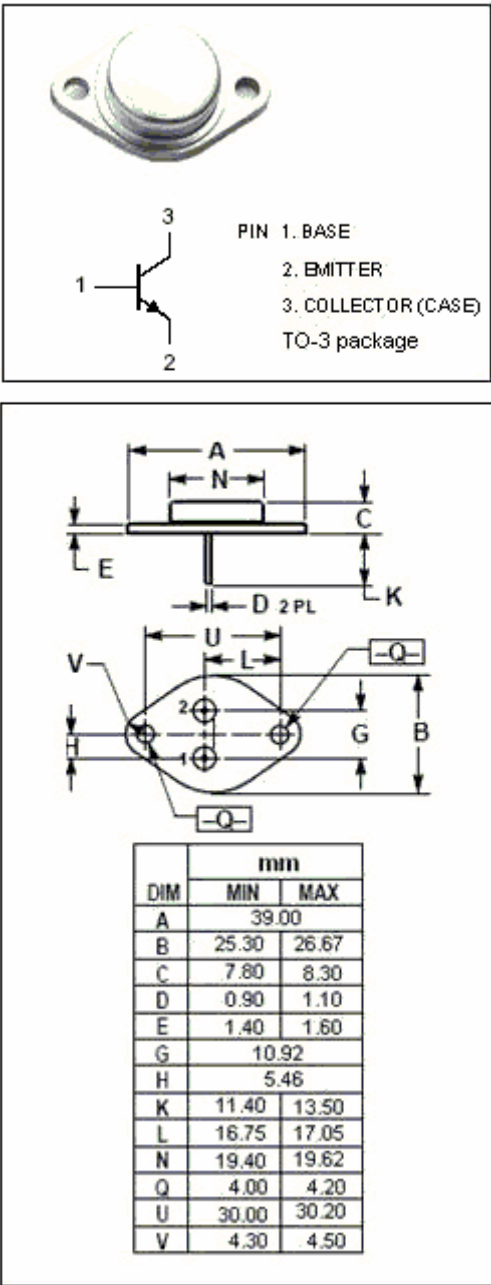
- Designed for use in converters, inverters, switching regulators, motor control systems etc.

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	$^{\circ}C/W$



ISC Silicon NPN Power Transistors

BUX46/A

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

Switching Times , Resistive Load

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