

## SILICON NPN POWER TRANSISTORS

### DESCRIPTION :

- High Voltage Capability
- High Current Capability
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation.

### APPLICATIONS :

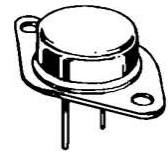
Designed for high-voltage, high-speed, power switching in inductive circuits where fall time is critical. They are particularly suited for line-operated switchmode applications such as:

- Switching regulators
- Inverters
- Solenoid and relay drivers
- Motor controls
- Deflection circuits

**NPN**

**BUX48A**

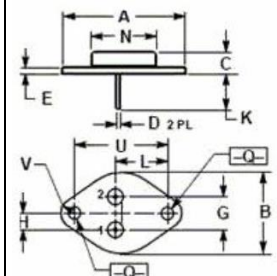
**15 AMPERES  
NPN SILICON  
POWER TRANSISTOR  
450 VOLTS  
175 WATTS**



**TO-3**

### MAXIMUM RATINGS

Characteristic	Symbol	BUX48A	Unit
Collector-Base Voltage	$V_{CBO}$	1000	V
Collector-Emitter Voltage	$V_{CEO}$	450	V
Emitter-Base Voltage	$V_{EBO}$	7	V
Collector Current-Continuous	$I_C$	15	A
Collector Current-Peak	$I_{CM}$	30	A
Base Current-Continuous	$I_B$	5	A
Base Current- Peak	$I_{BM}$	20	A
Collector Power Dissipation @ $T_C=25^\circ\text{C}$	$P_C$	175	W
Junction Temperature	$T_J$	200	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-65 to +200	$^\circ\text{C}$



PIN 1.BASE.  
2.EMITTER  
COLLECTOR(CASE)

DIM	MILLIMETERS	
	MIN	MAX
A	39.00	
B	25.3	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	13.50
L	16.75	17.05
N	19.40	19.62
O	4.00	4.20
U	30.00	30.20
V	4.30	4.50

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{th\ j-c}$	1.0	$^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS ( $T_C=25^{\circ}\text{C}$  unless otherwise noted)**

Characteristic	Symbol	Min.	Max	Unit
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**OFF CHARACTERISTICS**

Collector-Emitter Sustaining Voltage ( $I_C = 50\text{ mA}$ , $I_B = 0$ )	$V_{CE(SUS)}$	450		V
Emitter-Base Breakdown Voltage ( $I_E = 50\text{ mA}$ , $I_C = 0$ )	$V_{EBO}$	7		V
Collector Cutoff Current ( $V_{CB} = 1000\text{ V}$ , $I_E = 0$ )	$I_{CBO}$		0.2	mA
Emitter Cutoff Current ( $V_{EB} = 5.0\text{ V}$ , $I_C = 0$ )	$I_{EBO}$		1.0	mA

**ON CHARACTERISTICS**

DC Current Gain ( $I_C = 8\text{ A}$ , $V_{CE} = 5\text{ V}$ )	$h_{FE}$	8		
Collector-Emitter Saturation Voltage ( $I_C = 8\text{ A}$ , $I_B = 1.6\text{ A}$ ) ( $I_C = 12\text{ A}$ , $I_B = 2.4\text{ A}$ )	$V_{CE(SAT)}$		1.5 5.0	V
Base-Emitter Saturation Voltage ( $I_C = 8\text{ A}$ , $I_B = 1.6\text{ A}$ )	$V_{BE(SAT)}$		1.6	V

**SWITCHING CHARACTERISTICS**

Turn-on Time	$V_{CC}=150\text{V}$ , $I_C=8\text{A}$ $I_{B1}=I_{B2}=-1.6\text{A}$	$t_{ON}$		1.0	us
Storage Time		$t_S$		3.0	us
Fall Time		$t_f$		0.8	us

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