



## NPN BUX48C

### HIGH VOLTAGE FAST-SWITCHING POWER TRANSISTOR

The BUX48C is silicon multi-epitaxial mesa NPN transistor in Jedec TO-3. They are intended for use in switching and industrial equipment. Compliance to RoHS.

#### ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
$V_{CEO}$	Collector-Emitter Voltage	$I_B = 0$	700	V
$V_{CES}$	Collector-Emitter Voltage	$V_{BE} = 0$	1200	V
$V_{CBO}$	Collector-Base Voltage	$I_E = 0$	1200	V
$V_{EBO}$	Emitter-Base Voltage	$I_C = 0$	7	V
$I_C$	Collector Current		15	A
$I_{CM}$	Collector Current Peak	$t_p = 5ms$	30	A
$I_B$	Base Current		4	A
$I_{BM}$	Base Current Peak		20	A
$P_t$	Total Power Dissipation	@ $T_C = 25^\circ$	175	Watts
$T_J$	Junction Temperature		200	$^\circ C$
$T_{Stg}$	Storage Temperature		-65 to +200	$^\circ C$

#### THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
$R_{thJC}$	Thermal Resistance, Junction to Case	1	$^\circ C/W$

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### ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage (*)	$I_C = 100 \text{ mA}$	700	-	-	V
$V_{EBO}$	Emitter-Base Voltage	$I_C = 0 \text{ A}, I_E = 50 \text{ mA}$	7	-	30	V
$I_{CEO}$	Collector Cutoff Current	$V_{CE} = 700 \text{ V}, I_B = 0 \text{ A}$	-	-	1	mA
$I_{CES}$	Collector Cutoff Current	$V_{CE} = 1200 \text{ V}, V_{BE} = 0 \text{ V}$	-	-	0.5	mA
		$V_{CE} = 1200 \text{ V}, V_{BE} = 0 \text{ V}$ $T_{case} = 125^\circ\text{C}$	-	-	3	
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = 6 \text{ V}, I_C = 0$	-	-	1	mA
$h_{FE}$	DC Current Gain (*)	$I_C = 1 \text{ A}, V_{CE} = 5 \text{ V}$	15	-	50	-
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (1)	$I_C = 6 \text{ A}, I_B = 1.5 \text{ A}$	-	-	1.5	V
		$I_C = 10 \text{ A}, I_B = 4 \text{ A}$	-	-	3	
$V_{BE(SAT)}$	Base-Emitter saturation Voltage (*)	$I_C = 6 \text{ A}, I_B = 1.5 \text{ A}$	-	-	1.5	
		$I_C = 10 \text{ A}, I_B = 4 \text{ A}$	-	-	2	

### SWITCHING TIMES

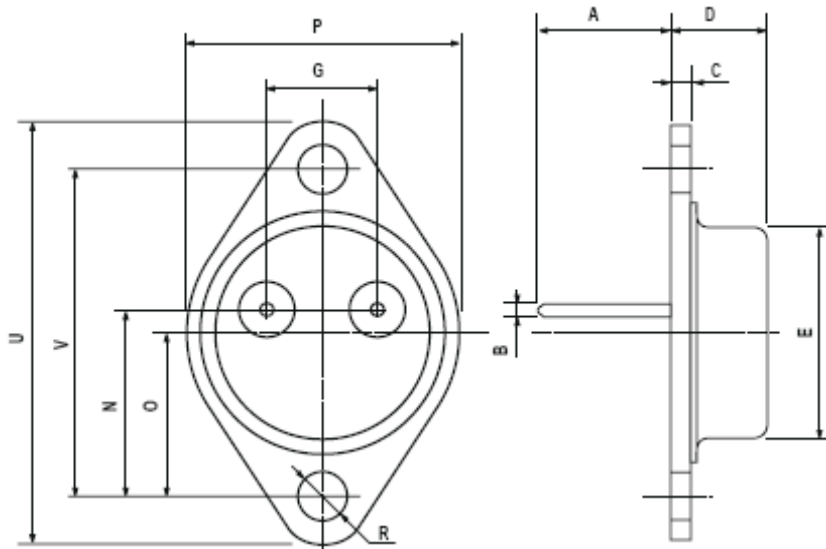
Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
$t_{on}$	Turn-on time	$I_C = 6 \text{ A}, I_{B1} = -I_{B2} = 1.5 \text{ A}$ $V_{CC} = 250 \text{ V}$	-	0.5	1.0	$\mu\text{s}$
$t_s$	Storage time		-	1.5	3	
$t_f$	File time		-	0.2	0.7	

(\*) Pulse Duration = 300  $\mu\text{s}$ , Duty Cycle  $\leq 2\%$

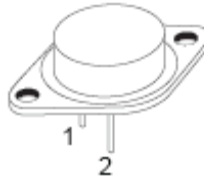
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### MECHANICAL DATA CASE TO-3

DIMENSIONS (mm)			
	min	typ	max
A	11	-	13.10
B	0.97	-	1.15
C	1.5	-	1.65
D	8.32	-	8.92
E	19	-	22
G	10.70	-	11.1
N	16.50	-	17.20
P	25	-	27,20
R	3.84	-	4.21
U	38.50	-	40.13
V	29.90	-	30.40



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector



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