NPN BUX39

HIGH CURRENT, HIGH SPEED, HIGH POWER TRANSISTOR

The BUX39 is silicon multiepitaxial planar NPN transistor in Jedec TO-3.
They are intended for use in switching and linear applications in military and industrial equipment.
Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
V_{CEO}	Collector-Emitter Voltage	$I_B = 0$	90	V
V_{CBO}	Collector-Base Voltage	$I_E = 0$	120	V
V_{EBO}	Emitter-Base Voltage	$I_C = 0$	7	V
V_{CEX}	Collector-Emitter Voltage	$V_{BE} = -1.5V$	120	V
I_C	Collector Current		30	A
I_{CM}	Collector Peak Current	$t_p = 10ms$	40	A
I_B	Base Current		6	A
P_t	Total Power Dissipation	@ $T_C = 25°$	120	Watts
T_J	Junction Temperature		200	°C
T_{Stg}	Storage Temperature		-65 to +200	°C

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJC}	Thermal Resistance, Junction to Case	1.46	°C/W

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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

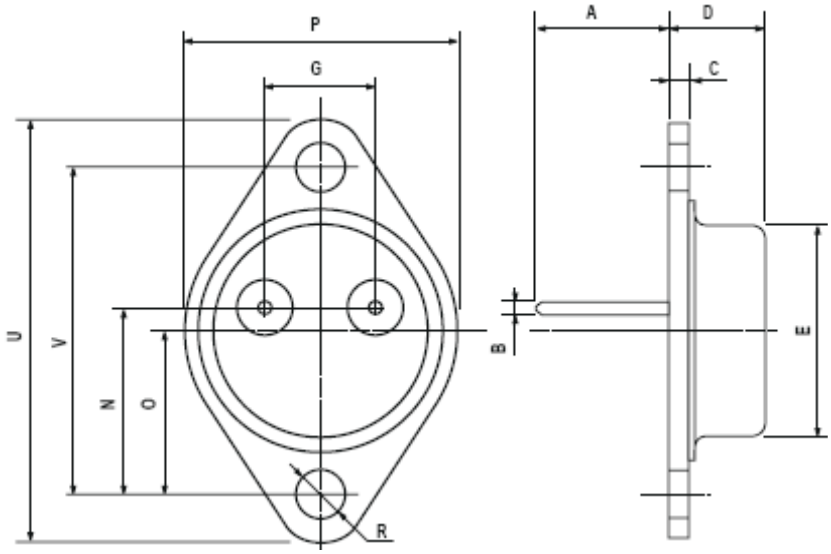
Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage (*)	I_C=200 mA	90	-	-	V
V_{EB0}	Emitter-Base Voltage	I_C=0A , I_E=50 mA	7	-	-	V
I_{CEO}	Collector Cutoff Current	V_{CE}=70 V , I_B=0A	-	-	1	mA
I_{CEX}	Collector Cutoff Current	V_{CE}= V_{CEX} , V_{BE}= -1.5V	-	-	1	mA
		V_{CE}= V_{CEX} , V_{BE}= -1.5V T_{case} = 125°C	-	-	5	
I_{EBO}	Emitter Cutoff Current	V_{EB}=5.0 V, I_C=0	-	-	1	mA
h_{FE}	DC Current Gain (*)	I_C=12 A , V_{CE}=4.0 V	15	-	45	-
		I_C=20 A , V_{CE}=4.0 V	8	-	-	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C=12 A , I_B=1.2 A	-	0.7	1.2	V
		I_C=20 A , I_B=2.5 A	-	1.25	1.6	
$V_{BE(SAT)}$	Base-Emitter saturation Voltage (*)	I_C=20 A , I_B=2.5 A	-	2.1	2.5	
$I_{S/B}$	Second breakdown collector current	V_{CE}=30 V , t_s = 1s	4	-	-	A
		V_{CE}=135 V , t_s = 1s	1	-	-	
f_T	Transition frequency	V_{CE}=15 V , I_C=1 A f=4 MHz	8	-	-	MHz
t_{on}	Turn-on time	I_C=8 A , I_B=1 A V_{CC}=150 V	-	0.8	1.2	µs
t_s	Storage time	I_C=8 A , V_{CC}=150 V I_{B1} = -I_{B2} =1 A	-	0.55	1	
t_f	File time		-	.15	0.25	

(*) Pulse Duration = 300 µs, Duty Cycle <= 2%

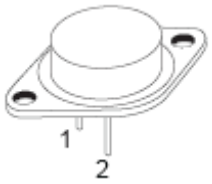
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MECHANICAL DATA CASE TO-3

DIMENSIONS (mm)		
	min	max
A	11	13.10
B	0.97	1.15
C	1.5	1.65
D	8.32	8.92
F	19	20
G	10.70	11.1
N	16.50	17.20
P	25	26
R	4	4.09
U	38.50	39.30
V	30	30.30



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector



Revised September 2012

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