NPN BUX41

HIGH CURRENT, HIGH SPEED, HIGH POWER TRANSISTOR

The BUX41 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	$I_B = 0$	200	V
V_{CBO}	Collector-Base Voltage	$I_E = 0$	250	V
V_{EBO}	Emitter-Base Voltage	$I_C = 0$	7	V
V_{CEX}	Collector-Emitter Voltage	V_{BE} = -1.5V	250	V
I_C	Collector Current		15	A
I_{CM}	Collector Peak Current	t_p = 10ms	20	A
I_B	Base Current		3	A
P_t	Total Power Dissipation	@ T_C = 25°	120	Watts
T_J	Junction Temperature		200	℃
T_{Stg}	Storage Temperature		-65 to +200	℃

THERMAL CHARACTERISTICS

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

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ELECTRICAL CHARACTERISTICS

TC=25℃ unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage (*)	I_C=200 mA	200	-	-	V
V_{EB0}	Emitter-Base Voltage	I_C=0A , I_E=50 mA	7	-	-	V
I_{CEO}	Collector Cutoff Current	V_{CE}=160 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℃	-	-	5	
I_{EBO}	Emitter Cutoff Current	V_{EB}=5.0 V, I_C=0	-	-	1	mA
h_{FE}	DC Current Gain (*)	I_C=5 A, V_{CE}=4.0 V	15	-	45	-
		I_C=8 A, V_{CE}=4.0 V	8	-	-	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C=5 A, I_B=0.5 A	-	0.38	1.2	V
		I_C=8 A, I_B=1 A	-	0.6	1.6	
$V_{BE(SAT)}$	Base-Emitter saturation Voltage (1)	I_C=8 A, I_B=1 A	-	1.35	2	
$I_{S/B}$	Second breakdown collector current	V_{CE}=30 V, t_s = 1s	4	-	-	A
		V_{CE}=135 V, t_s = 1s	0.15	-	-	
$E_{S/B}$	Clamped $E_{S/B}$ Collector current	V_{clamp}=200 V, L=500 µH	8	-	-	A
f_T	Transition frequency	V_{CE}=15 V, I_C=1 A f=10 MHz	8	-	-	MHz

SWITCHING TIMES

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
t_{on}	Turn-on time	I_C=8 A , I_B=1 A, V_{CC}=150 V	-	0.28	1.0	µs
t_s	Storage time	I_C=8 A, V_{CC}=150 V I_{B1} = -I_{B2} =1 A	-	1.2	1.7	
t_f	File time		-	0.25	0.8	

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

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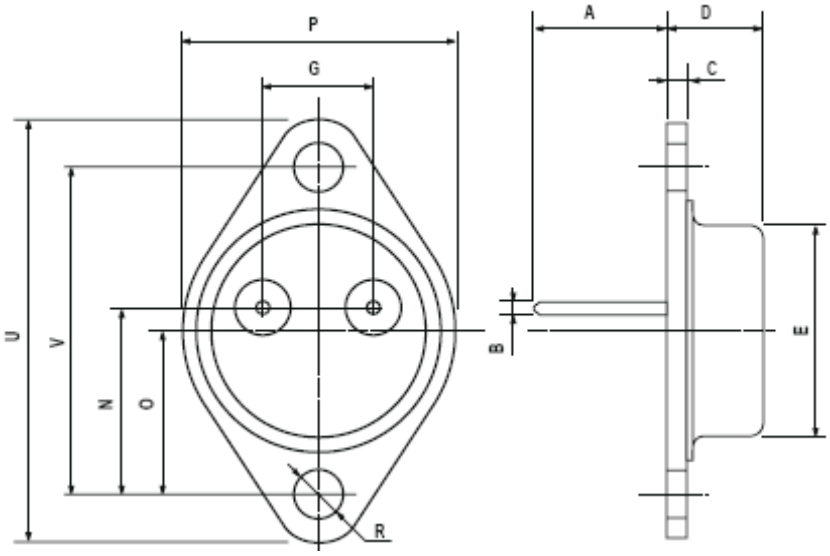
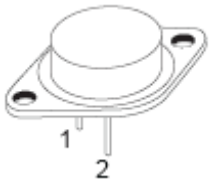
MECHANICAL DATA CASE TO-3

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



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