



## NPN BUX80

### HIGH CURRENT, HIGH SPEED, HIGH POWER TRANSISTOR

The BUX80 is silicon multi-epitaxial planar NPN transistor in Jedec TO-3. They are intended for use in converters, inverters, switching regulators and motor control systems applications. Compliance to RoHS.

#### ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
$V_{CEO}$	Collector-Emitter Voltage	$I_B = 0$	400	V
$V_{CER}$	Collector- Emitter Voltage	$R_{BE} = 50\Omega$	500	V
$V_{EBO}$	Emitter-Base Voltage	$I_C = 0$	10	V
$V_{CES}$	Collector-Emitter Voltage	$V_{BE} = 0$	800	V
$I_C$	Collector Current		10	A
$I_{CM}$	Collector Peak Current	$t_p = 10ms$	15	A
$I_B$	Base Current		5	A
$P_t$	Total Power Dissipation	@ $T_C = 40^\circ$	100	Watts
$T_J$	Junction Temperature		150	$^\circ C$
$T_{Stg}$	Storage Temperature		-65 to +150	$^\circ C$

#### THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
$R_{thJC}$	Thermal Resistance, Junction to Case	1.1	$^\circ C/W$

## NPN BUX80

### ELECTRICAL CHARACTERISTICS

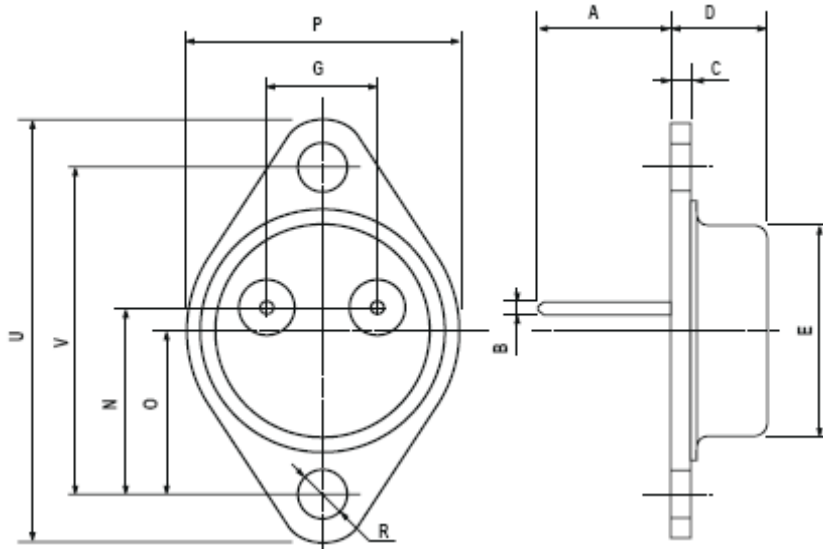
TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage (*)	$I_C=100\text{ mA}$	400	-	-	V
$V_{CER}$	Collector-Emitter Sustaining Voltage (*)	$I_C=100\text{ mA}$ $R_{BE} = 50\Omega$	500	-	-	V
$I_{EBO}$	Emitter Cutoff Current	$V_{CE}=10\text{ V}, I_C=0$	-	-	10	mA
$I_{CES}$	Collector Cutoff Current	$V_{CE}=V_{CES}, V_{BE}=0$	-	-	1	mA
		$V_{CE}=V_{CES}, V_{BE}=0$ $T_{case} = 125^\circ\text{C}$	-	-	3	
$h_{FE}$	DC Current Gain (*)	$I_C=1.2\text{ A}, V_{CE}=5.0\text{ V}$	-	30	-	-
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	$I_C=5\text{ A}, I_B=1\text{ A}$	-	-	1.5	V
		$I_C=8\text{ A}, I_B=2.5\text{ A}$	-	-	3	
$V_{BE(SAT)}$	Base-Emitter saturation Voltage (*)	$I_C=5\text{ A}, I_B=1\text{ A}$	-	-	1.4	
		$I_C=8\text{ A}, I_B=2.5\text{ A}$	-	-	1.8	
$t_{on}$	Turn-on time	$I_C=5\text{ A}, I_B=1\text{ A}$ $V_{CC}=250\text{ V}$	-	-	0.5	$\mu\text{s}$
$t_s$	Storage time	$I_C=5\text{ A}, V_{CC}=250\text{ V}$ $I_{B1}=1\text{ A}, -I_{B2}=2\text{ A}$	-	-	3.5	
$t_f$	File time	$I_C=5\text{ A}, V_{CC}=-250\text{ V}$ $I_{B1}=1\text{ A}, -I_{B2}=2\text{ A}$	-	-	0.5	

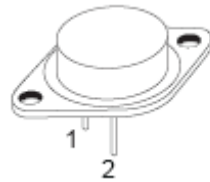
(\*) Pulse Duration = 300  $\mu\text{s}$ , Duty Cycle  $\leq$  1.5%

**NPN BUX80  
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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