



## 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.

#### 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 °C
$T_{Stg}$	Storage Temperature		-65 to +150 °C

#### THERMAL CHARACTERISTICS

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

#### ELECTRICAL CHARACTERISTICS

$T_C = 25^\circ C$  unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage (1)	$I_C = 100\text{ mA}$	400	-	-	V
$V_{CER}$	Collector-Emitter Sustaining Voltage (1)	$I_C = 100\text{ mA}$ , $R_{BE} = 50\Omega$	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
		$V_{CE} = V_{CES}$ , $V_{BE} = 0$ , $T_{case} = 125^\circ C$	-	-	3	

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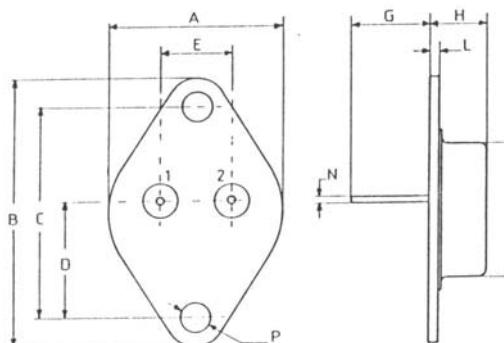
<b><math>h_{FE}</math></b>	DC Current Gain (1)	$I_C=1.2\text{ A}, V_{CE}=5.0\text{ V}$	-	30	-	-
<b><math>V_{CE(SAT)}</math></b>	Collector-Emitter saturation Voltage (1)	$I_C=5\text{ A}, I_B=1\text{ A}$	-	-	1.5	V
		$I_C=8\text{ A}, I_B=2.5\text{ A}$	-	-	3	
<b><math>V_{BE(SAT)}</math></b>	Base-Emitter saturation Voltage (1)	$I_C=5\text{ A}, I_B=1\text{ A}$	-	-	1.4	
		$I_C=8\text{ A}, I_B=2.5\text{ A}$	-	-	1.8	

Symbol	Ratings	Test Condition(s)Sec	Min	Typ	Mx	Unit
<b><math>t_{on}</math></b>	Turn-on time	$I_C=5\text{ A}, I_B=1\text{ A}, V_{CC}=250\text{ V}$	-	-	0.5	$\mu\text{s}$
<b><math>t_s</math></b>	Storage time	$I_C=5\text{ A}, V_{CC}=250\text{ V}$ $I_{B1}=1\text{ A}, -I_{B2}=2\text{ A}$	-	-	3.5	
<b><math>t_f</math></b>	File time	$I_C=5\text{ A}, V_{CC}=-250\text{ V}$ $I_{B1}=1\text{ A}, -I_{B2}=2\text{ A}$	-	-	0.5	

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

### MECHANICAL DATA CASE TO-3

DIMENSIONS		
	mm	inches
A	25,51	1,004
B	38,93	1,53
C	30,12	1,18
D	17,25	0,68
E	10,89	0,43
G	11,62	0,46
H	8,54	0,34
L	1,55	0,6
M	19,47	0,77
N	1	0,04
P	4,06	0,16



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector

*Information furnished is believed to be accurate and reliable. However, CS assumes no responsibility for the consequences of use of such information nor for errors that could appear.*

Data are subject to change without notice.