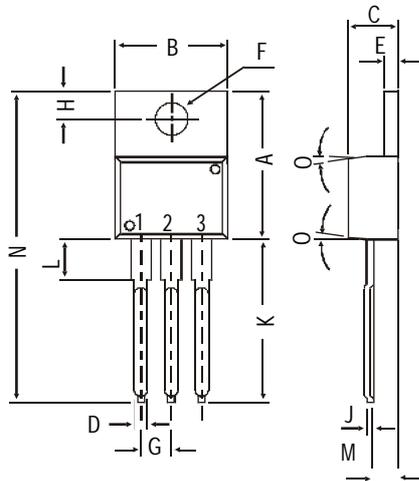
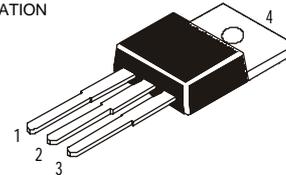


**TO-220 Plastic Package**

**BUX84, BUX84A**

***BUX84, 84A NPN PLASTIC POWER TRANSISTORS***  
*High Voltage, High Speed Power Switching Applications*

PIN CONFIGURATION  
 1. BASE  
 2. COLLECTOR  
 3. EMITTER  
 4. COLLECTOR



DIM	MIN.	MAX.
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D		0.90
E	1.15	1.40
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J		0.56
K	12.70	14.73
L	2.80	4.07
M	2.03	2.92
N		31.24
O	DEG 7	

All dimensions in mm.

**ABSOLUTE MAXIMUM RATINGS**

	<b>84</b>	<b>84A</b>
Collector-emitter voltage ( $V_{BE} = 0$ )	$V_{CES}$ max. 800	800 V
Collector-emitter voltage (open base)	$V_{CEO}$ max. 400	400 V
Collector current	$I_C$ max.	2.0 A
Total power dissipation up to $T_C = 25^\circ C$	$P_{tot}$ max.	40 W
Junction temperature	$T_j$ max.	150 $^\circ C$
Collector-emitter saturation voltage $I_C = 0.3A; I_B = 30\text{ mA}$	$V_{CEsat}$ max. 1.5	0.8 V
D.C. current gain $I_C = 0.1\text{ A}; V_{CE} = 5\text{ V}$	$h_{FE}$ min.	30

**RATINGS** (at  $T_A=25^\circ C$  unless otherwise specified)

Limiting values

	<b>84</b>	<b>84A</b>
Collector-emitter voltage ( $V_{BE} = 0$ )	$V_{CES}$ max. 800	800 V
Collector-emitter voltage (open base)	$V_{CEO}$ max. 400	400 V
Emitter-base voltage (open collector)	$V_{EBO}$ max.	5.0 V

## BUX84, BUX84A

Collector current	$I_C$	max.	2.0	A
Collector current (Peak value)	$I_{CM}$	max.	3.0	A
Base current	$I_B$	max.	0.75	A
Total power dissipation up to $T_C = 25^\circ\text{C}$	$P_{tot}$	max.	40	W
Junction temperature	$T_j$	max.	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-65 to +150	$^\circ\text{C}$

### THERMAL RESISTANCE

From junction to case	$R_{thj-c}$	=	3.125	$^\circ\text{C/W}$
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### CHARACTERISTICS

$T_{amb} = 25^\circ\text{C}$  unless otherwise specified

			<b>84</b>	<b>84A</b>
<b>Collector cutoff current</b>				
$V_{BE} = 0; V_{CE} = \text{Rated } V_{CES}$	$I_{CES}$	max.	0.2	mA
$V_{BE} = 0; V_{CE} = \text{Rated } V_{CES}; T_C = 125^\circ\text{C}$	$I_{CES}$	max.	1.5	mA
<b>Emitter cut-off current</b>				
$I_C = 0; V_{EB} = 5\text{V}$	$I_{EBO}$	max.	1.0	mA
<b>Breakdown voltages</b>				
$I_C = 100\text{ mA}; I_B = 0$	$V_{CEO(sus)}^*$	min.	400	V
$I_C = 1\text{ mA}; V_{BE} = 0$	$V_{CES}$	min.	800	V
$I_E = 1\text{ mA}; I_C = 0$	$V_{EBO}$	min.	5.0	V
<b>Saturation voltages</b>				
$I_C = 0.3\text{ A}; I_B = 30\text{ mA}$	$V_{CEsat}^*$	max.	1.5	0.8 V
$I_C = 1\text{ A}; I_B = 0.2\text{ A}$	$V_{CEsat}^*$	max.	3.0	1.0 V
	$V_{BEsat}^*$	max.	1.1	V
<b>D.C. current gain</b>				
$I_C = 0.1\text{ A}; V_{CE} = 5\text{ V}$	$h_{FE}^*$	min.	30	
<b>Transition frequency <math>f = 1\text{ MHz}</math></b>				
$I_C = 0.2\text{ A}; V_{CE} = 10\text{ V}$	$f_T$	typ.	20	MHz

### Switching time

$I_C = 1\text{ A}; V_{CC} = 250\text{ V}$				
$I_B = 0.2\text{ A}; -I_B = 0.4\text{ A}$				
Turn on time	$t_{on}$	max	0.5	$\mu\text{s}$
Storage time	$t_s$	max.	3.5	$\mu\text{s}$
Fall time	$t_f$	max.	1.4	$\mu\text{s}$

\* Pulsed: pulse duration = 300  $\mu\text{s}$ ; duty cycle  $\leq 2\%$ .

## Notes

### Disclaimer

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