

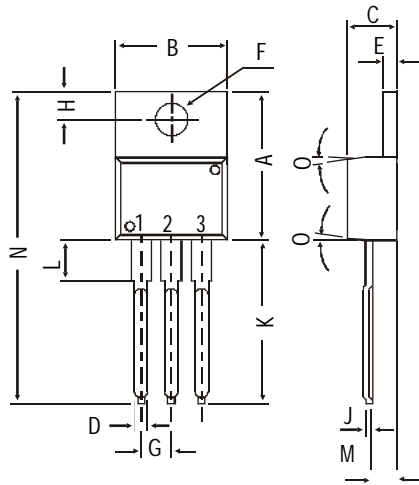
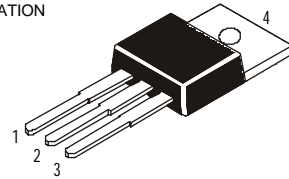


TO-220 Plastic Package

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

	84	84A
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 $T_C = 25^\circ\text{C}$	P_{tot} max.	40 W
Junction temperature	T_j max.	150 $^\circ\text{C}$
Collector-emitter saturation voltage $I_C = 0.3\text{A}; I_B = 30\text{mA}$	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 $T_A=25^\circ\text{C}$ unless otherwise specified)

Limiting values

	84	84A
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

			84	84A
Collector cutoff current				
$V_{BE} = 0; V_{CE} = \text{Rated } V_{CES}$	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
Emitter cut-off current				
$I_C = 0; V_{EB} = 5\text{V}$	I_{EBO}	max.	1.0	mA
Breakdown voltages				
$I_C = 100\text{ mA}; I_B = 0$	$V_{CEO(sus)}^*$	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
Saturation voltages				
$I_C = 0.3\text{ A}; I_B = 30\text{ mA}$	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
D.C. current gain				
$I_C = 0.1\text{ A}; V_{CE} = 5\text{ V}$	h_{FE}^*	min.	30	
Transition frequency $f = 1\text{ MHz}$				
$I_C = 0.2\text{ A}; V_{CE} = 10\text{ V}$	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	μs
Storage time	t_s	max.	3.5	μs
Fall time	t_f	max.	1.4	μs

* Pulsed: pulse duration = 300 μs ; duty cycle $\leq 2\%$.