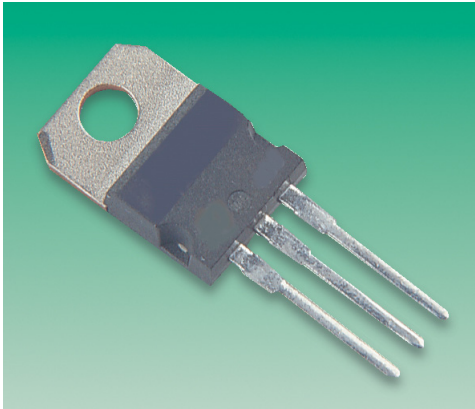


BUX84

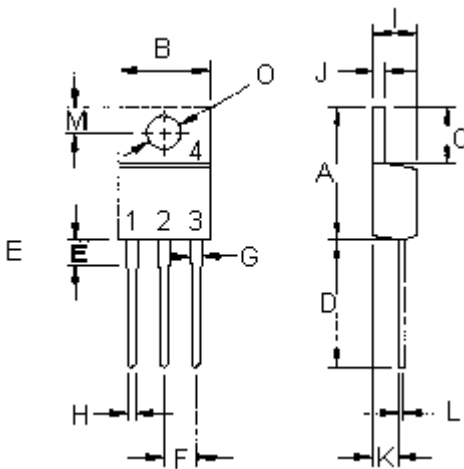
Power Transistor



Switchmode Series NPN Power Transistors are designed for use in high-voltage, high-speed, power switching regulators, converters, inverters, motor control system application.

Features:

- Collector-Emitter Sustaining Voltage -
 $V_{CE(sus)} = 400V$ (Minimum)
- Collector-Emitter Saturation Voltage -
 $V_{CE(sat)} = 1.0V$ (Maximum) at $I_C = 1.0A$, $I_B = 0.2A$.
- Switching Time- $t_f = 0.6\mu s$ (Maximum) at $I_C = 1.0A$.



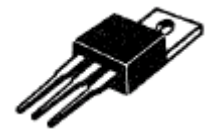
- Pin 1. Base
2. Collector
3. Emitter
4. Collector(Case).

Dimensions	Minimum	Maximum
A	14.68	15.31
B	9.78	10.42
C	5.01	6.52
D	13.06	14.62
E	3.57	4.07
F	2.42	3.66
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.38
K	2.20	2.97
L	0.33	0.55
M	2.48	2.98
O	3.70	3.90

Dimensions : Millimetres

**NPN
BUX84**

2 Ampere
Power
Transistors
400 Volts
40 Watts



TO-220

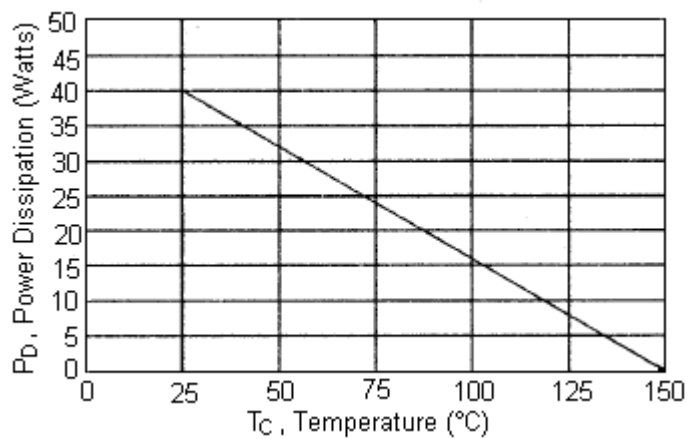
Maximum Ratings

Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	V_{CEO}	400	V
Collector-Emitter Voltage ($V_{BE} = 0$)	V_{CES}	800	
Emitter-Base Voltage	V_{EBO}	10	
Collector Current-Continuous -Peak	I_C I_{CM}	2.0 3.0	A
Base Current	I_B	0.75	
Total Power Dissipation at $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	40 0.32	W W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$

Thermal Characteristics

Characteristic	Symbol	Maximum	Unit
Thermal Resistance Junction to Case	$R_{\theta jc}$	3.125	$^\circ\text{C}/\text{W}$

Figure - 1 Power Derating



BUX84

Power Transistor



Electrical Characteristics ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Minimum	Maximum	Unit	
OFF Characteristics					
Collector-Emitter Sustaining Voltage ($I_C = 0.2\text{A}$, $I_B = 0$, $L = 25\text{mH}$)	$V_{\text{CEO(sus)}}$	400	-	V	
Collector Cut off Current ($V_{\text{CE}} = V_{\text{CES}}$, $V_{\text{BE}} = 0$) ($V_{\text{CE}} = V_{\text{CES}}$, $V_{\text{BE}} = 0$, $T_C = 125^\circ\text{C}$)	I_{CES}	-	0.2 1.5	mA	
Emitter Cut off Current ($V_{\text{EB}} = 5.0\text{V}$, $I_C = 0$)	I_{EBO}	-	1.0		
ON Characteristics (1)					
DC Current Gain ($I_C = 100\text{mA}$, $V_{\text{CE}} = 5.0\text{V}$)	h_{FE}	30 (Typical)	-	-	
Collector-Emitter Saturation Voltage ($I_C = 0.3\text{A}$, $I_B = 30\text{mA}$) ($I_C = 1.0\text{A}$, $I_B = 0.2\text{A}$)	$V_{\text{CE(sat)}}$	-	0.8 1.0	V	
Base-Emitter Saturation Voltage ($I_C = 1.0\text{A}$, $I_B = 0.2\text{A}$)	$V_{\text{BE(sat)}}$	-	1.1		
Dynamic Characteristics					
Current Gain-Bandwidth Product ($I_C = 0.2\text{A}$, $V_{\text{CE}} = 10\text{V}$, $f = 1.0\text{MHz}$)	f_T	20 (Typical)	-	MHz	
Switching Characteristics					
On Time	$V_{\text{CC}} = 250\text{V}$, $I_C = 1.0\text{A}$, $I_{\text{B1}} = 0.2\text{A}$, $I_{\text{B2}} = -0.4\text{A}$	t_{on}	-	0.5	μs
Storage Time		t_s	-	3.5	
Fall Time		t_f	-	0.6	

(1) Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$

Specifications

$I_{\text{C(av)}}$ maximum (A)	V_{CEO} maximum (V)	V_{CES} maximum (V)	$V_{\text{CE(Sat)}}$ (V) at $I_C = 0.3\text{A}$	t_f maximum (μs)	P_{tot} at 25°C (W)	Package	Type	Part Number
2	400	800	0.8	0.6	40	TO-220	NPN	BUX84



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