

BUX48

High Power Bipolar Transistor

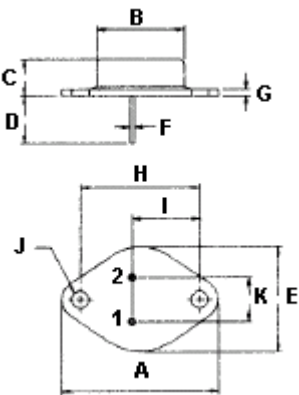


High Voltage Switching



Features:

- Collector-Emitter sustaining voltage-
 $V_{CEO(sus)} = 400V$ (Minimum) - BUX48
 $= 450V$ (Minimum) - BUX48A.
- Collector-Emitter saturation voltage-
 $V_{CE(sat)} = 1.5V$ (Maximum) at $I_C = 10A$ for BUX48
 $I_C = 8A$ for BUX48A.
- Switching Time - $T_f = 0.8\mu s$ (Maximum) at
 $I_C = 10A$ for BUX48
 $I_C = 8A$ for BUX48A.



Pin 1. Base
 2. Emitter
 Collector(Case)

Dimensions	Minimum	Maximum
A	38.75	39.96
B	19.28	22.23
C	7.96	9.28
D	11.18	12.19
E	25.20	26.67
F	0.92	1.09
G	1.38	1.62
H	29.90	30.40
I	16.64	17.30
J	3.88	4.36
K	10.67	11.18

Dimensions : Millimetres

NPN
BUX48
BUX48A
 15 Ampere
 Power
 Transistors
 400 - 450 Volts
 175 Watts



Maximum Ratings

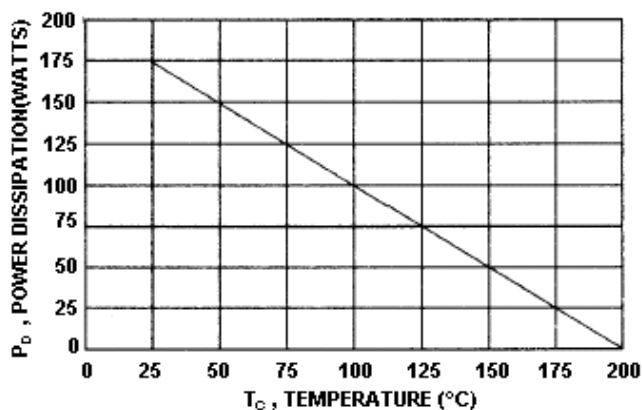
Characteristic	Symbol	BUX48	BUX48A	Unit
Collector-Emitter Voltage	V _{CEO}	400	450	V
Collector-Emitter Voltage (V _{BE} = -2.5V)	V _{CEX}	800	1000	
Emitter-Base Voltage	V _{EBO}	7		
Collector Current-Continuous -Peak	I _C	15		A
	I _{CM}	30		
Base Current	I _B	4		
Total Power Dissipation at T _C = 25°C Derate above 25°C	P _D	175		W W/°C
		1.0		
Operating and Storage Junction Temperature Range	T _J , T _{STG}	-65 to +200		°C



Thermal Characteristics

Characteristic	Symbol	Maximum	Unit
Thermal Resistance Junction to Case	$R_{\theta jc}$	1.0	°C/W

Figure - 1 Power Derating



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

Characteristic	Symbol	Minimum	Maximum	Unit
OFF Characteristics				
Collector-Emitter Sustaining Voltage (1) (I _C = 200mA, I _B = 0, L = 25mH) BUX48 BUX48A	V _{CEO(sus)}	400 450	-	V
Collector Cut off Current (V _{CE} = V _{CEX} , V _{BE} = -2.5V) (V _{CE} = V _{CEX} , V _{BE} = -2.5V, T _C = 125°C)	I _{CEX}	-	0.2 2.0	mA
Collector Cut off Current (V _{CE} = V _{CEX} , R _{BE} <10Ω) (V _{CE} = V _{CEX} , R _{BE} <10Ω, T _C = 125°C)	I _{CER}	-	0.5 4.0	
Emitter Cut off Current (V _{EB} = 5.0V, I _C = 0)	I _{EBO}	-	1.0	
ON Characteristics (1)				
Collector-Emitter Saturation Voltage (I _C = 10A, I _B = 2.0A) BUX48 (I _C = 8.0A, I _B = 1.6A) BUX48A (I _C = 15A, I _B = 3.0A) BUX48 (I _C = 12A, I _B = 2.4A) BUX48A	V _{CE(sat)}	-	1.5 1.5 5.0 5.0	V
Base-Emitter Saturation Voltage (I _C = 10A, I _B = 2.0A) BUX48 (I _C = 8.0A, I _B = 1.6A) BUX48A	V _{BE(sat)}	-	1.6 1.6	V

(1) Pulse Test: Pulse Width = 300μs, Duty Cycle ≤2.0%

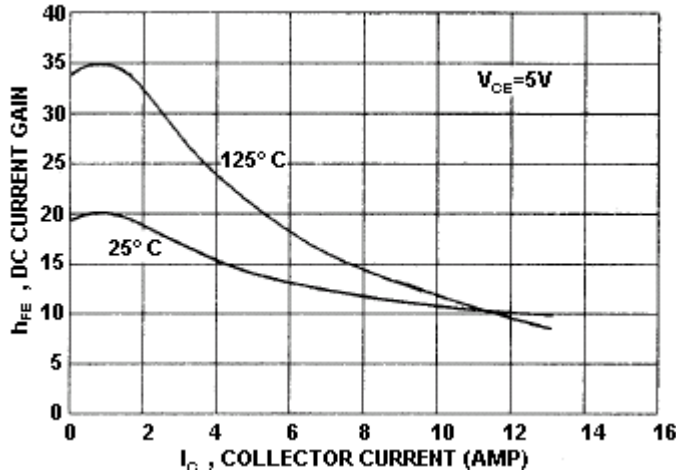
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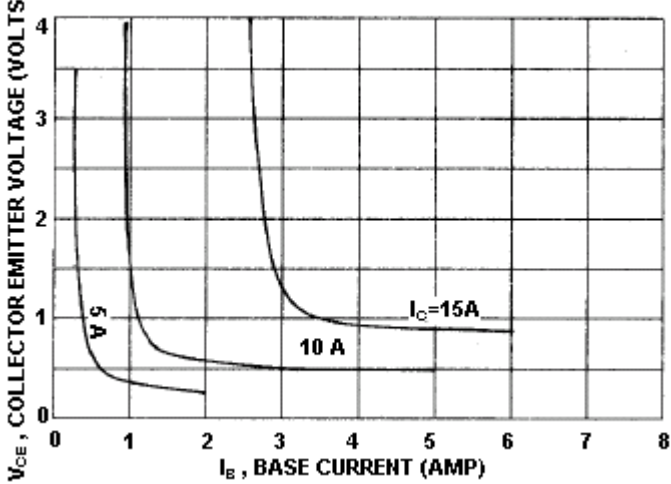


Characteristics		Symbol	Minimum	Maximum	Unit
Switching Characteristics					
Turn On Time	$I_C = 10A, I_{B1} = 2.0A, I_{B2} = -2.0A$ BUX48 $V_{CC} = 150V$ $I_C = 8A, I_{B1} = 1.6A, I_{B2} = -1.6A$ BUX48A	t_{on}	-	1.0	μs
Storage Time		t_s	-	3.0	
Fall Time		t_f	-	0.8	

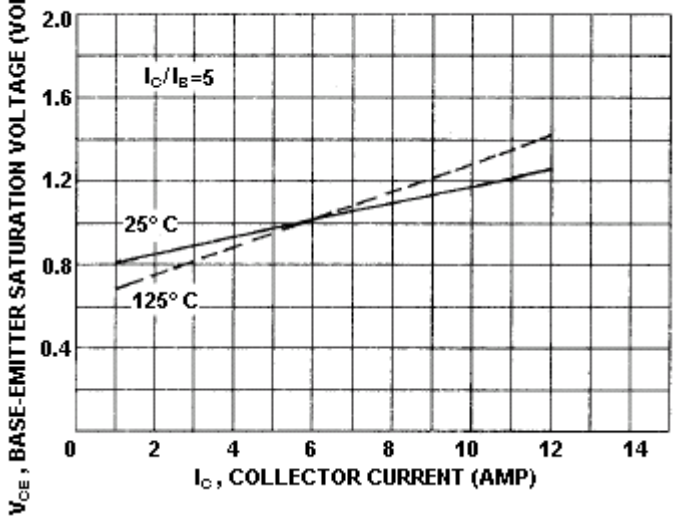
DC Current Gain



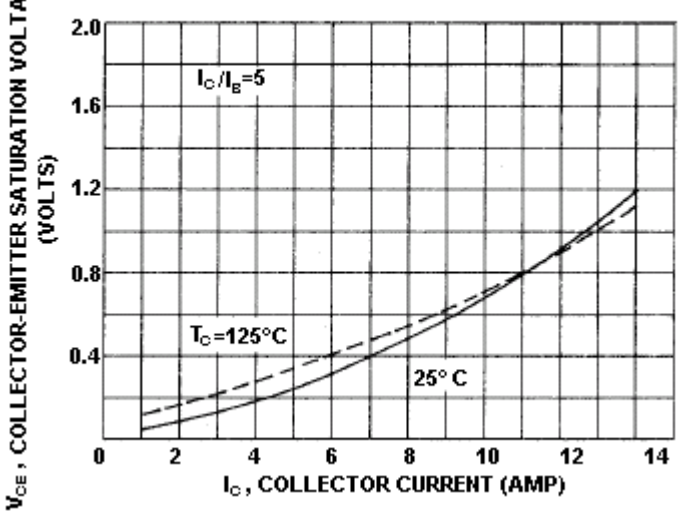
Collector Saturation Region



Base-Emitter Saturation Voltage



Collector-Emitter Saturation Voltage

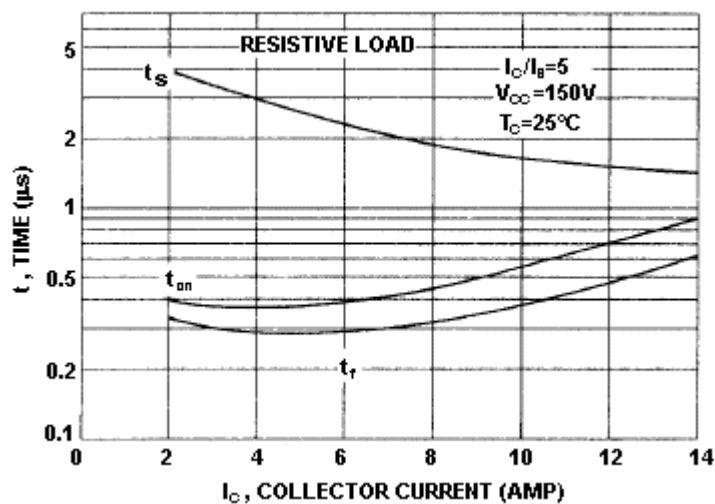


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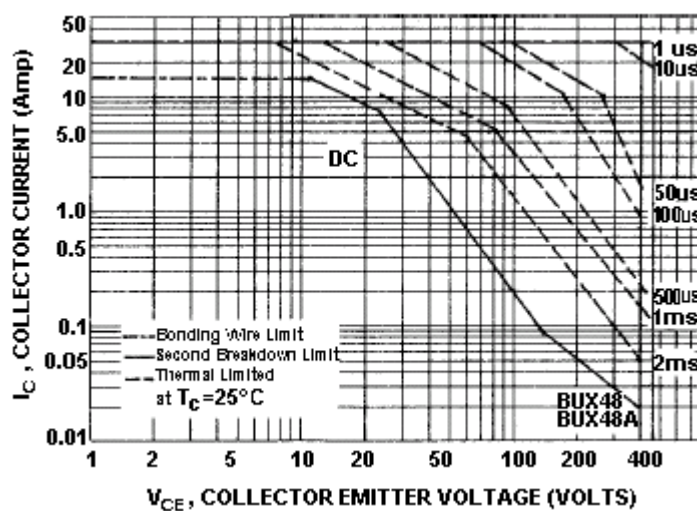
High Power Bipolar Transistor



Switching Time



Active-Region Safe Operating Area



Specifications

TYPE	Part Number
NPN	BUX48
	BUX48A

BUX48

High Power Bipolar Transistor



Notes:

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