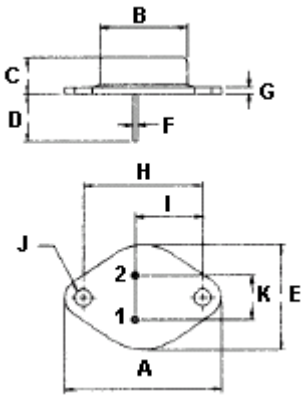
BUX48

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 = 0.8µs (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

TO-03

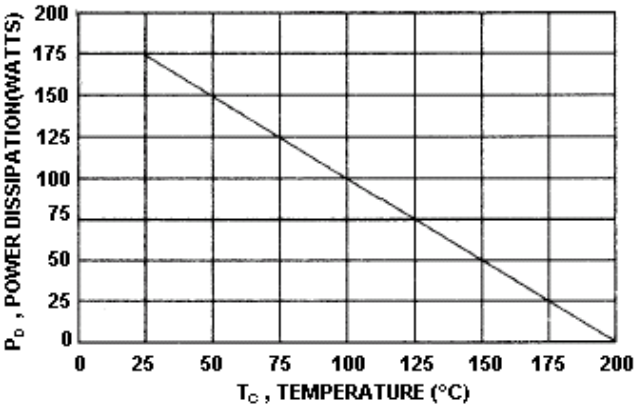
Maximum Ratings

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 I_{CM}	15 30		A
Base Current	I_B	4		
Total Power Dissipation at T_C = 25°C Derate above 25°C	P_D	175 1.0		W W/°C
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°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

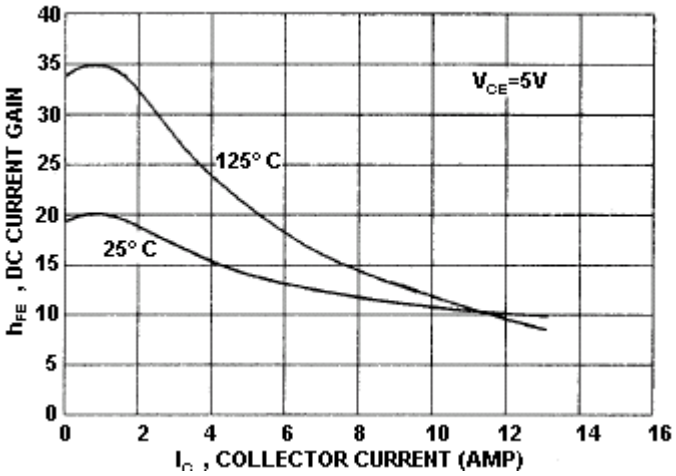
(1) Pulse Test: Pulse Width = 300μs, Duty Cycle ≤2.0%

BUX48

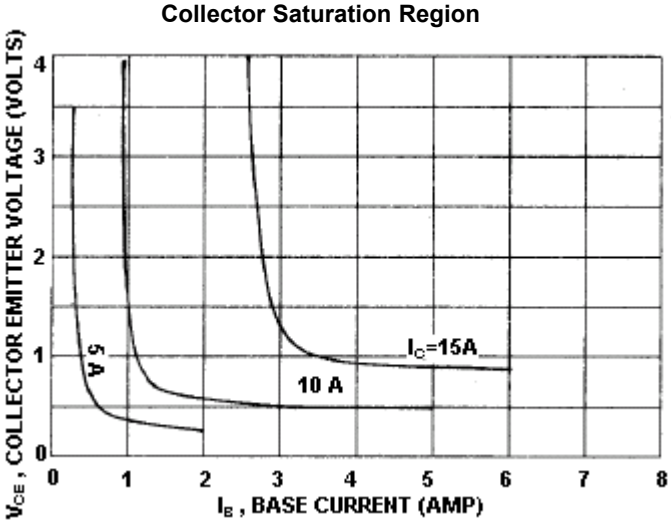
High Power Bipolar Transistor

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	

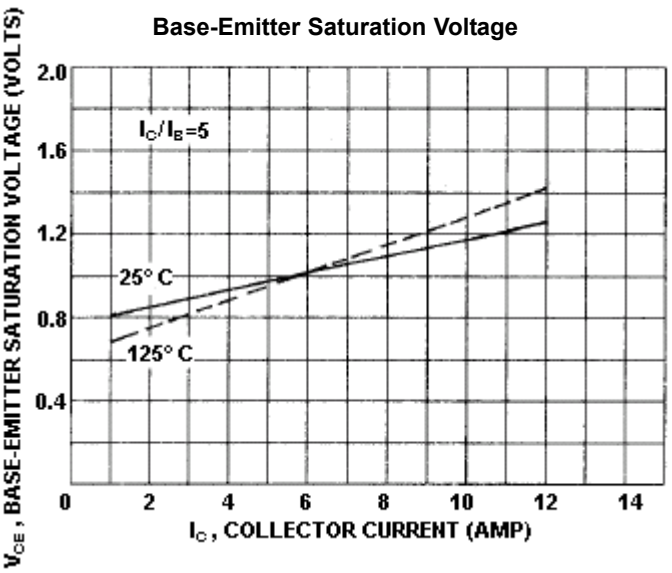
DC Current Gain



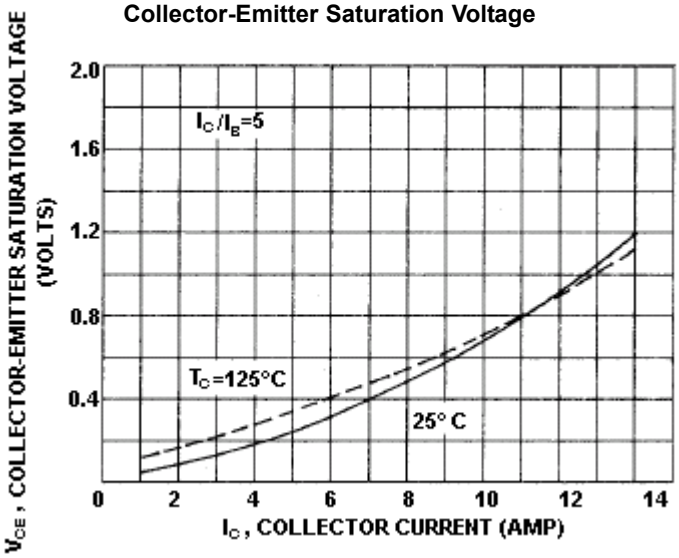
Collector Saturation Region



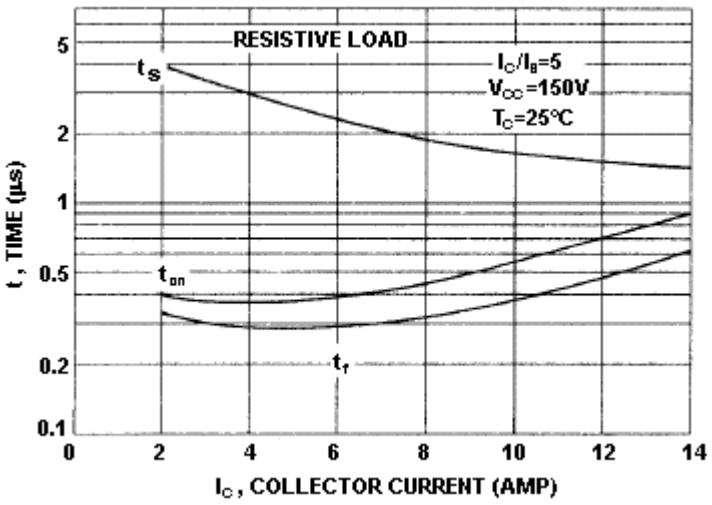
Base-Emitter Saturation Voltage



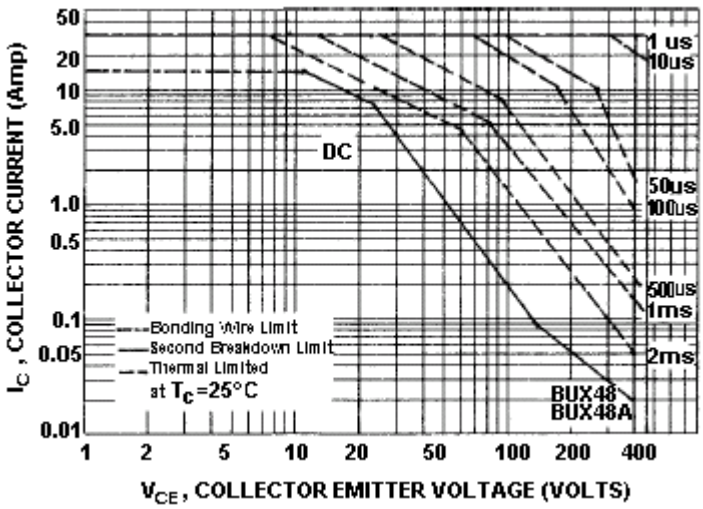
Collector-Emitter Saturation Voltage



Switching Time



Active-Region Safe Operating Area



Specifications

TYPE	Part Number
NPN	BUX48
	BUX48A

Notes:

International Sales Offices:

AUSTRALIA – Farnell InOne
Tel No: ++ 61 2 9645 8888
Fax No: ++ 61 2 9644 7898

FINLAND – Farnell InOne
Tel No: ++ 358 9 560 7780
Fax No: ++ 358 9 345 5411

NETHERLANDS – Farnell InOne
Tel No: ++ 31 30 241 7373
Fax No: ++ 31 30 241 7333

SWITZERLAND – Farnell InOne
Tel No: ++ 41 1 204 64 64
Fax No: ++ 41 1 204 64 54

AUSTRIA – Farnell InOne
Tel No: ++ 43 662 2180 680
Fax No: ++ 43 662 2180 670

FRANCE – Farnell InOne
Tel No: ++ 33 474 68 99 99
Fax No: ++ 33 474 68 99 90

NEW ZEALAND – Farnell InOne
Tel No: ++ 64 9 357 0646
Fax No: ++ 64 9 357 0656

UK – Farnell InOne
Tel No: ++ 44 8701 200 200
Fax No: ++ 44 8701 200 201

BELGIUM – Farnell InOne
Tel No: ++ 32 3 475 2810
Fax No: ++ 32 3 227 3648

GERMANY – Farnell InOne
Tel No: ++ 49 89 61 39 39 39
Fax No: ++ 49 89 613 59 01

NORWAY – Farnell InOne
Tel No: ++ 45 44 53 66 66
Fax No: ++ 45 44 53 66 02

UK – BuckHickman InOne
++ 44 8450 510 150
++ 44 8450 510 130

BRAZIL – Farnell-Newark InOne
Tel No: ++ 55 11 4066 9400
Fax No: ++ 55 11 4066 9410

HONG KONG – Farnell-Newark InOne
Tel No: ++ 852 2268 9888
Fax No: ++ 852 2268 9899

PORTUGAL – Farnell InOne
Tel No: ++ 34 93 475 8804
Fax No: ++ 34 93 474 5288

UK – CPC
++ 44 8701 202 530
++ 44 8701 202 531

CHINA – Farnell-Newark InOne
Tel No: ++86 10 6238 5152
Fax No: ++86 10 6238 5022

IRELAND – Farnell InOne
Tel No: ++ 353 1 830 9277
Fax No: ++ 353 1 830 9016

SINGAPORE – Farnell-Newark InOne
Tel No: ++ 65 6788 0200
Fax No: ++ 65 6788 0300

EXPORT – Farnell InOne
Tel No: ++ 44 8701 200 208
Fax No: ++ 44 8701 200 209
For enquiries from all other markets

DENMARK – Farnell InOne
Tel No: ++ 45 44 53 66 44
Fax No: ++ 45 44 53 66 06

ITALY – Farnell InOne
Tel No: ++ 39 02 93 995 200
Fax No: ++ 39 02 93 995 300

SPAIN – Farnell InOne
Tel No: ++ 34 93 475 8805
Fax No: ++ 34 93 474 5107

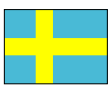
http://www.farnellinone.com

http://www.buckhickmaninone.com

http://www.cpc.co.uk

ESTONIA – Farnell InOne
Tel No: ++ 358 9 560 7780
Fax No: ++ 358 9 345 5411

MALAYSIA – Farnell-Newark InOne
Tel No: ++ 60 3 7873 8000
Fax No: ++ 60 3 7873 7000



SWEDEN – Farnell InOne
Tel No: ++ 46 8 730 50 00
Fax No: ++ 46 8 83 52 62