



# ETA-USA

## HIGH QUALITY SWITCHING POWER SUPPLIES

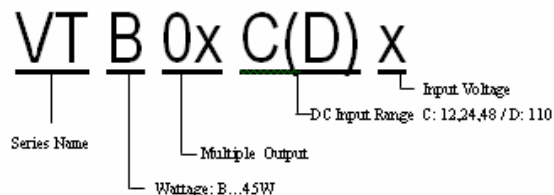
DC/DC SWITCHING POWER SUPPLY  
DC INPUT 12,24,48, 110  
MULTIPLE OUTPUT  
45WATTS



Dimension: 96W × 160L × 33H

### VTB-00Cx/VTB-00D SERIES

#### General Description



#### Features

1. Variety of Models
2. Chassis mount type
3. Compact and High Efficiency

#### DC INPUT: 12V

| Input Characteristics   | Unit | VTB01C12      | VTB01C12B | VTB03C12 | VTB04C12 |
|-------------------------|------|---------------|-----------|----------|----------|
| Input Voltage           | Vdc  | DC 12V        |           |          |          |
| Input Voltage Range     | Vdc  | DC 9.2V-16V   |           |          |          |
| Inrush Current *1       | A    | Not Specified |           |          |          |
| Efficiency (typical) *2 | %    | 76            | 80        | 76       | 76       |
| MTBF                    | H    | 450'000       |           |          |          |
| Switching Frequency     | kHz  | 40 Fix        | 40 Fix    | 40 Fix   | 40 Fix   |

#### DC INPUT: 24V

| Input Characteristics   | Unit | VTB01C24      | VTB01C24B | VTB03C24 | VTB04C24 |
|-------------------------|------|---------------|-----------|----------|----------|
| Input Voltage           | Vdc  | DC 24V        |           |          |          |
| Input Voltage Range     | Vdc  | DC 19-32V     |           |          |          |
| Inrush Current *1       | A    | Not Specified |           |          |          |
| Efficiency (typical) *2 | %    | 76            | 81        | 76       | 78       |
| MTBF                    | H    | 440'000       |           |          |          |
| Switching Frequency     | kHz  | 40 Fix        | 40 Fix    | 40 Fix   | 40 Fix   |

#### DC INPUT: 48V

| Input Characteristics   | Unit | VTB01C48      | VTB01C48B | VTB03C48 | VTB04C48 |
|-------------------------|------|---------------|-----------|----------|----------|
| Input Voltage           | Vdc  | DC 48V        |           |          |          |
| Input Voltage Range     | Vdc  | DC 38-63V     |           |          |          |
| Inrush Current *1       | A    | Not Specified |           |          |          |
| Efficiency (typical) *2 | %    | 79            | 82        | 78       | 78       |
| MTBF                    | H    | 450'000       |           |          |          |
| Switching Frequency     | kHz  | 40 Fix        | 40 Fix    | 40 Fix   | 40 Fix   |

#### DC INPUT: 110V

| Input Characteristics   | Unit | VTB01D        | VTB01D-B | VTB03D | VTB04D |
|-------------------------|------|---------------|----------|--------|--------|
| Input Voltage           | Vdc  | DC 110V       |          |        |        |
| Input Voltage Range     | Vdc  | DC 85-140V    |          |        |        |
| Inrush Current *1       | A    | 20A (maximum) |          |        |        |
| Efficiency (typical) *2 | %    | 79            | 80       | 75     | 76     |
| MTBF                    | H    | 420'000       |          |        |        |
| Switching Frequency     | kHz  | 40 Fix        | 40 Fix   | 40 Fix | 40 Fix |



ETA USA

16170 Vineyard Blvd. Suite 180, Morgan Hill, CA 95037  
Phone: 1-800-ETA-POWER, (408) 778-2793 Fax: (408) 779-2753

Visit us at: [www.eta-usa.com](http://www.eta-usa.com)  
email at: [sales@eta-usa.com](mailto:sales@eta-usa.com)



# ETA-USA

## HIGH QUALITY SWITCHING POWER SUPPLIES

### VTB-C / VTB-D

| Output Characteristic                          | Unit | Models                                                                                                                                                              |      |      |                |     |     |             |      |      |               |      |      |
|------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----------------|-----|-----|-------------|------|------|---------------|------|------|
|                                                |      | VTB01Cx / D                                                                                                                                                         |      |      | VTB01Cx B / DB |     |     | VTB03Cx / D |      |      | VTB04Cx B / D |      |      |
| Output Voltage                                 | V    | +5                                                                                                                                                                  | +12  | -12  | +12            | +5  | -12 | +5          | +12  | -5   | +5            | +15  | -15  |
| Output Current                                 | A    | 5.0                                                                                                                                                                 | 0.73 | 0.73 | 2.7            | 1.0 | 0.3 | 5.0         | 0.73 | 0.73 | 5.0           | 0.6  | 0.6  |
| 25W at horizontal mount (Vin=12)               |      | 5.0                                                                                                                                                                 | 0.83 | 0.83 | 3.0            | 1.0 | 0.4 | 5.0         | 0.83 | 0.83 | 5.0           | 0.63 | 0.63 |
| 25W at horizontal mount (Vin=24,48,110)        |      |                                                                                                                                                                     | 1.0  | 0.50 |                |     |     |             | 1.0  |      |               |      |      |
| 30W at vertical mount without cover(Vin=24,48) |      |                                                                                                                                                                     | 1.0  | 0.50 | P4.0           |     |     |             | 1.0  |      |               |      |      |
| 50W at vertical mount without cover(Vin=110)   |      |                                                                                                                                                                     |      |      |                |     |     |             |      |      |               |      |      |
| Voltage Adjust Range                           | V    | V1:±-5%(maximum) of Rated Output Voltage at 25℃,rated input and no load<br>V2,V3:fixed with tolerance ±-3.5% of Rated Output Voltage at 25℃,rated input and no load |      |      |                |     |     |             |      |      |               |      |      |
| Ripple Noise(max)*3                            | mVpp | 100                                                                                                                                                                 | 170  | 170  | 170            | 100 | 170 | 100         | 170  | 100  | 100           | 200  | 200  |
| Rise up time                                   | mS   | 200mS(maximum) at 25℃ and rated input/output                                                                                                                        |      |      |                |     |     |             |      |      |               |      |      |
| Hold up time                                   | mS   | Not specified (Vin=110 8mS(minimum) at 25℃ and rated input/output)                                                                                                  |      |      |                |     |     |             |      |      |               |      |      |
| Regulation                                     |      |                                                                                                                                                                     |      |      |                |     |     |             |      |      |               |      |      |
| a.Line Regulation (max) (Vin=12,110)           | mV   | 35                                                                                                                                                                  | 96   | 96   | 96             | 40  | 96  | 40          | 96   | 40   | 40            | 120  | 120  |
| (Vin=24,48)                                    |      | 35                                                                                                                                                                  | 84   | 84   | 84             | 35  | 84  | 35          | 84   | 35   | 35            | 105  | 105  |
| b. Load Regulation (max)                       | mV   | 50                                                                                                                                                                  | 120  | 120  | 120            | 50  | 120 | 50          | 120  | 50   | 50            | 150  | 150  |
| c. Temperature Coefficient *4                  | ℃    | 0.03%/℃                                                                                                                                                             |      |      |                |     |     |             |      |      |               |      |      |
| d. Drift(maximum) *5                           | mV   | 40                                                                                                                                                                  | 75   | 75   | 75             | 40  | 75  | 40          | 75   | 40   | 40            | 90   | 90   |
| e. Dynamic Load Regulation (typ.) *5           | mV   | 150                                                                                                                                                                 | 360  | 360  | 360            | 150 | 360 | 150         | 360  | 150  | 150           | 450  | 450  |
| f. Recovery Time *5                            | mS   | 0.5mS(typical)                                                                                                                                                      |      |      |                |     |     |             |      |      |               |      |      |

\*1 at cold start

\*2 at rated input/output

\*3 measured by a bayonet probe at the output connector at a 0 to 100MHz bandwidth

\*4 at 0 to +50°C

\*5 for 7hour period after 1hour warm-up at 25°C and rated input/output

\*6 when output current changed between 25% and 75% of rated output current rapidly at rated input



ETA USA

16170 Vineyard Blvd. Suite 180, Morgan Hill, CA 95037

Phone: 1-800-ETA-POWER, (408) 778-2793 Fax: (408) 779-2753

Visit us at: [www.eta-usa.com](http://www.eta-usa.com)

email at: [sales@eta-usa.com](mailto:sales@eta-usa.com)



# ETA-USA

## HIGH QUALITY SWITCHING POWER SUPPLIES

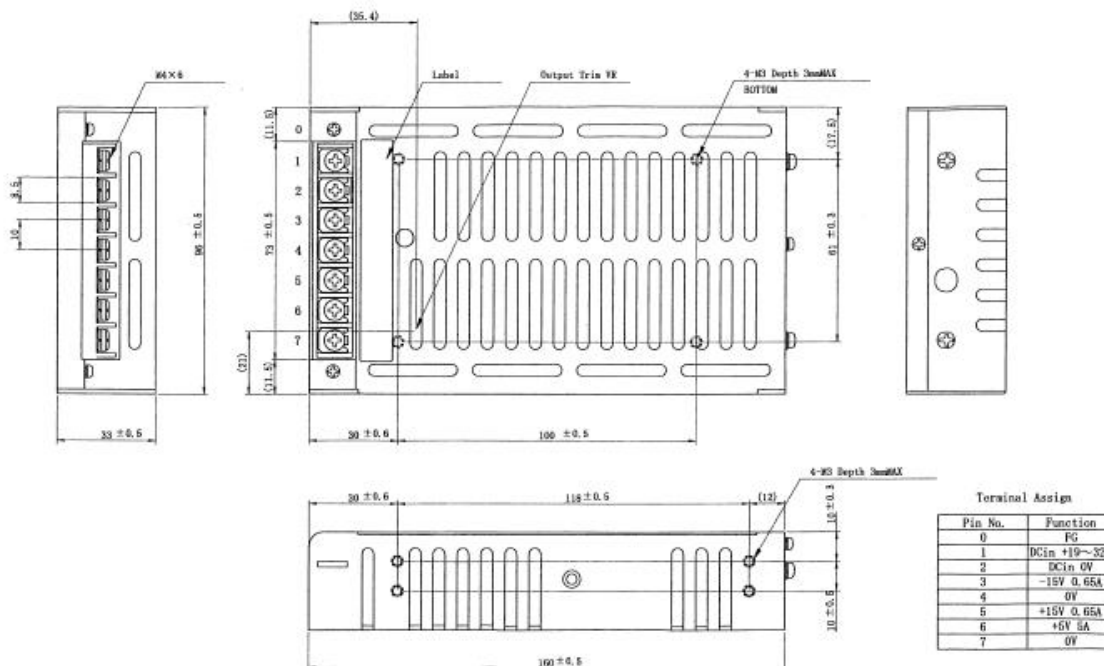
### Environmental Specification

|                       |                                                                                                                                                               |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Temperature | 0 to +50°C                                                                                                                                                    |
| Operating Humidity    | 85%RH(non-condensing)                                                                                                                                         |
| Storage Temperature   | -20 to +85°C                                                                                                                                                  |
| Storage Humidity      | -                                                                                                                                                             |
| Withstanding Voltage  | Primary-Secondary AC1,500Vfor 1minute (Vin=110 2000)<br>Primary-Frame Ground AC1,500V for 1minute (Vin=110 2000)<br>Secondary-Frame Ground AC500V for 1minute |
| Isolation Resistance  | Primary-Secondary-Frame Ground 50MΩ(minimum) by DC500V insulation tester                                                                                      |
| Vibration             | 5-10Hz:10mm double amplitude,10-55Hz:19.6m/s <sup>2</sup> ,20minutes' period for 60minutes each along X,Y,Z axes(non-operating)                               |
| Shock                 | 294m/s <sup>2</sup>                                                                                                                                           |
| Cooling               | Convection                                                                                                                                                    |

### Functions

|                            |                                                     |
|----------------------------|-----------------------------------------------------|
| Over current Protection    | Current Limiting with automatic recovery            |
| Over voltage Protection    | zener diode clamping                                |
| Remote Sense               | not available                                       |
| Remote On/Off              | not available                                       |
| Reverse Voltage Protection | by internal fuse (Vin=110 by internal bridge diode) |
| Line Conduction Noise      | Not specified                                       |
| Weight [g] (typical)       | 470 G                                               |
| Dimension [mm]             | 96W × 160L × 25H                                    |

### DIMENSION DIGRAM



ETA USA

16170 Vineyard Blvd. Suite 180, Morgan Hill, CA 95037

Phone: 1-800-ETA-POWER, (408) 778-2793 Fax: (408) 779-2753

Visit us at: [www.eta-usa.com](http://www.eta-usa.com)

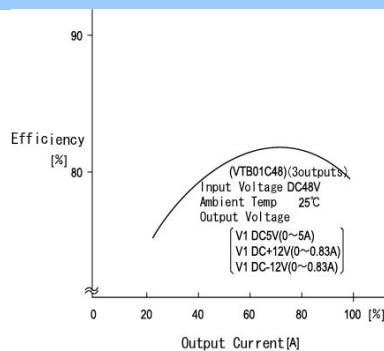
email at: [sales@eta-usa.com](mailto:sales@eta-usa.com)



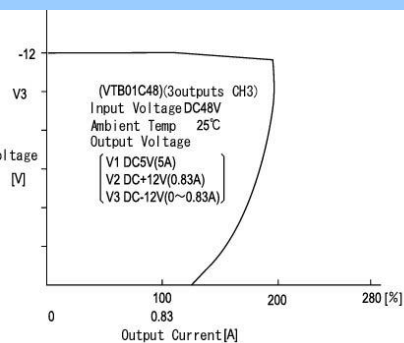
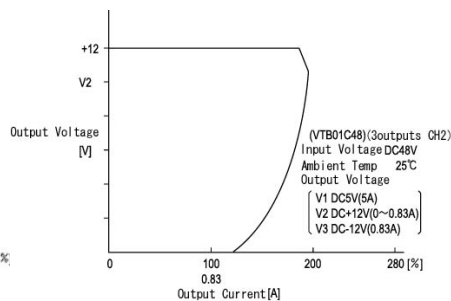
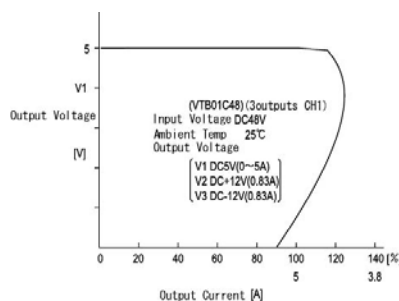
# ETA-USA

## HIGH QUALITY SWITCHING POWER SUPPLIES

### EFFICIENCY CURVE



### OCP CURVE



ETA USA

16170 Vineyard Blvd. Suite 180, Morgan Hill, CA 95037  
Phone: 1-800-ETA-POWER, (408) 778-2793 Fax: (408) 779-2753

Visit us at: [www.eta-usa.com](http://www.eta-usa.com)  
email at: [sales@eta-usa.com](mailto:sales@eta-usa.com)