

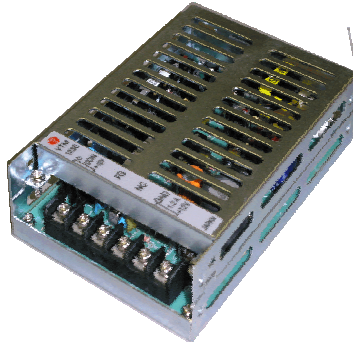


# ETA-USA

## HIGH QUALITY SWITCHING POWER SUPPLIES

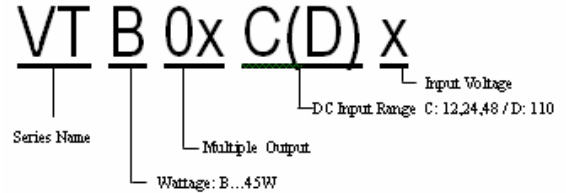
DC/DC SWITCHING POWER SUPPLY  
DC INPUT 12,24,48, 110  
MULTIPLE OUTPUT  
45WATTS

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



Dimension: 96W × 160L × 33H

#### 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





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### 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 25W at horizontal mount (Vin=12) 25W at horizontal mount (Vin=24,48,110) 30W at vertical mount without cover (Vin=24,48) 50W at vertical mount without cover (Vin=110)	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
		5.0	0.83	0.83	3.0	1.0	0.4	5.0	0.83	0.83	5.0	0.63	0.63
			1.0	0.50					1.0				
			1.0	0.50	P4.0				1.0				
Voltage Adjust Range	V	V1: +/-5% (maximum) of Rated Output Voltage at 25°C, rated input and no load V2, V3: fixed with tolerance +/-3.5% of Rated Output Voltage at 25°C, 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°C and rated input/output											
Hold up time	mS	Not specified (Vin=110 8mS(minimum) at 25°C and rated input/output)											
<b>Regulation</b>													
a. Line Regulation (max) (Vin=12,110)	mV	35	96	96	96	40	96	40	96	40	40	120	120
		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	°C	0.03%/°C											
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



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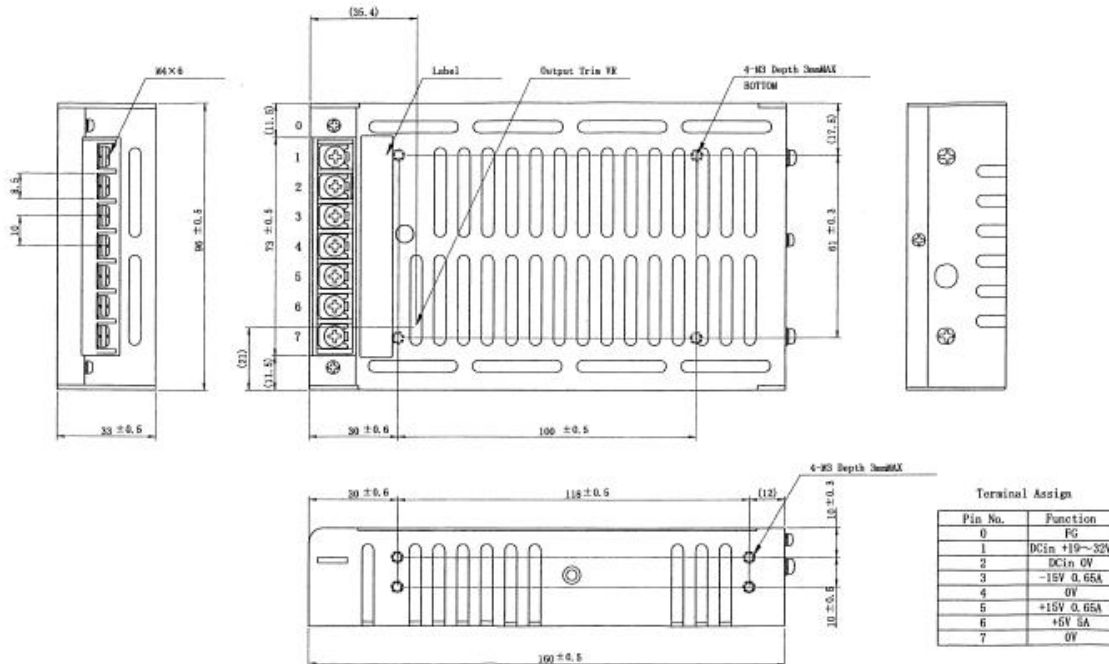


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## HIGH QUALITY SWITCHING POWER SUPPLIES

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 AC1,500V for 1minute (Vin=110 2000) Primary-Frame Ground AC1,500V for 1minute (Vin=110 2000) 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

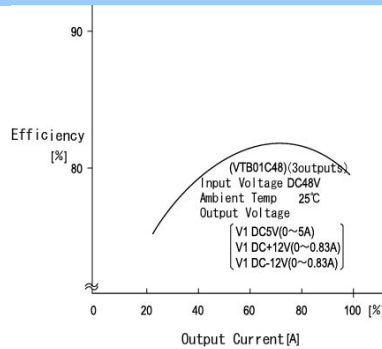




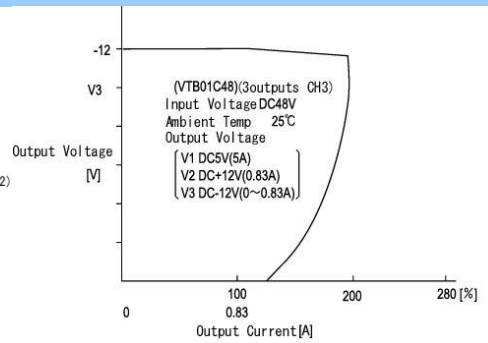
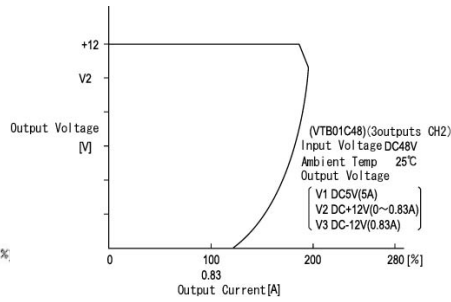
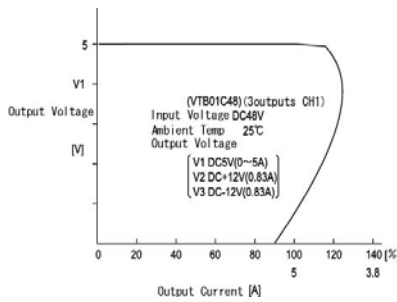
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## HIGH QUALITY SWITCHING POWER SUPPLIES

### EFFICIENCY CURVE



### OCP CURVE



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