

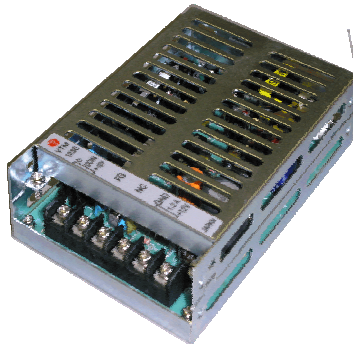


# ETA-USA

## HIGH QUALITY SWITCHING POWER SUPPLIES

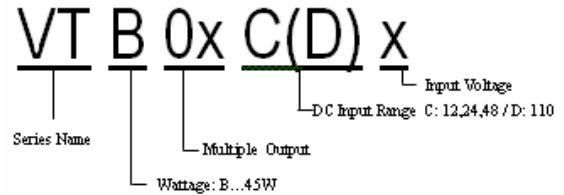
DC/DC SWITCHING POWER SUPPLY  
DC INPUT 12,24,48, 110  
MULTIPLE OUTPUT  
45WATTS

### 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
		(Vin=24,48)	35	84	84	84	35	84	35	84	35	35	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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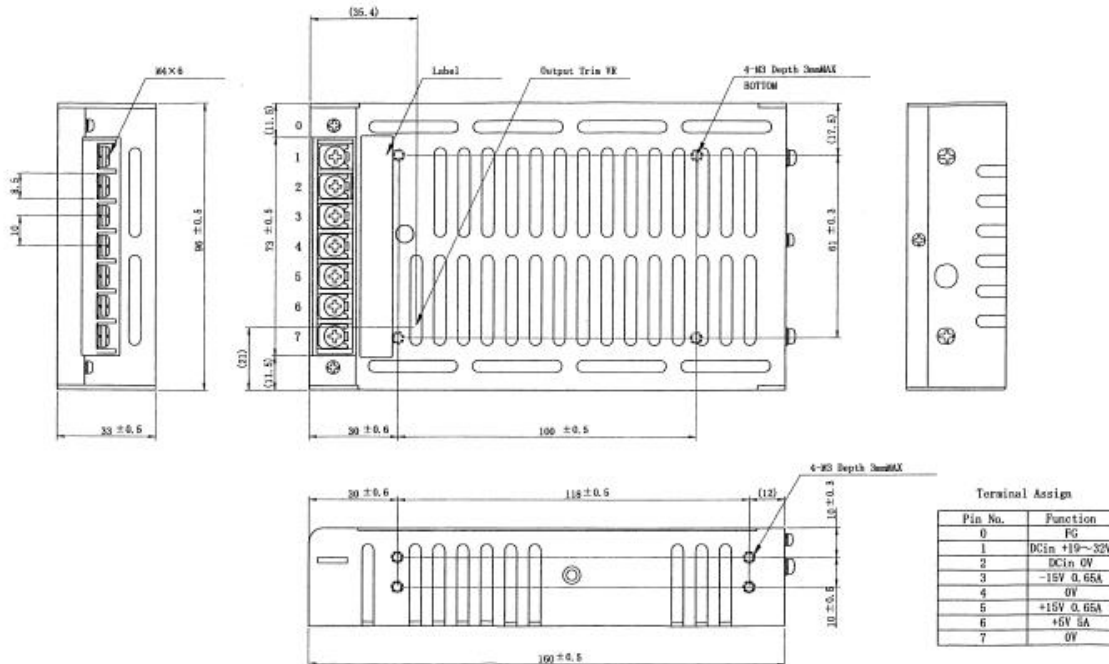


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## HIGH QUALITY SWITCHING POWER SUPPLIES

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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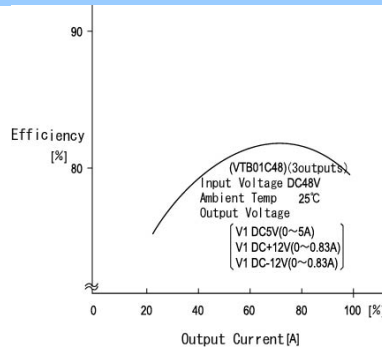
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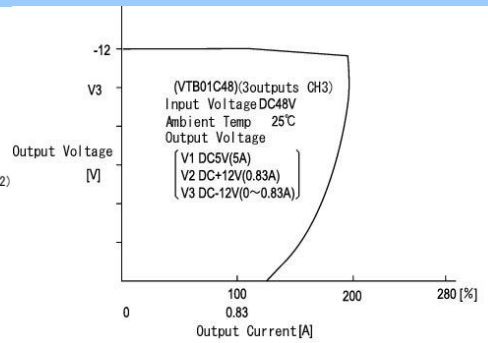
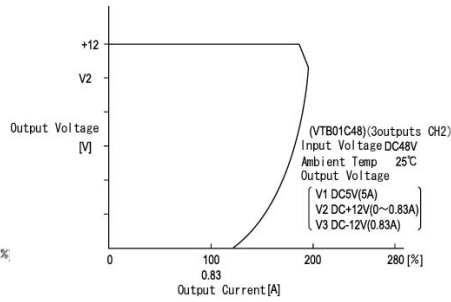
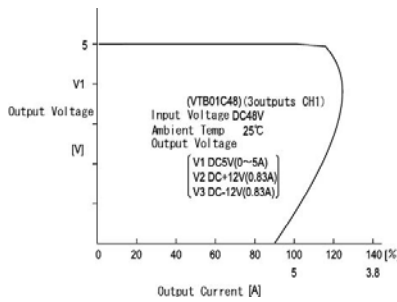
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### EFFICIENCY CURVE



### OCP CURVE



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