



# ETA-USA

## HIGH QUALITY SWITCHING POWER SUPPLIES

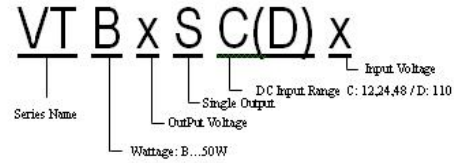
**DC/DC SWITCHING POWER SUPPLY**  
**DC INPUT 12,24,48, 110**  
**SINGLE OUTPUT**  
**50WATTS**

### VTB-SCx/VTB-SD 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	VTB05SC12	VTB12SC12	VTB15SC12	VTB24SC12	VTB48SC12
Input Voltage	Vdc	DC 12V				
Input Voltage Range	Vdc	DC 9.2V-16V				
Input Current (typ)	A	4.63	4.58	4.69	4.42	4.05
Inrush Current *1	A	Not Specified				
Efficiency (typical) *2	%	72	75	76	77	78
MTBF	H	820'000				
Switching Frequency	kHz	60 Fix.	60 Fix.	60 Fix.	60 Fix.	60 Fix.

#### DC INPUT: 24V

Input Characteristics	Unit	VTB05SC24	VTB12SC24	VTB15SC24	VTB24SC24	VTB48SC24
Input Voltage	Vdc	DC 24V				
Input Voltage Range	Vdc	DC 19-32V				
Input Current (typ)	A	2.67	2.69	2.59	3.09	2.53
Inrush Current *1	A	Not Specified				
Efficiency (typical) *2	%	78	80	82	81	79
MTBF	H	810'000				
Switching Frequency	kHz	60 Fix.	60 Fix.	60 Fix.	60 Fix.	60 Fix.

#### DC INPUT: 48V

Input Characteristics	Unit	VTB05SC48	VTB12SC48	VTB15SC48	VTB24SC48	VTB48SC48
Input Voltage	Vdc	DC 48V				
Input Voltage Range	Vdc	DC 38-63V				
Input Current (typ)	A	1.34	1.31	1.28	1.44	1.16
Inrush Current *1	A	Not Specified				
Efficiency (typical) *2	%	78	82	83	84	86
MTBF	H	810'000				
Switching Frequency	kHz	60 Fix.	60 Fix.	60 Fix.	60 Fix.	60 Fix.

#### DC INPUT: 110V

Input Characteristics	Unit	VTB05SD	VTB12SD	VTB15SD	VTB24SD	VTB48SD
Input Voltage	Vdc	DC 110V				
Input Voltage Range	Vdc	DC 85-140V				
Input Current (typ)	A	5.27	5.31	5.12	5.59	4.71
Inrush Current *1	A	Not specified				
Efficiency (typical) *2	%	79	81	83	84	85
MTBF	H	740'000				
Switching Frequency	kHz	70 Fix.	70 Fix.	70 Fix.	70 Fix.	70 Fix.



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## HIGH QUALITY SWITCHING POWER SUPPLIES

### VTB-SC / VTB-SD

Output Characteristic	Unit	Models				
		VTB05SCx / SD	VTB12SCx / SD	VTB15SCx / SD	VTB24SCx / SD	VTB48SCx / SD
Output Voltage	V	5	12	15	24	48
Output Current Vin= 12 Vin=24,48,110	A	8.0	3.3	2.7	1.7	0.8
	A	10	4.3	3.4	2.5	1.0
Voltage Adjust Range	V	<b>+/-10% of Rated Output Voltage (at no load within input range)</b>				
Ripple Noise(max) *3	mVpp	100	170	200	290	530
Rise up time	mS	100mS(maximum) at 25°C and rated input/output				
Hold up time	mS	Not specified				
<b>Regulation</b>						
a. Line Regulation (max)	mV	40	96	120	192	384
b. Load Regulation (max)	mV	45	108	135	216	432
c. Temperature Coefficient *4	°C	0.03%/°C				
d. Drift(maximum) *5	mV	40	75	90	135	255
e. Dynamic Load Regulation (typ.) *6	mV	150	360	450	720	1440
f. Recovery Time *6	mS	0.5mS				

Conditions:

\*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

Environmental Specification	
Operating Temperature	0 to +50°C
Operating Humidity	85%RH(non-condensing)
Storage Temperature	-20 to +85°C
Storage Humidity	20 to +90%RH
Withstanding Voltage	Primary-Secondary AC1,500Vfor 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	Output shutdown
Remote Sense	not available
Remote On/Off	not available
Reverse Voltage Protection	by internal bridge diode
Line Conduction Noise	Not specified
Weight [g] (typical)	410 G
Dimension [mm]	96W × 160L × 33H



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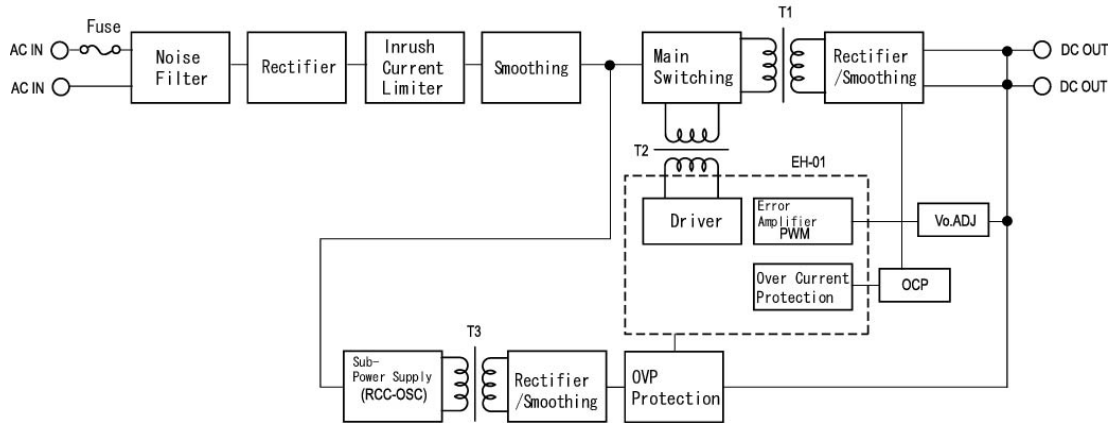
email at: [sales@eta-usa.com](mailto:sales@eta-usa.com)



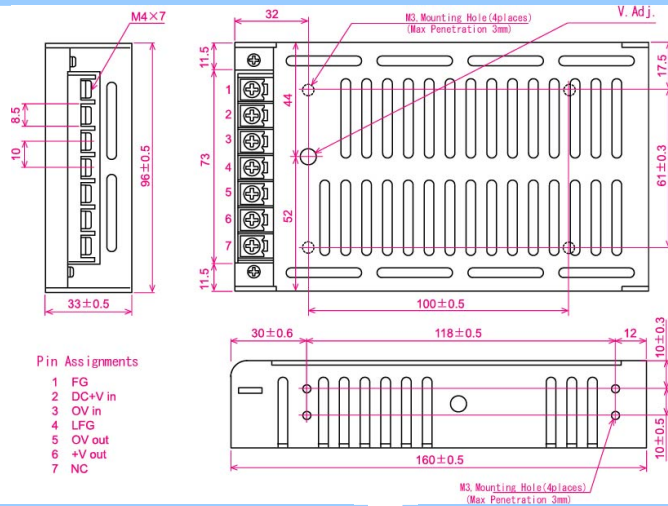
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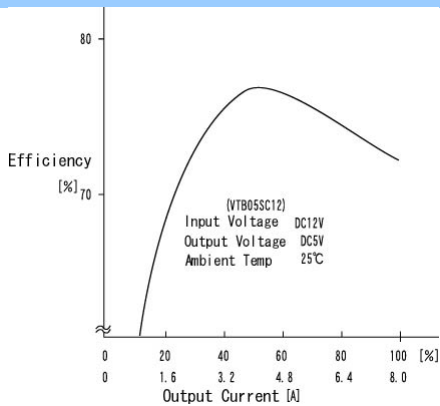
### BLOCK DIAGRAM



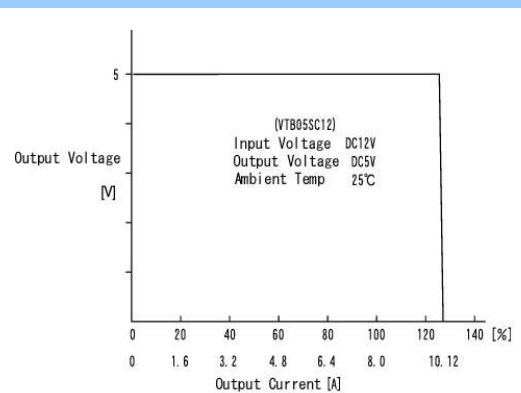
### DIMENSION DIAGRAM (mm)



### EFFICIENCY CURVE



### OCP CURVE



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