



**ETA-USA**

HIGH QUALITY SWITCHING POWER SUPPLIES

# 50 WATT DC-DC CONVERTER

## SVB-SC SERIES



### Features

1. Very small (one of the smallest in Japan)
2. No derating when mounted on a horizontal surface
3. Low impedance capacitors
4. Over voltage protection
5. EMI: Complies with FCC/A

The SV-series has been developed to follow ETA's philosophy of "Miniaturization and high efficiency" of power supplies. The small size and high efficiency are suitable for many applications, especially small equipment.

### SVB-SC12 Input Specifications

Specifications	Model				
	SVB05SC12	SVB12SC12	SVB15SC12	SVB24SC12	SVB48SC12
SVB**SC12 50WATTS/1 OUTPUT					
<b>Input Characteristic</b>					
Input Voltage	DC12V				
Input Range	DC9.2-16V				
Inrush Current	Not specified				
Efficiency [%] (typical) *1	79	80	82	85	85

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 16170 Vineyard Blvd. #180  
 Morgan Hill, CA 95037  
 Phone: (408) 778-2793 Fax: (408) 779-2753  
[www.eta-usa.com](http://www.eta-usa.com)

SVB-SC24 Input Specifications

<b>SVB**SC24</b> <b>50WATTS/1 OUTPUT</b>	<b>SVB05SC24</b>	<b>SVB12SC24</b>	<b>SVB15SC24</b>	<b>SVB24SC24</b>	<b>SVB48SC24</b>
<b>Input Characteristic</b>					
Input Voltage	DC24V				
Input Range	DC19-32V				
Inrush Current	Not specified				
Efficiency [%] (typical) *1	81	83	85	87	88

SVB-SC48 Input Specifications

<b>Specifications</b>	<b>Model</b>				
<b>SVB**SC48</b> <b>50WATTS/1 OUTPUT</b>	<b>SVB05SC48</b>	<b>SVB12SC48</b>	<b>SVB15SC48</b>	<b>SVB24SC48</b>	<b>SVB48SC48</b>
<b>Input Characteristic</b>					
Input Voltage	DC48V				
Input Range	DC38-63V				
Inrush Current	Not specified				
Efficiency [%] (typical) *1	82	84	86	88	89

SVB-SC12 Output Specifications

Specifications SVB**SC12(50WATTS/1 OUTPUT)	Model				
	SVB05SC12	SVB12SC12	SVB15SC12	SVB24SC12	SVB48SC12
<b>Output Characteristic</b>					
Output Voltage [V]	5	12	15	24	48
Output Current [A]	8.0	3.3	2.7	1.7	0.8
Voltage Adjust Range	+/-10% of Rated Output Voltage (at no load within input range)				
Ripple and Noise [mVp-p](maximum) *2	150	220	250	340	580
<b>Regulation</b>					
Statistic Line Regulation [mV](maximum)	40	96	120	192	384
Statistic Load Regulation [mV](maximum)	45	108	135	216	432
Temperature Coefficient *3	0.03%/°C				
Drift [mV](maximum) *4	40	75	90	135	255
Dynamic Load Regulation [mV](typical) *5	150	360	450	720	1440
Recovery Time *5	0.3mS(typical)				
Rise up time	50mS(maximum) at 25°C and rated input/output				
Hold up time	Not specified				
<b>Functions</b>					
Over current Protection	Current Limiting with automatic recovery				
≥110% of Rated Output [A]	8.80	3.63	2.97	1.87	0.88
Over voltage Protection	Output shutdown (to reset, leave 1minute after shutdown)				
≥110% of Rated Output [V]	5.50	13.2	16.5	26.4	52.8
Remote Sense	Not available				
Remote On/Off	Not available				
Reverse Voltage Protection	By internal fuse				
<b>Environmental</b>					
Operating Temperature	0 to +50°C				
Operating Humidity	85%RH (non-condensing)				
Storage Temperature	-20 to +85°C				
Storage Humidity	85%RH (non-condensing)				
Withstanding Voltage	Primary-Secondary AC2,000Vfor 1minute				
	Primary-Frame Ground AC2,000V for 1minute				
	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				
<input type="checkbox"/> Line Conduction Noise	Not specified				
<input type="checkbox"/> Safety	-				
Weight (typical)	410g				

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**SVB\*\*SC24 Specification**

<b>SVB**SC24 50WATTS/1 OUTPUT</b>	SVB05SC24	SVB12SC24	SVB15SC24	SVB24SC24	SVB48SC24
<b>Output Characteristic</b>					
Output Voltage [V]	5	12	15	24	48
Output Current [A]	10.0	4.3	3.4	2.5	1.1
Voltage Adjust Range	+/-10% of Rated Output Voltage(at no load within input range)				
Ripple and Noise[mVp-p](maximum) *2	150	220	250	340	580
<b>Regulation</b>					
a.Statistic Line Regulation [mV](maximum)	40	96	120	192	384
b.Statistic Load Regulation [mV](maximum)	45	108	135	216	432
c.Temperature Coefficient *3	0.03%/°C				
d.Drift[mV](maximum) *4	40	75	90	135	255
e.Dynamic Load Regulation [mV](typical) *5	150	360	450	720	1440
f.Recovery Time *5	0.3mS(typical)				
Rise up time	50mS(maximum) at 25°C and rated input/output				
Hold up time	Not specified				
<b>Functions</b>					
Over current Protection	Current Limiting with automatic recovery				
≥110% of Rated Output [A]	11.00	4.73	3.74	2.75	1.21
Over voltage Protection	Output shutdown(to reset, leave 1minute after shutdown)				
≥110% of Rated Output [V]	5.50	13.2	16.5	26.4	52.8
Remote Sense	not available				
Remote On/Off	not available				
Reverse Voltage Protection	by internal fuse				
<b>Environmental</b>					
Operating Temperature	0 to +50°C				
Operating Humidity	85%RH(non-condensing)				
Storage Temperature	-20 to +85°C				
Storage Humidity	85%RH(non-condensing)				
Withstanding Voltage	Primary-Secondary AC2,000V for 1minute Primary-Frame Ground AC2,000V for 1minute 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				
□ Line Conduction Noise	Not specified				
□ Safety	-				
□ Weight (typical)	410g				
□ MTBF [H]	750,000				
□ Switching Frequency[kHz](typical)	90 Fix.	90 Fix.	90 Fix.	90 Fix.	90 Fix.

Conditions:

\*1 at DC24V and rated output

\*2 measured by a bayonet probe at the output connector at a 0 to 100MHz bandwidth

\*3 at 0 to +50°C

\*4 for 7hours from 1hour after switch-on at 25°C and rated input/output

\*5 when output current changed from 25% to 75% of rated output current rapidly at DC24V input

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HIGH QUALITY SWITCHING POWER SUPPLIES

Specifications	Model				
	SVB05SC48	SVB12SC48	SVB15SC48	SVB24SC48	SVB48SC48
<b>SVB**SC48</b> (50WATTS/1 OUTPUT)					
<b>Output Characteristic</b>					
Output Voltage [V]	5	12	15	24	48
Output Current [A]	10.0	4.3	3.4	2.5	1.1
Voltage Adjust Range	+/-10% of Rated Output Voltage(at no load within input range)				
Ripple and Noise[mVp-p](maximum) *2	150	220	250	340	580
Regulation					
Statistic Line Regulation [mV](maximum)	40	96	120	192	384
Statistic Load Regulation [mV](maximum)	45	108	135	216	432
Temperature Coefficient *4	0.03%/ °C				
Drift[mV](maximum) *5	40	75	90	135	255
Dynamic Load Regulation [mV](typical) *6	150	360	450	720	1440
Recovery Time *6	0.3mS(typical)				
Rise up time	50mS(maximum) at 25°Cand rated input/output				
Hold up time	Not specified				
<b>Functions</b>					
Over current Protection	Current Limiting with automatic recovery				
≥110% of Rated Output [A]	11.00	4.73	3.74	2.75	1.21
Over voltage Protection	Output shutdown(to reset, leave 1minute after shutdown)				
≥110% of Rated Output [V]	5.50	13.2	16.5	26.4	52.8
Remote Sense	not available				
Remote On/Off	not available				
Reverse Voltage Protection	by internal fuse				
<b>Environmental</b>					
Operating Temperature	0 to +50°C				
Operating Humidity	85%RH(non-condensing)				
Storage Temperature	-20 to +85°C				
Storage Humidity	85%RH(non-condensing)				
Withstanding Voltage	Primary-Secondary AC2,000Vfor 1minute				
	Primary-Frame Ground AC2,000V for 1minute				
	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				
□ Line Conduction Noise	Not specified				

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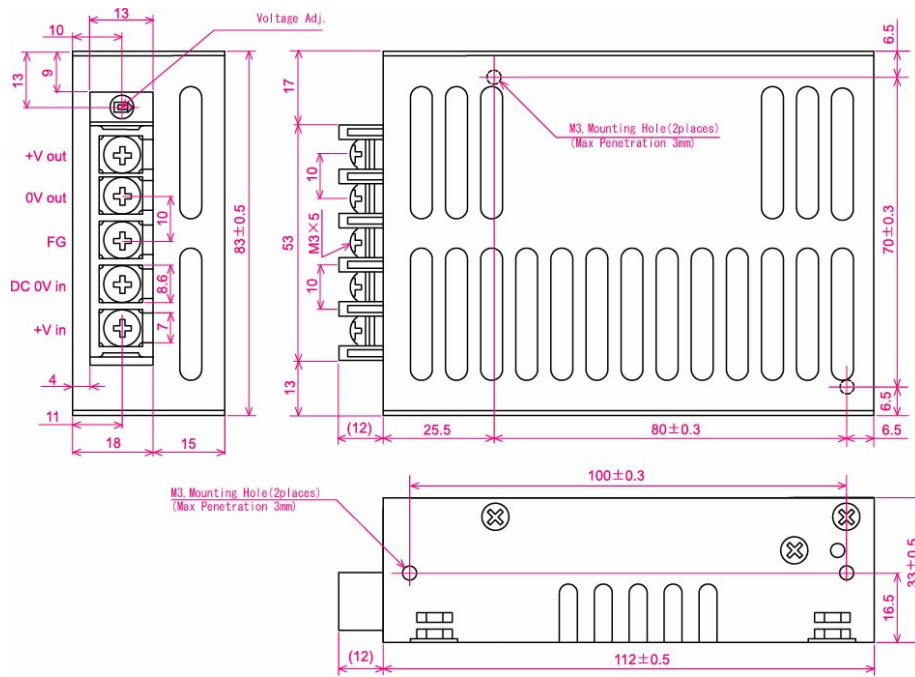
HIGH QUALITY SWITCHING POWER SUPPLIES

□ Safety	-				
Weight (typical)	410g				
□ MTBF [H]	750,000				
□ Switching Frequency[kHz](typical)	90 Fix.	90 Fix.	90 Fix.	90 Fix.	90 Fix.

Conditions:

- \*1 at DC48V and rated output
- \*2 measured by a bayonet probe at the output connector at a 0 to 100MHz bandwidth
- \*3 at 0 to +50°C
- \*4 for 7hours from 1hour after switch-on at 25°C and rated input/output
- \*5 when output current changed from 25% to 75% of rated output current rapidly at DC48V input

## Dimension (mm)



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