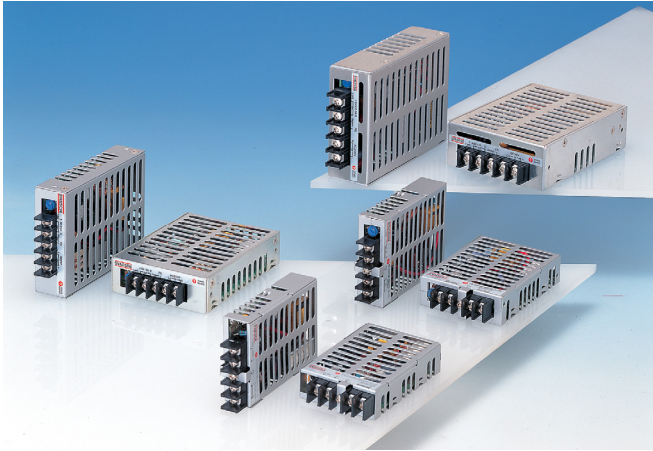


# 50 WATT AC-DC CONVERTER SVB-SB SERIES



The SV-series has been developed to follow ETA's philosophy of "Miniaturization and high efficiency" of power supplies. There are two inputs available: SVB..-SA is designed for 100VAC; SVB-..SB is usable with 200VAC. The small size and high efficiency are suitable for many applications, especially small equipment.

## Application

Industrial

## Input

**Input Voltage:** AC170~264V

**Efficiency:** 77%

## 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**

## Options

| Specifications<AC/DC>       | Model                   |         |         |         |         |
|-----------------------------|-------------------------|---------|---------|---------|---------|
| SVB**SB<br>50WATTS/SINGLE   | SVB05SB                 | SVB12SB | SVB15SB | SVB24SB | SVB48SB |
| <b>Input Characteristic</b> |                         |         |         |         |         |
| Input Voltage               | AC200V                  |         |         |         |         |
| Input Range                 | AC 170-264V(DC220-350V) |         |         |         |         |
| Input Frequency             | 50/60Hz                 |         |         |         |         |
| Input Frequency Range       | 47-440Hz                |         |         |         |         |
| Phase                       | Single                  |         |         |         |         |
| Inrush Current *1           | 30A(maximum)at AC200V   |         |         |         |         |

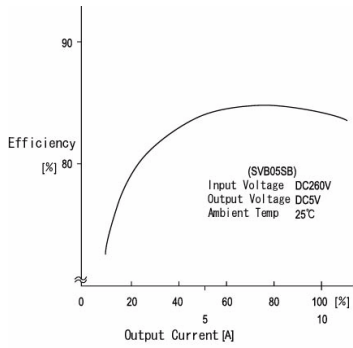


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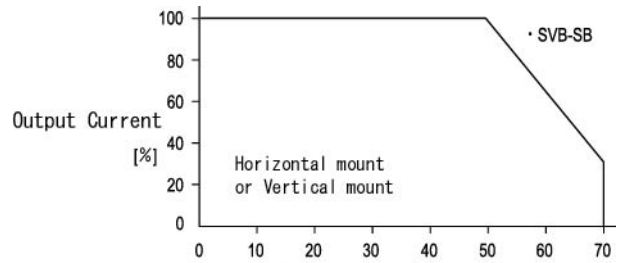
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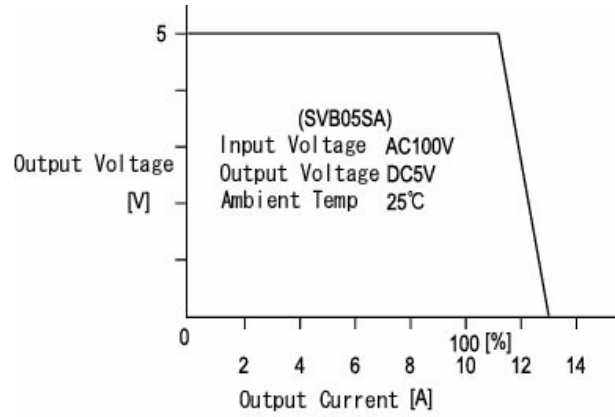
**Efficiency Curve**



**Derating Curve**



**OCP Curve**



| <b>SVB**SB Specification</b>                                |   |         |         |         |         |
|---|---|---------|---------|---------|---------|
| Specifications<AC/DC>                                       | Model   |         |         |         |         |
| SVB**SB<br>50WATTS/SINGLE                                   | SVB05SB   | SVB12SB | SVB15SB | SVB24SB | SVB48SB |
| <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 the input range)  |         |         |         |         |
| Ripple and Noise [mVp-p](maximum) *3                        | 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 *4                                | 0.03%/°C  |         |         |         |         |
| d.Drift[mV](maximum) *5                                     | 40  | 75      | 90      | 135     | 255     |
| e.Dynamic Load Regulation [mV](typical) *6                  | 150   | 360     | 450     | 720     | 1440    |
| f.Recovery Time *6  | 0.3mS(typical)  |         |         |         |         |
| Rise up time  | 500mS(maximum) at 25°C and rated input/output   |         |         |         |         |
| Hold up time  | 20mS(minimum) at 25°C and rated input/output  |         |         |         |         |
| <b>Functions</b>  |   |         |         |         |         |
| Overcurrent Protection<br>≥ 110% of Rated Output Current[A] | Current Limiting with automatic recovery  |         |         |         |         |
|   | 11.0  | 4.73    | 3.74    | 2.75    | 1.21    |
| Overvoltage Protection<br>≥ 110% of Rated Output Voltage[V] | output shutdown(to reset,leave 1minute after shut-off)  |         |         |         |         |
|   | 5.50  | 13.2    | 16.5    | 26.4    | 52.8    |
| Remote Sense  | not available   |         |         |         |         |
| Remote On/Off   | not available   |         |         |         |         |
| <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 AC2,500V for 1minute  |         |         |         |         |
|   | Primary-Frame Ground AC2,500V for 1minute   |         |         |         |         |
|   | Secondary-Frame Ground AC500V for 1minute   |         |         |         |         |
| Isolation Resistance  | Primary-Secondary-Frame Ground 50MΩ(minimum) by DC500V insulation   |         |         |         |         |
| 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  |         |         |         |         |
| ? Leakage Current   | 1mA(maximum) at 25°C ,rated input/output and rated input frequency  |         |         |         |         |
| ? Safety  |   |         |         |         |         |
| ? Weight (typical)  | 280g  |         |         |         |         |
| ? MTBF [H]  | 620,000   |         |         |         |         |
| ? Switching Frequency[kHz](typical)                         | 130   |         |         |         |         |

Conditions:

\*1 at cold start

\*2 at DC260V input and rated output

\*3 measured by a bayonet probe at output connector at 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 from 25% to 75% of rated output current rapidly at AC200V input



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