

# 25 WATT AC-DC CONVERTER VTA-SB SERIES



## General Description

VT is the basic series of switching power supplies manufactured by ETA Electric Industry. 188 different models are available. Output power ranges from 10W to 600W. 50 models have dual outputs; 33 models are designed with triple outputs. Input selectable ("SZ") models conform to local power conditions.

## Features

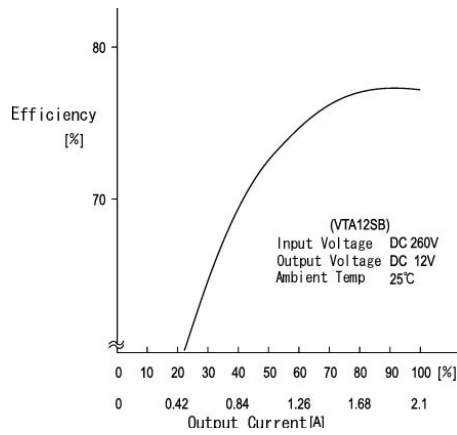
1. High reliability
2. High efficiency
3. Inrush-current protection built in

## Options

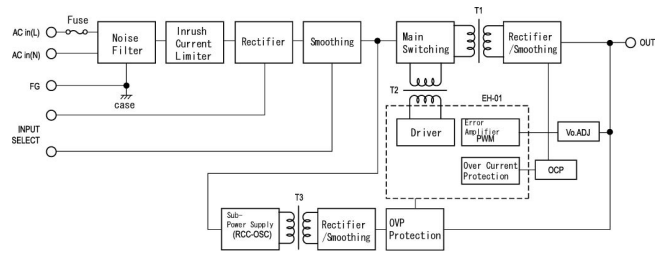
Terminal cover (ordered separately)

| Specifications<AC/DC>                    | Model                              |         |         |         |            |
|--|------------------------------------|---------|---------|---------|------------|
|  | VTA05SB                            | VTA12SB | VTA15SB | VTA24SB | VTA48SB    |
| <b>VTA**SB<br/>25WATTS/SINGLE OUTPUT</b> |                                    |         |         |         |            |
| <b>Input Characteristic</b>              |                                    |         |         |         |            |
| Input Voltage                            | AC200V(DC260V)                     |         |         |         |            |
| Input Range                              | AC180-264V(DC220-350V)             |         |         |         | AC170-264V |
| Input Frequency                          | 50/60Hz                            |         |         |         |            |
| Input Frequency Range                    | 47-440Hz                           |         |         |         |            |
| Phase                                    | Single                             |         |         |         |            |
| Inrush Current *1                        | 20A(maximum) at rated input/output |         |         |         |            |
| Efficiency [%] (typical) *2              | 76                                 | 78      | 80      | 80      | 80         |

### Efficiency Curve



### Block Diagram Curve



**SVB\*\*SB Specification**

| Specifications<AC/DC>                      | Model   |         |         |         |             |
|--|---|---------|---------|---------|-------------|
| VTA**SB<br>25WATTS/SINGLE OUTPUT           | VTA05SB   | VTA12SB | VTA15SB | VTA24SB | VTA48SB     |
| <b>Output Characteristic</b>               |   |         |         |         |             |
| Output Voltage [V]                         | 5   | 12      | 15      | 24      | 48          |
| Output Current [A]                         | 5.0   | 2.1     | 1.7     | 1.10    | 0.5         |
| Voltage Adjust Range                       | +/-10% of Rated Output Voltage(at no load within input range)   |         |         |         |             |
| Ripple and Noise [mVp-p](maximum) *3       | 100   | 170     | 200     | 290     | 530         |
| <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                  | 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                         | 0.5mS(typical)  |         |         |         |             |
| Rise up time                               | 100mS(maximum) at 25°C and rated input/output   |         |         |         | mS(maximum) |
| Hold up time                               | 20mS(minimum) at 25°C and rated input/output  |         |         |         |             |
| <b>Functions</b>                           |   |         |         |         |             |
| Overcurrent Protection                     | Current Limiting with automatic recovery  |         |         |         |             |
| Overvoltage Protection                     | output shutdown   |         |         |         |             |
| 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                           | 30 to 85% RH(non-condensing)  |         |         |         |             |
| Withstanding Voltage                       | Primary-Secondary AC2,500Vfor 1minute   |         |         |         |             |
|  | Primary-Frame Ground AC2,500V for 1minute   |         |         |         |             |
|  | Secondary-Frame Ground AC500V for 1minute   |         |         |         |             |
| Isolation Resistance                       | Primary-Secondary-Frame Ground 50MΩ(minimum) by DC500V  |         |         |         |             |
| 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                          | 1.0mA(maximum)  |         |         |         |             |
| ? Line Conduction Noise                    | Not specified   |         |         |         |             |
| ? Safety                                   | -   |         |         |         |             |
| ? Weight (typical)                         | 350g  |         |         |         |             |
| ? MTBF [H]                                 | 820,000   |         |         |         |             |
| ? Switching Frequency[kHz](typical)        | 63  |         |         |         |             |

**Conditions:**

- \*1 at cold start
- \*2 at DC260V and rated 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 from 25% to 75% of rated output current rapidly at AC200V in