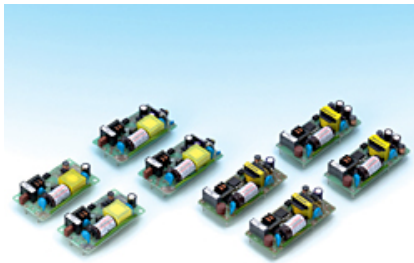




# ETA-USA

## HIGH QUALITY SWITCHING POWER SUPPLIES

AC/DC SWITCHING POWER SUPPLY  
AC INPUT 85~264  
SINGLE CHANNEL OUTPUT  
10 WATTS

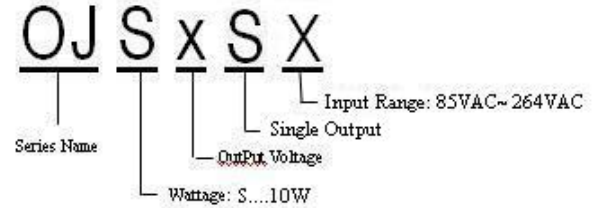


Dimension: W36×L78×H22mm



# OJS-SX SERIES

### General Description



### Input

|                        |  |
|------------------------|--|
| Input Voltage:         | AC100-240V(DC130-320V)   |
| Input Range:           | AC85-264V(DC110-370V)  |
| Input Current:         | 0.3-0.13A [FOR OJS3.3SX: 0.22-0.08A]   |
| Frequency:             | 50/60Hz  |
| Input Frequency Range: | 47-440Hz   |
| Phase:                 | Single   |
| Inrush Current: *1     | 20A(typical) at AC100V/48A(typical) at AC240V  |
| Leakage Current:       | 40uA(typical) at Ta=25C, 50Hz and AC100Vin 50Hz(measured by Yokogawa type-3226 1K Ohm/0.1uF) |

| Output Characteristic                | Unit | Models                                       |         |         |         |         |
|--------------------------------------|------|--|---------|---------|---------|---------|
|                                      |      | OJS3.3SX                                     | OJS05SX | OJS12SX | OJS15SX | OJS24SX |
| Output Voltage                       | Vdc  | 3.3  | 5       | 12      | 15      | 24      |
| Output Current                       | A    | 2  | 2       | 0.9     | 0.7     | 0.45    |
| Voltage Tolerance                    | Vmax | ±0.08  | ±0.1    | ±0.24   | ±0.3    | ±0.48   |
| Voltage Adjust Range                 | V    | N/A  |         |         |         |         |
| Ripple & Noise(max)*3                | mVpp | 100  | 150     | 200     | 250     | 340     |
| Rise time                            | mS   | 200mS(maximum) at 25C and rated input/output |         |         |         |         |
| Hold up time                         | mS   | 20mS(typical) at 25C                         |         |         |         |         |
| <b>Regulation</b>                    |      |  |         |         |         |         |
| a. Static Line Regulation            | mV   | 26   | 40      | 96      | 120     | 192     |
| b. Static Load Regulation            | mV   | 30   | 45      | 108     | 135     | 216     |
| c. Temperature Coefficient *4        | °C   | 0.03%/C(maximum)                             |         |         |         |         |
| e. Drift(maximum) *5                 | mV   | 32   | 40      | 75      | 90      | 135     |
| f. Dynamic Load Regulation (typ.) *6 | mV   | ±150   | ±150    | ±360    | ±450    | ±720    |
| g. Recovery Time *6                  | mS   | 20mS(typical)                                |         |         |         |         |

|                      |          |           |           |           |           |           |
|----------------------|----------|-----------|-----------|-----------|-----------|-----------|
| <b>Efficiency *2</b> | <b>%</b> | <b>70</b> | <b>75</b> | <b>75</b> | <b>76</b> | <b>78</b> |
|----------------------|----------|-----------|-----------|-----------|-----------|-----------|

### Conditions:

- \*1 cold start
- \*2 at DC130V input, rated output and 25C
- \*3 measured by a bayonet probe at the output connector at a 0 to 100MHz bandwidth
- \*4 at -20 to +71C
- \*5 only for 7hours from 1hour after switch-on at 25C and rated input/output
- \*6 when output current changed rapidly between 25% and 75% of rated current at rated input
- \*7 at AC100V input, 70% of rated output current(only for OJS3.3SX at rated input/output)



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# ETA-USA

## HIGH QUALITY SWITCHING POWER SUPPLIES

| Environmental Specification |   |
|-----------------------------|---|
| Operating Temperature       | -10 to +50°C at full load -10 to +71°C (refer to derating curve)  |
| Operating Humidity          | 20-90%/RH(non-condensing)   |
| Storage Temperature         | -20 to +85C   |
| Withstanding Voltage        | Primary-Secondary AC3,000V for 1minute at 10mA<br>Primary-Frame Ground AC2,500V for 1minute at 10mA<br>Secondary-Frame Ground AC1000V for 1minute at 10mA |
| Isolation Resistance        | Primary-Secondary-Frame Ground 50MOhm(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                       | 196m/s <sup>2</sup>   |
| Cooling                     | Convection  |
| Environmental Agencies      |   |
| Line Conducted Noise        | Built to meet FCC Part15-A Class A<br>Built to meet VCCI Class B  |
| Safety                      | UL : UL60950 C-UL : CSA C22.2 No. 60950   |
| MTBF [H]                    | 1065000   |
| Frequency[kHz](Typ.)        | 76.7-371kHz(load 0 to 100%,input AC85 to 264V),<br>90/150kHz at rated input/output  |
| Function/Protection         |   |
| Over current Protection *7  | Foldback/Current Limiting with automatic recovery   |
| Over voltage Protection     | Zener diode clamping( need to repair after it tripped)  |
| Remote Sense                | not available   |
| Trimming of output voltage  | not available   |
| Mechanical                  |   |
| Dimension [mm]              | <b>Dimension: W36×L78×H22mm</b>   |
| Weight [g](typical)         | open board type:35g   |

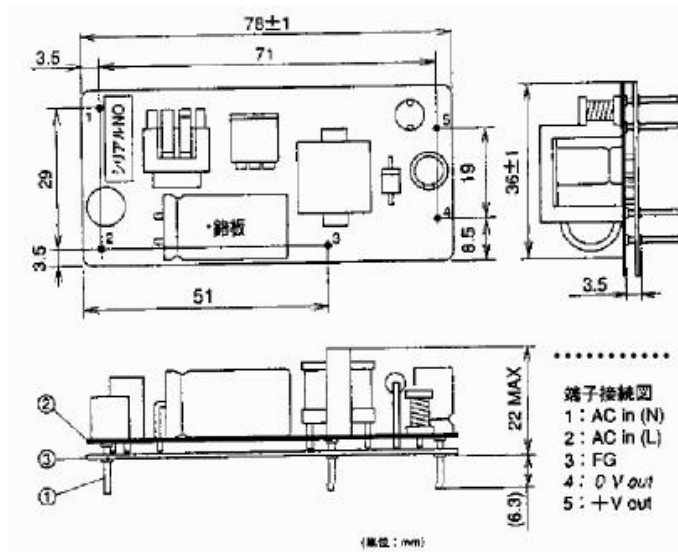
## DIMENSION DIAGRAM (mm)



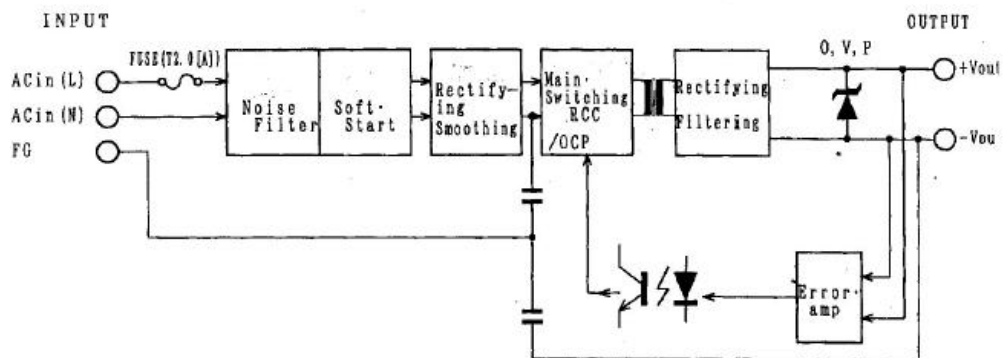


# ETA-USA

## HIGH QUALITY SWITCHING POWER SUPPLIES



### BLOCK DIAGRAM





# ETA-USA

## HIGH QUALITY SWITCHING POWER SUPPLIES

### DERATING CURVE

### OCP CURVE

### EFFICIENCY CURVE

