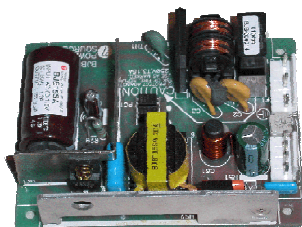




# ETA-USA

## HIGH QUALITY SWITCHING POWER SUPPLIES

**AC/DC SWITCHING POWER SUPPLY**  
**AC INPUT 85~132V**  
**SINGLE CHANNEL OUTPUT**  
**50 WATTS**



**DIMENSION: 70Wx93Lx26H**

## BJB-SA-U SERIES

### General Description

"BJ"-Series AC/DC Switching power supplies low cost and module-type was developed to meet the broad needs by making the dimensions amazingly small. The dimension of this series are about 40%(BJS 10W) and 33%(BJB 50 W) respectively smaller than those of the current products of our company.

### Features

1. Ultra small size
2. Advanced conversion technology, C&K converter adopted (BJB 50W)
3. High efficiency, ex. BJB05SA 85%
4. Low cost
5. Versatile output arrangement(Model 10 type, BJB)
6. BJS-FWA: Isolated type
7. EMI designed to FCC part 15-B Class-B, VCCI Class-B
8. Safety: BJS: UL1950, C-UL(CSA950)  
BJB: UL60950, C-UL(CSA60950)

### Options:

Wire Harness

| Application                   |                        |
|-------------------------------|------------------------|
| Broad needs                   |                        |
| Input                         |                        |
| <b>Input Voltage:</b>         | AC100-115V             |
| <b>Input Voltage Range:</b>   | AC85~132V (DC 110-175) |
| <b>Frequency:</b>             | 50/60Hz                |
| <b>Input Frequency Range:</b> | 47-440Hz               |
| <b>Phase:</b>                 | Single                 |
| <b>Inrush Current: *1</b>     | 30A(Typ.) at AC100V    |

| Output Characteristic         |      | Models                                                                   |           |           |           |           |           |           |           |           |           |
|-------------------------------|------|--------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                               | Unit | BJB3.3SA-U                                                               | BJB05SA-U | BJB06SA-U | BJB09SA-U | BJB12SA-U | BJB15SA-U | BJB24SA-U | BJB30SA-U | BJB36SA-U | BJB48SA-U |
| Output Voltage                | Vdc  | 3.3                                                                      | 5         | 6         | 9         | 12        | 15        | 24        | 30        | 36        | 48        |
| Output Current                | A    | 10                                                                       | 10        | 8.4       | 5.6       | 4.3       | 3.5       | 2.2       | 1.7       | 1.4       | 1.1       |
| Voltage Adjust Range          | V    | +/- 10% of Rated Output Voltage(at no load within the input range)       |           |           |           |           |           |           |           |           |           |
| Ripple Noise(max)*3           | mVpp | 180                                                                      | 150       | 160       | 180       | 180       | 180       | 180       | 200       | 300       | 400       |
| Rise up time                  | mS   | 500mS(maximum)AC115V/200mS(maximum)AC230V at 25°C and rated input/output |           |           |           |           |           |           |           |           |           |
| Hold up time                  | mS   | 20mS(minimum) at 25°C and rated input/output                             |           |           |           |           |           |           |           |           |           |
| Regulation                    |      |                                                                          |           |           |           |           |           |           |           |           |           |
| a. Line Regulation            | mV   | 26.4                                                                     | 40        | 48        | 72        | 96        | 120       | 192       | 240       | 288       | 384       |
| b. Load Regulation            | mV   | 29.7                                                                     | 45        | 54        | 81        | 108       | 135       | 216       | 270       | 324       | 432       |
| c. Temperature Coefficient *4 | °C   | 0.03%/°C                                                                 |           |           |           |           |           |           |           |           |           |
| d. Drift(maximum) *5          | mV   | 31.5                                                                     | 40        | 45        | 60        | 75        | 90        | 135       | 165       | 195       | 255       |
| f. Recovery Time              | mS   | 20 [mS] Typ.                                                             |           |           |           |           |           |           |           |           |           |

| Efficiency *2 | % | 82 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
|---------------|---|----|----|----|----|----|----|----|----|----|----|
|---------------|---|----|----|----|----|----|----|----|----|----|----|

Conditions:

\*1 at cold start

\*2 at DC130V input and rated output

\*3 measured by a bayonet probe at 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



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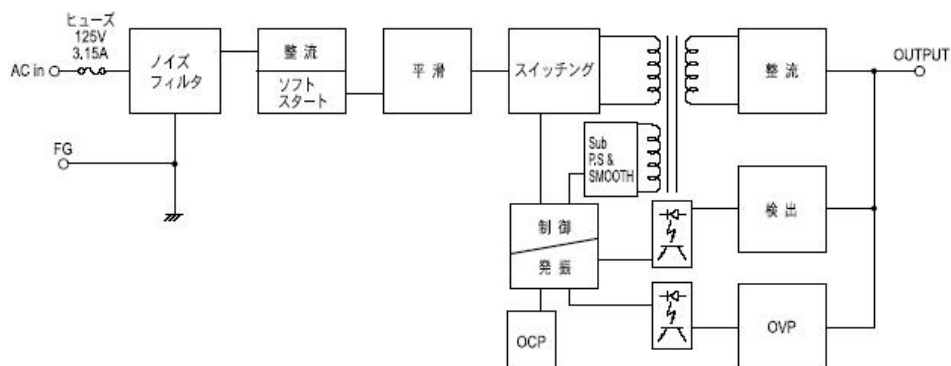


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## HIGH QUALITY SWITCHING POWER SUPPLIES

| Environmental Specification |                                                                                                                                  |        |        |        |        |        |        |        |        |        |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Operating Temperature       | -10 to +50℃                                                                                                                      |        |        |        |        |        |        |        |        |        |
| Operating Humidity          | 20 to 90%RH(non-condensing)                                                                                                      |        |        |        |        |        |        |        |        |        |
| Storage Temperature         | -20 to +75℃                                                                                                                      |        |        |        |        |        |        |        |        |        |
| Storage Humidity            | 10 to 90%RH(non-condensing)                                                                                                      |        |        |        |        |        |        |        |        |        |
| Withstanding Voltage        | Primary-Secondary AC2,000V for 1minute<br>Primary-Frame Ground AC2,000V for 1minute<br>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/s2,20minutes' period for 60minutes each along X,Y,Z axes(non-operating)               |        |        |        |        |        |        |        |        |        |
| Shock                       | 196m/s2                                                                                                                          |        |        |        |        |        |        |        |        |        |
| Cooling                     | Convection                                                                                                                       |        |        |        |        |        |        |        |        |        |
| Environmental Agencies      |                                                                                                                                  |        |        |        |        |        |        |        |        |        |
| Leakage Current             | 0.75 mA(max.)                                                                                                                    |        |        |        |        |        |        |        |        |        |
| Line Conducted Noise        | Built to meet FCC Part15-B Class B<br>Built to meet VCCI Class B                                                                 |        |        |        |        |        |        |        |        |        |
| Safety                      | UL : UL60950<br>C-UL : CSA C22.2 No.60950                                                                                        |        |        |        |        |        |        |        |        |        |
| MTBF [H]                    | 540000                                                                                                                           | 544000 | 544000 | 544000 | 544000 | 608000 | 608000 | 591000 | 604000 | 615000 |
| Switching Frequency[kHz]    | 93                                                                                                                               |        |        |        |        |        |        |        |        |        |
| Function/Protection         |                                                                                                                                  |        |        |        |        |        |        |        |        |        |
| Over current Protection     | Hiccup mode/Automatic recovery (≥105% of Rated Output Current[A])                                                                |        |        |        |        |        |        |        |        |        |
| Over voltage Protection     | Output shutdown(≥115% of Rated Output Current[A])                                                                                |        |        |        |        |        |        |        |        |        |
| Remote Sense                | available                                                                                                                        |        |        |        |        |        |        |        |        |        |
| Mechanical                  |                                                                                                                                  |        |        |        |        |        |        |        |        |        |
| Dimension [mm]              | 70W×93L×26H                                                                                                                      |        |        |        |        |        |        |        |        |        |
| Weight                      | 130g                                                                                                                             |        |        |        |        |        |        |        |        |        |

## Block Diagram



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