

## KEY FEATURES

- Switching Power Module for PCB Mountable
- Fully Encapsulated Plastic Case
- Universal Input Range 90-264VAC, 47-440 Hz
- Single and Dual Output
- Low Ripple and Noise
- Isolation Class II
- Maximum No-Load Watts < 0.3W
- CE, CB and UL Approval
- 3-Year Product Warranty



## ELECTRICAL SPECIFICATIONS

All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

| Model No. ( Single Output ) |                                     | AOC-33S                                                               | AOC-5S | AOC-8S | AOC-9S | AOC-12S | AOC-14S | AOC-15S | AOC-24S |
|-----------------------------|-------------------------------------|-----------------------------------------------------------------------|--------|--------|--------|---------|---------|---------|---------|
| Max Output Wattage (W)      |                                     | 3.96W                                                                 | 4W     | 4W     | 4W     | 4W      | 4W      | 4W      | 4W      |
| Input                       | Voltage                             | 90-264 VAC or 120-370 VDC                                             |        |        |        |         |         |         |         |
|                             | Frequency (Hz)                      | 47-440 Hz                                                             |        |        |        |         |         |         |         |
|                             | Current (Full load)                 | 110 mA max. (115 VAC) / 70 mA max. (230 VAC)                          |        |        |        |         |         |         |         |
|                             | Inrush Current (<500us)             | 15 A max. (115 VAC) / 25 A max. (230 VAC)                             |        |        |        |         |         |         |         |
|                             | Leakage Current                     | 0.25 mA max.                                                          |        |        |        |         |         |         |         |
|                             | External Fuse (recommend)           | 3.15 A slow blow type                                                 |        |        |        |         |         |         |         |
| Output                      | Voltage (V.DC.)                     | 3.3V                                                                  | 5V     | 8V     | 9V     | 12V     | 14V     | 15V     | 24V     |
|                             | Voltage Accuracy                    | ±2%                                                                   |        |        |        |         |         |         |         |
|                             | Current (mA) max                    | 1200                                                                  | 800    | 500    | 444    | 333     | 286     | 267     | 167     |
|                             | Line Regulation (LL-HL) (typ.)      | ±0.2%                                                                 |        |        |        |         |         |         |         |
|                             | Load Regulation (0-100%) (typ.)     | ±1%                                                                   |        |        |        |         | ±0.5%   |         |         |
|                             | Minimum Load                        | 0%                                                                    |        |        |        |         |         |         |         |
|                             | Maximum Capacitive Load (at 230VAC) | 14000uF                                                               | 8000uF | 2700uF | 2400uF | 1000uF  | 750uF   | 700uF   | 220uF   |
|                             | Ripple & Noise (Vp-p) max           | <250mV                                                                |        |        | <200mV |         | <150mV  |         | <100mV  |
|                             | Efficiency                          | 68%                                                                   | 72%    | 74%    | 75%    | 76%     | 76%     | 76%     | 77%     |
|                             | Hold-up Time                        | 15 ms min.                                                            |        |        |        |         |         |         |         |
| Protection                  | Over Power Protection               | Hiccup technique, auto-recovery                                       |        |        |        |         |         |         |         |
|                             | Short Circuit Protection            | Hiccup mode (automatic recovery)                                      |        |        |        |         |         |         |         |
| Isolation                   | Input-Output (V.AC)                 | 3000V                                                                 |        |        |        |         |         |         |         |
| Environment                 | Operating Temperature (Note 4)      | -40°C...+70°C ( with derating )                                       |        |        |        |         |         |         |         |
|                             | Storage Temperature                 | -40°C...+85°C                                                         |        |        |        |         |         |         |         |
|                             | Temperature Coefficient             | ±0.02%/°C                                                             |        |        |        |         |         |         |         |
|                             | Humidity                            | 95% RH                                                                |        |        |        |         |         |         |         |
|                             | MTBF                                | >450,000 h @ 25°C (MIL-HDBK-217F)                                     |        |        |        |         |         |         |         |
| Physical                    | Dimensions (L x W x H)              | 1.46 x 1.08 x 0.69 Inches ( 37.0 x 27.5 x 17.5 mm ) Tolerance ±0.5 mm |        |        |        |         |         |         |         |
|                             | Case Material                       | Plastic resin (flammability to UL 94V-0)                              |        |        |        |         |         |         |         |
|                             | Weight                              | 26 g                                                                  |        |        |        |         |         |         |         |
|                             | Cooling Method                      | Free air convection                                                   |        |        |        |         |         |         |         |
| Safety                      | Agency Approvals                    | IEC / EN 60950, UL / IEC / EN 62368-1                                 |        |        |        |         |         |         |         |
| EMC                         | EMI (Conducted & Radiated Emission) | EN 55032 class B                                                      |        |        |        |         |         |         |         |
|                             | EMS (Noise Immunity)                | EN 55035                                                              |        |        |        |         |         |         |         |

## ELECTRICAL SPECIFICATIONS

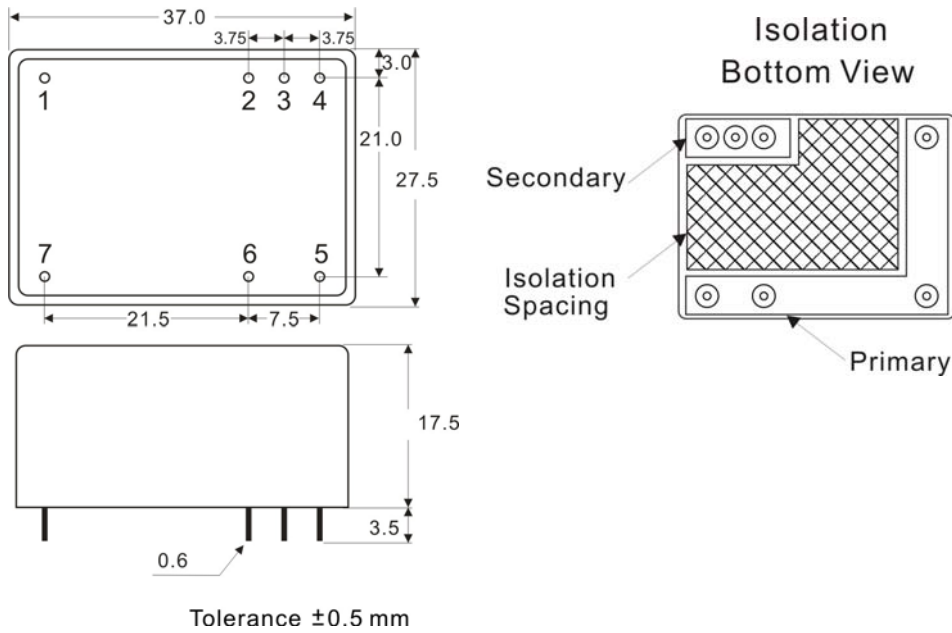
All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

|                                                                                                                  |                                     |                                                                       |                         |                        |
|------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------|-------------------------|------------------------|
| All specifications valid at normal input voltage, full load and 25°C after warm-up time unless otherwise stated. |                                     |                                                                       |                         |                        |
| Model No. ( Dual Output )                                                                                        |                                     | AOC-5S3.3S                                                            | AOC-8S5S                | AOC-12S5S              |
| Max Output Wattage (W)                                                                                           |                                     | 3.5W                                                                  | 3.6W                    | 3.6W                   |
| Input                                                                                                            | Voltage                             | 90-264 VAC or 120-370 VDC                                             |                         |                        |
|                                                                                                                  | Frequency (Hz)                      | 47-440 Hz                                                             |                         |                        |
|                                                                                                                  | Current (Full load)                 | 110 mA max. (115 VAC) / 70 mA max. (230 VAC)                          |                         |                        |
|                                                                                                                  | Inrush Current (<500us)             | 15 A max. (115 VAC) / 25 A max. (230 VAC)                             |                         |                        |
|                                                                                                                  | Leakage Current                     | 0.25 mA max.                                                          |                         |                        |
|                                                                                                                  | External Fuse (recommend)           | 3.15 A slow blow type                                                 |                         |                        |
| Output                                                                                                           | Voltage (V.DC.)                     | Vo : 5V Vr : 3.3V                                                     | Vo : 8V Vr : 5V         | Vo : 12V Vr : 5V       |
|                                                                                                                  | Voltage Accuracy                    | Vo : ±2% Vr : ±5%                                                     |                         |                        |
|                                                                                                                  | Current (mA) max                    | 600 / 150                                                             | 375 / 120               | 250 / 120              |
|                                                                                                                  | Line Regulation (LL-HL) (typ.)      | Vo : ±0.2% Vr : ±3%                                                   |                         |                        |
|                                                                                                                  | Load Regulation (25-100%) (typ.)    | Vo : ±0.5% Vr : ±5%                                                   |                         |                        |
|                                                                                                                  | Minimum Load                        | 25%                                                                   |                         |                        |
|                                                                                                                  | Maximum Capacitive Load (at 230VAC) | Vo : 5600uF Vr : 4700uF                                               | Vo : 1000uF Vr : 4700uF | Vo : 330uF Vr : 4700uF |
|                                                                                                                  | Ripple & Noise (Vp-p) max           | <200mV                                                                | <150mV                  | <100mV                 |
|                                                                                                                  | Efficiency                          | 72%                                                                   | 74%                     | 75%                    |
|                                                                                                                  | Hold-up Time                        | 15 ms min.                                                            |                         |                        |
| Protection                                                                                                       | Over Power Protection               | Hiccup technique, auto-recovery                                       |                         |                        |
|                                                                                                                  | Short Circuit Protection            | Hiccup mode (automatic recovery)                                      |                         |                        |
| Isolation                                                                                                        | Input-Output (V.AC)                 | 3000V                                                                 |                         |                        |
| Environment                                                                                                      | Operating Temperature (Note 4)      | -40°C...+70°C ( with derating )                                       |                         |                        |
|                                                                                                                  | Storage Temperature                 | -40°C...+85°C                                                         |                         |                        |
|                                                                                                                  | Temperature Coefficient             | ±0.02%/°C                                                             |                         |                        |
|                                                                                                                  | Humidity                            | 95% RH                                                                |                         |                        |
|                                                                                                                  | MTBF                                | >450,000 h @ 25°C (MIL-HDBK-217F)                                     |                         |                        |
| Physical                                                                                                         | Dimensions (L x W x H)              | 1.46 x 1.08 x 0.69 Inches ( 37.0 x 27.5 x 17.5 mm ) Tolerance ±0.5 mm |                         |                        |
|                                                                                                                  | Case Material                       | Plastic resin (flammability to UL 94V-0)                              |                         |                        |
|                                                                                                                  | Weight                              | 26 g                                                                  |                         |                        |
|                                                                                                                  | Cooling Method                      | Free air convection                                                   |                         |                        |
| Safety                                                                                                           | Agency Approvals                    | IEC / EN 60950, UL / IEC / EN 62368-1                                 |                         |                        |
| EMC                                                                                                              | EMI (Conducted & Radiated Emission) | EN 55032 class B                                                      |                         |                        |
|                                                                                                                  | EMS (Noise Immunity)                | EN 55035                                                              |                         |                        |

## NOTE

1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. It's necessary Varistor 14S471K at L / N input side in parallel.
3. It's necessary 10R / 15φ thermistor at L input side in series connection.
4. Due to varying customer application conditions, the product is tested for maximum operating temperature under full load only. For other regulatory requirements, please contact ARCH.
5. Please refer to our PDF file "AC-DC Application" on our website: [www.archcorp.com.tw](http://www.archcorp.com.tw)

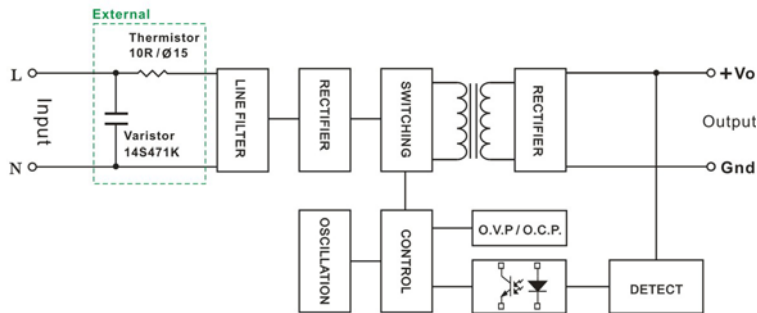
## MECHANICAL DIMENSIONS ( Top View )



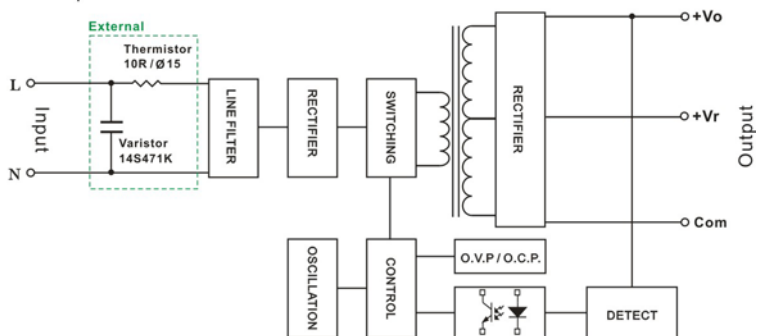
| PIN# | Single    | Dual      |
|------|-----------|-----------|
| 1    | NC        | NC        |
| 2    | +Vo       | +Vo       |
| 3    | GND       | COM       |
| 4    | NC        | +Vr       |
| 5    | AC IN (L) | AC IN (L) |
| 6    | AC IN (N) | AC IN (N) |
| 7    | NC        | NC        |

## BLOCK DIAGRAM

### Single Output



### Dual Output



## DERATING

