

**KEY FEATURES**

- Switching Power Module for PCB Mountable
- Fully Encapsulated Plastic Case
- Universal Input Range 90-264VAC, 47-440 Hz
- Regulated Output
- Low Ripple and Noise
- CE, UL Approval



**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 )               | ATC-3.3S-E1                                   | ATC-5S-E1                                                             | ATC-12S-E1 | ATC-15S-E1 | ATC-24S-E1 |         |
|-------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------|------------|------------|------------|---------|
| Max Output Wattage (W)                    | 10W                                           | 10W                                                                   | 10W        | 10W        | 10W        |         |
| Input                                     | Voltage                                       |                                                                       |            |            |            |         |
|                                           | 90-264 VAC or 120-370 VDC                     |                                                                       |            |            |            |         |
|                                           | Frequency (Hz)                                |                                                                       |            |            |            |         |
|                                           | 47-440 Hz                                     |                                                                       |            |            |            |         |
|                                           | Current (Full load)                           |                                                                       |            |            |            |         |
|                                           | 200 mA max. (115 VAC) / 130 mA max. (230 VAC) |                                                                       |            |            |            |         |
| Inrush Current (<2ms)                     |                                               |                                                                       |            |            |            |         |
| 23 A max. (115 VAC) / 46 A max. (230 VAC) |                                               |                                                                       |            |            |            |         |
| Leakage Current                           |                                               |                                                                       |            |            |            |         |
| 0.75 mA max.                              |                                               |                                                                       |            |            |            |         |
| External Fuse (recommend)                 |                                               |                                                                       |            |            |            |         |
| 1.5 A slow blow type                      |                                               |                                                                       |            |            |            |         |
| Output                                    | Voltage (V.DC.)                               | 3.3V                                                                  | 5V         | 12V        | 15V        | 24V     |
|                                           | Voltage Accuracy                              | ±2%                                                                   |            |            |            |         |
|                                           | Current (mA) max                              | 3000                                                                  | 2000       | 833        | 666        | 426     |
|                                           | Line Regulation (LL-HL) (typ.)                | ±0.5%                                                                 |            |            |            |         |
|                                           | Load Regulation (5-100%) (typ.)               | ±1%                                                                   |            |            |            |         |
|                                           | Minimum Load                                  | 4%                                                                    | 5%         | 5%         | 3%         | 5%      |
|                                           | Maximum Capacitive Load                       | 70000 uF                                                              | 35000 uF   | 11000 uF   | 7000 uF    | 2300 uF |
|                                           | Ripple                                        | <0.2% Vout +40mV max (Vp-p)                                           |            |            |            |         |
|                                           | Noise                                         | <0.5% Vout +50mV max (Vp-p)                                           |            |            |            |         |
|                                           | Efficiency                                    | 65%                                                                   | 71%        | 76%        | 75%        | 76%     |
|                                           | Hold-up Time                                  | 15 ms min.                                                            |            |            |            |         |
| Protection                                | Over Power Protection                         | Hiccup technique, auto-recovery                                       |            |            |            |         |
|                                           | Over Voltage Protection                       | Zener diode clamp                                                     |            |            |            |         |
|                                           | Short Circuit Protection                      | Hiccup mode, indefinite (automatic recovery)                          |            |            |            |         |
| Isolation                                 | Input-Output (V.AC)                           | 3000V                                                                 |            |            |            |         |
|                                           | Input-FG (V.AC)                               | 1500V                                                                 |            |            |            |         |
|                                           | Output-FG (V.AC)                              | 500V                                                                  |            |            |            |         |
| Environment                               | Operating Temperature                         | -40°C...+70°C (with derating)                                         |            |            |            |         |
|                                           | Storage Temperature                           | -40°C...+85°C                                                         |            |            |            |         |
|                                           | Temperature Coefficient                       | ±0.02%/°C                                                             |            |            |            |         |
|                                           | Humidity                                      | 95% RH                                                                |            |            |            |         |
|                                           | MTBF                                          | >250,000 h @ 25°C (MIL-HDBK-217F)                                     |            |            |            |         |
| Physical                                  | Dimension (L x W x H)                         | 2.53 x 1.78 x 0.85 Inches ( 64.3 x 45.1 x 21.7 mm ) Tolerance ±0.5 mm |            |            |            |         |
|                                           | Case Material                                 | Plastic resin (flammability to UL 94V-0)                              |            |            |            |         |
|                                           | Weight                                        | 92 g                                                                  |            |            |            |         |
|                                           | Cooling Method                                | Free air convection                                                   |            |            |            |         |
| Safety                                    | Agency Approvals                              | UL/cUL, CE                                                            |            |            |            |         |
| EMC                                       | EMI (Conducted & Radiated Emission)           | EN 55022 class B                                                      |            |            |            |         |
|                                           | EMS (Noise Immunity)                          | EN 50082-1                                                            |            |            |            |         |

**ELECTRICAL SPECIFICATIONS**

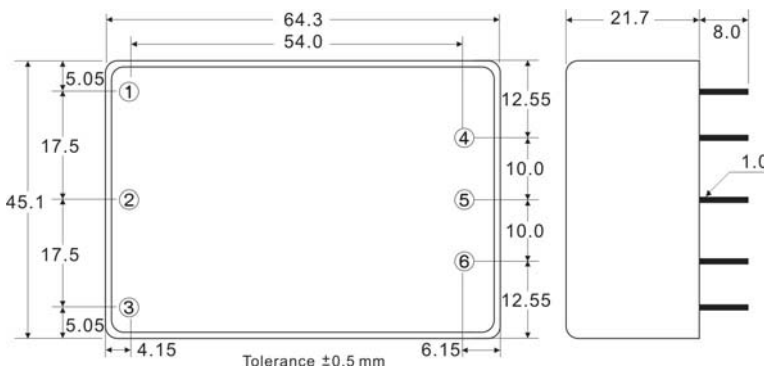
All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

| Model No. ( Dual Output )                 | ATC-5D-E1                                     | ATC-12D-E1                                                            | ATC-15D-E1 |          |
|-------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------|------------|----------|
| Max Output Wattage (W)                    | 8W                                            | 10W                                                                   | 10W        |          |
| Input                                     | Voltage                                       |                                                                       |            |          |
|                                           | 90-264 VAC or 120-370 VDC                     |                                                                       |            |          |
|                                           | Frequency (Hz)                                |                                                                       |            |          |
|                                           | 47-440 Hz                                     |                                                                       |            |          |
|                                           | Current (Full load)                           |                                                                       |            |          |
|                                           | 200 mA max. (115 VAC) / 130 mA max. (230 VAC) |                                                                       |            |          |
| Inrush Current (<2ms)                     |                                               |                                                                       |            |          |
| 23 A max. (115 VAC) / 46 A max. (230 VAC) |                                               |                                                                       |            |          |
| Leakage Current                           |                                               |                                                                       |            |          |
| 0.75 mA max.                              |                                               |                                                                       |            |          |
| External Fuse (recommend)                 |                                               |                                                                       |            |          |
| 1.5 A slow blow type                      |                                               |                                                                       |            |          |
| Output                                    | Voltage (V.DC.)                               | ±5V                                                                   | ±12V       | ±15V     |
|                                           | Voltage Accuracy                              | ±2%                                                                   |            |          |
|                                           | Current (mA) max                              | ±800                                                                  | ±380       | ±300     |
|                                           | Line Regulation (LL-HL) (typ.)                | ±0.5%                                                                 |            |          |
|                                           | Load Regulation (5-100%) (typ.)               | ±1%                                                                   |            |          |
|                                           | Minimum Load                                  | 1%                                                                    | 3%         | 1%       |
|                                           | Maximum Capacitive Load                       | ±22000 uF                                                             | ±3000 uF   | ±2000 uF |
|                                           | Ripple                                        | <0.2% Vout +40mV max (Vp-p)                                           |            |          |
|                                           | Noise                                         | <0.5% Vout +50mV max (Vp-p)                                           |            |          |
|                                           | Efficiency                                    | 73%                                                                   | 75%        | 74%      |
|                                           | Hold-up Time                                  | 15 ms min.                                                            |            |          |
| Protection                                | Over Power Protection                         | Hiccup technique, auto-recovery                                       |            |          |
|                                           | Over Voltage Protection                       | Zener diode clamp                                                     |            |          |
|                                           | Short Circuit Protection                      | Hiccup mode, indefinite (automatic recovery)                          |            |          |
| Isolation                                 | Input-Output (V.AC)                           | 3000V                                                                 |            |          |
|                                           | Input-FG (V.AC)                               | 1500V                                                                 |            |          |
|                                           | Output-FG (V.AC)                              | 500V                                                                  |            |          |
| Environment                               | Operating Temperature                         | -40°C...+70°C (with derating)                                         |            |          |
|                                           | Storage Temperature                           | -40°C...+85°C                                                         |            |          |
|                                           | Temperature Coefficient                       | ±0.02%/°C                                                             |            |          |
|                                           | Humidity                                      | 95% RH                                                                |            |          |
|                                           | MTBF                                          | >250,000 h @ 25°C (MIL-HDBK-217F)                                     |            |          |
| Physical                                  | Dimension (L x W x H)                         | 2.53 x 1.78 x 0.85 Inches ( 64.3 x 45.1 x 21.7 mm ) Tolerance ±0.5 mm |            |          |
|                                           | Case Material                                 | Plastic resin (flammability to UL 94V-0)                              |            |          |
|                                           | Weight                                        | 92 g                                                                  |            |          |
|                                           | Cooling Method                                | Free air convection                                                   |            |          |
| Safety                                    | Agency Approvals                              | UL/cUL, CE                                                            |            |          |
| EMC                                       | EMI (Conducted & Radiated Emission)           | EN 55022 class B                                                      |            |          |
|                                           | EMS (Noise Immunity)                          | EN 50082-1                                                            |            |          |

**NOTE**

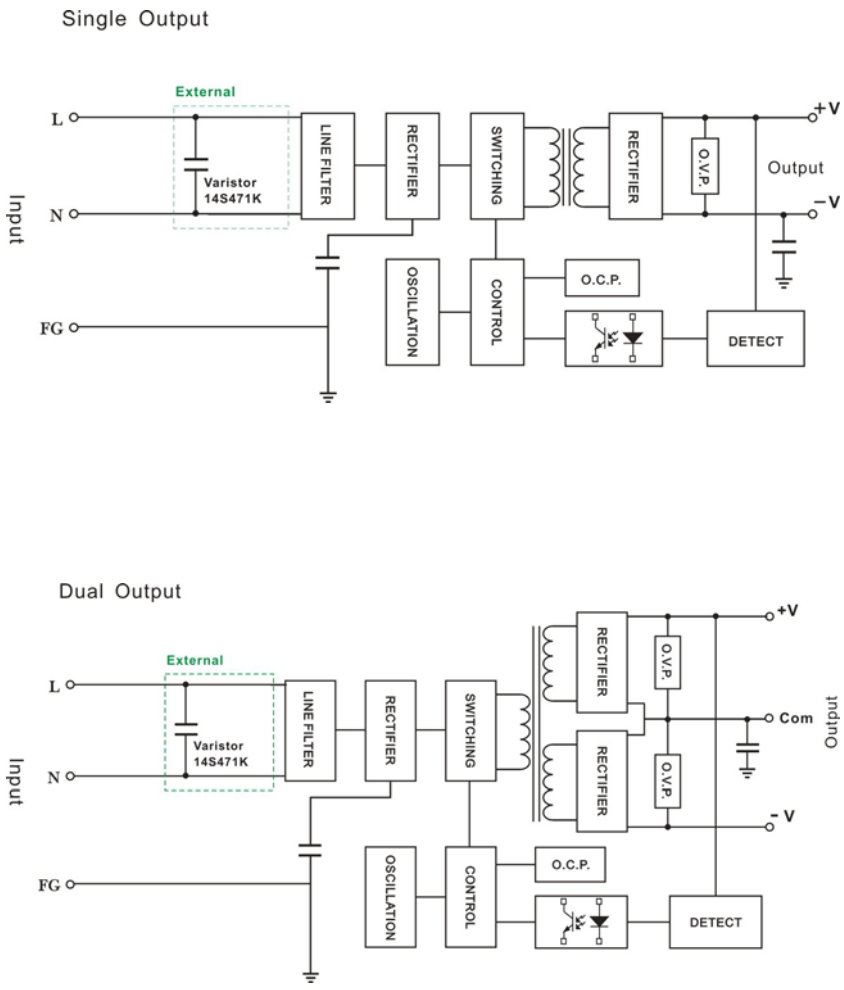
1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. It's recommended to add Varistor 14S471K at L / N input side in parallel.
3. Please refer to our PDF file "AC-DC Application" on our website: [www.archcorp.com.tw](http://www.archcorp.com.tw)

**MECHANICAL DIMENSION ( Top View )**



| PIN# | Single    | Dual      |
|------|-----------|-----------|
| 1    | FG        | FG        |
| 2    | AC IN (N) | AC IN (N) |
| 3    | AC IN (L) | AC IN (L) |
| 4    | -DC OUT   | -DC OUT   |
| 5    | NO PIN    | COMMON    |
| 6    | +DC OUT   | +DC OUT   |

**BLOCK DIAGRAM**



**DERATING**

