

**KEY FEATURES**

- Switching Power Module for PCB Mountable
- Fully Encapsulated Plastic Case
- Universal Input Range 90-305VAC
- High Efficiency up to 89%
- Isolation Class II
- <0.3W No Load Input Power
- Very Small 2.52" x 1.77" x 0.92 " Package
- CE, CB and 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 )               | ATC30-3.3S                        | ATC30-5S  | ATC30-12S                                     | ATC30-15S | ATC30-24S |          |
|---|-----------------------------------|---|---|-----------|-----------|----------|
| Max Output Wattage (W)                    | 16.5W                             | 25W   | 30W   | 30W       | 30W       |          |
| Input                                     | Voltage (Note1)                   |   | 90-305 VAC or 120-430 VDC                     |           |           |          |
|   | Frequency (Hz)                    |   | 47-63 Hz                                      |           |           |          |
|   | Current (Full load)               |   | 600 mA max. (115 VAC) / 400 mA max. (230 VAC) |           |           |          |
|   | Inrush Current (<2ms)             |   | 30 A max. (115 VAC) / 60 A max. (230 VAC)     |           |           |          |
|   | Leakage Current                   |   | 0.25 mA max.                                  |           |           |          |
|   | No Load Input Power (<240 VAC)    |   | <0.3W   |           |           |          |
|   | External Fuse (mandatory)         |   | 3.15 A slow blow type                         |           |           |          |
| Output                                    | Voltage (V.DC.)                   | 3.3V  | 5V  | 12V       | 15V       | 24V      |
|   | Voltage Accuracy                  | ±2%   |   |           |           |          |
|   | Current (mA) max                  | 5000  | 5000  | 2500      | 2000      | 1250     |
|   | Line Regulation (LL-HL) (typ.)    | ±0.5%   |   |           |           |          |
|   | Load Regulation (0-100%) (typ.)   | ±1.5%   | ±1%   |           |           |          |
|   | Minimum Load                      | 0%  |   |           |           |          |
|   | Maximum Capacitive Load           | 6800 uF   | 6800 uF                                       | 1600 uF   | 1200 uF   | 470 uF   |
|   | Ripple & Noise (max.) (Note2)     | 100mVp-p  | 100mVp-p                                      | 150mVp-p  | 150mVp-p  | 240mVp-p |
|   | Efficiency (at 230 VAC)           | 80%   | 84%   | 89%       | 86%       | 86%      |
|   | Hold-up Time                      | 10 ms min.  |   |           |           |          |
| Switching Frequency (typ.) ( at 230 VAC ) | 66 kHz                            |   |   |           |           |          |
| 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   |   |           |           |          |
|   | Max Case Operating Temperature    | Under 115 VAC 78°C , others 85°C                                      |   |           |           |          |
|   | Temperature Coefficient           | ±0.02%/°C   |   |           |           |          |
|   | Humidity                          | 95% RH  |   |           |           |          |
| MTBF                                      | >400,000 h @ 25°C (MIL-HDBK-217F) |   |   |           |           |          |
| Physical                                  | Dimension (L x W x H)             | 2.52 x 1.77 x 0.92 Inches ( 64.0 x 45.0 x 23.5 mm ) Tolerance ±0.5 mm |   |           |           |          |
|   | Case Material                     | Plastic resin (flammability to UL 94V-0)                              |   |           |           |          |
|   | Weight                            | 130 g   |   |           |           |          |
|   | Cooling Method                    | Free air convection   |   |           |           |          |

**ELECTRICAL SPECIFICATIONS**

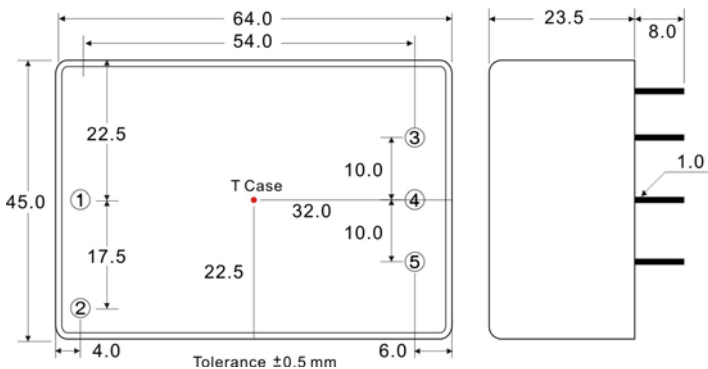
All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated

|                             |                                     |   |           |           |           |
|-----------------------------|-------------------------------------|---|-----------|-----------|-----------|
| Model No. ( Single Output ) | ATC30-3.3S                          | ATC30-5S                                  | ATC30-12S | ATC30-15S | ATC30-24S |
| Safety                      | Agency Approvals                    | CE, UL/cUL, CB                            |           |           |           |
| EMC                         | EMI (Conducted & Radiated Emission) | EN 55022 class B                          |           |           |           |
|                             | EMS (Noise Immunity)                | EN 55024                                  |           |           |           |
|                             | ESD                                 | EN61000-4-2 air ± 8kV , Contact ± 4kV (A) |           |           |           |
|                             | Radiated Immunity                   | EN61000-4-3 3V/m (A)                      |           |           |           |
|                             | Fast Transient                      | EN61000-4-4 ± 1kV (A)                     |           |           |           |
|                             | Surge                               | EN61000-4-5 ±1kV (A)                      |           |           |           |
|                             | Conducted Immunity                  | EN61000-4-6 3Vrms (A)                     |           |           |           |
|                             | PFMF                                | EN61000-4-8 1A/m (A)                      |           |           |           |
|                             | Dips                                | EN61000-4-11 30% 500ms (A)                |           |           |           |

**NOTE**

1. Please check the derating curve for more details.
2. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
3. It's necessary to add Varistor 14S561K at L / N input side in parallel.
4. Please refer to our PDF file "AC-DC Application" on our website: www.archcorp.com.tw

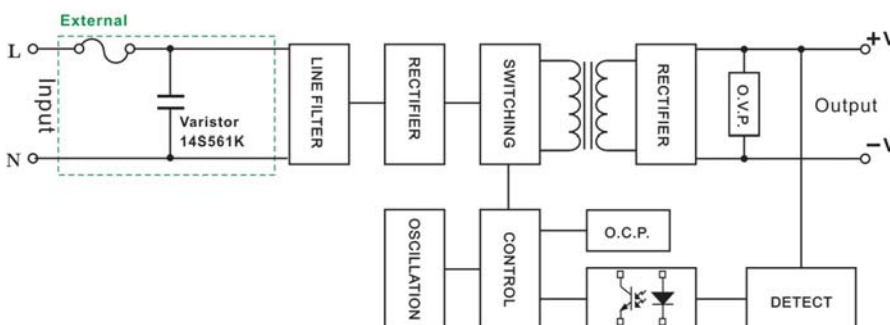
**MECHANICAL DIMENSION ( Top View )**



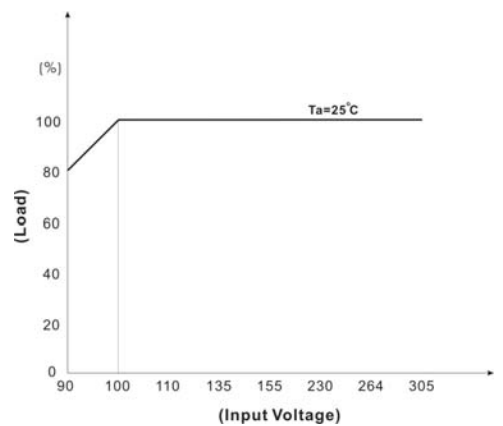
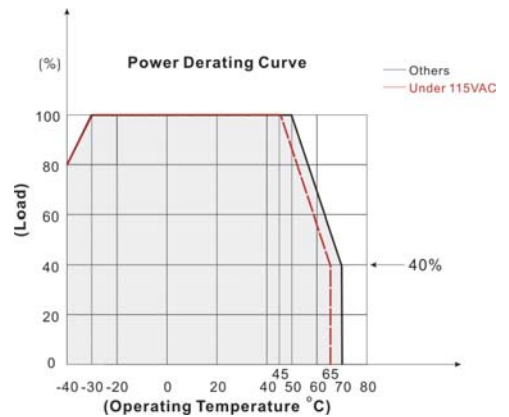
| PIN# | Single    |
|------|-----------|
| 1    | AC IN (N) |
| 2    | AC IN (L) |
| 3    | -DC OUT   |
| 4    | NO PIN    |
| 5    | +DC OUT   |

**BLOCK DIAGRAM**

Single Output



**DERATING**

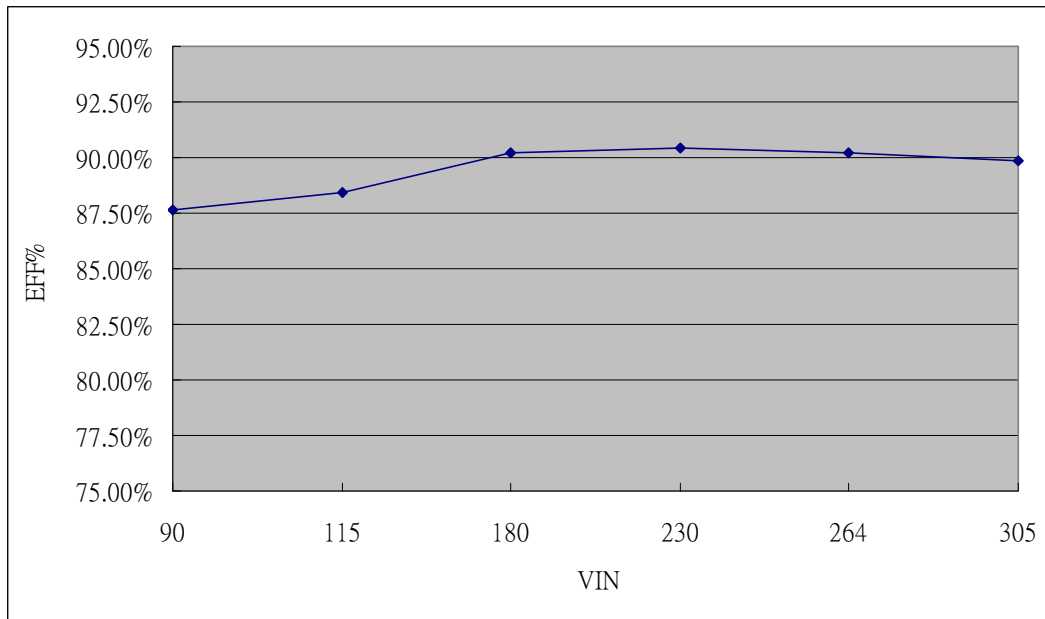


EFFICIENCY VERSUS LOAD

ATC30-12S

VIN VS Efficiency

|                   |      |      |      |      |      |      |
|-------------------|------|------|------|------|------|------|
| Input Voltage (V) | 90   | 115  | 180  | 230  | 264  | 305  |
| Efficiency (%)    | 87.6 | 88.4 | 90.2 | 90.4 | 90.2 | 89.9 |



LOAD VS Efficiency

|          |      |      |      |      |      |      |      |      |      |      |
|----------|------|------|------|------|------|------|------|------|------|------|
| Load (%) | 10   | 20   | 30   | 40   | 50   | 60   | 70   | 80   | 90   | 100  |
| 230V (%) | 84.6 | 87.9 | 89.3 | 90.2 | 90.3 | 89.9 | 89.9 | 90.1 | 90.1 | 90.4 |

