

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
- 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) | 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 (recommended) | | 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

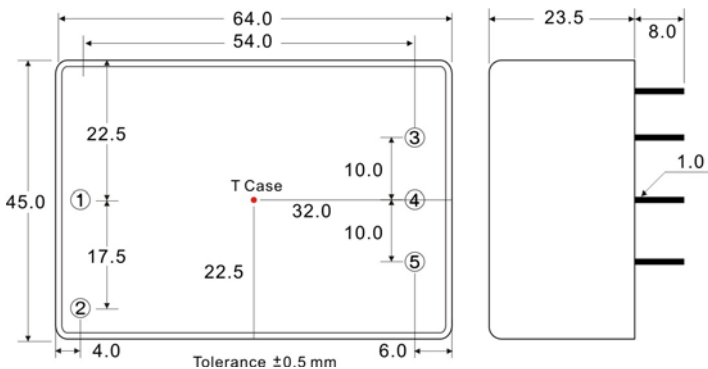
All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated

| 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 $\pm 8kV$, Contact $\pm 4kV$ (A) | | | | |
| | Radiated Immunity EN61000-4-3 3V/m (A) | | | | |
| | Fast Transient EN61000-4-4 $\pm 1kV$ (A) | | | | |
| | Surge EN61000-4-5 $\pm 1kV$ (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 recommended 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

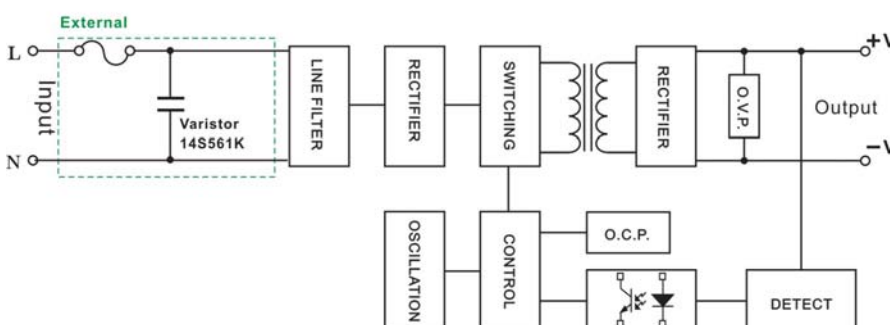
MECHANICAL DIMENSION (Top View)



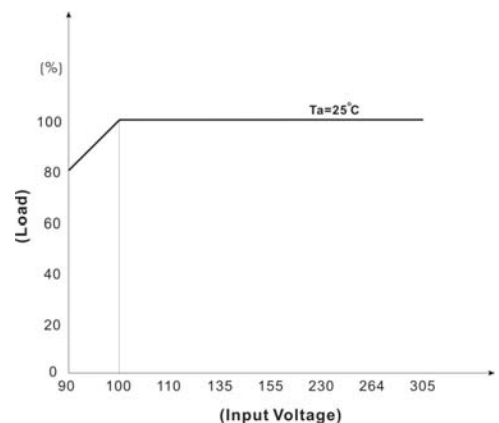
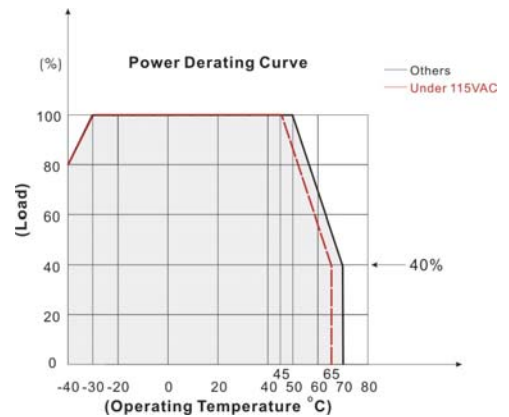
| PIN# | Single |
|------|-----------|
| 1 | AC IN (N) |
| 2 | AC IN (L) |
| 3 | -DC OUT |
| 4 | NO PIN |
| 5 | +DC OUT |

BLOCK DIAGRAM

Single Output

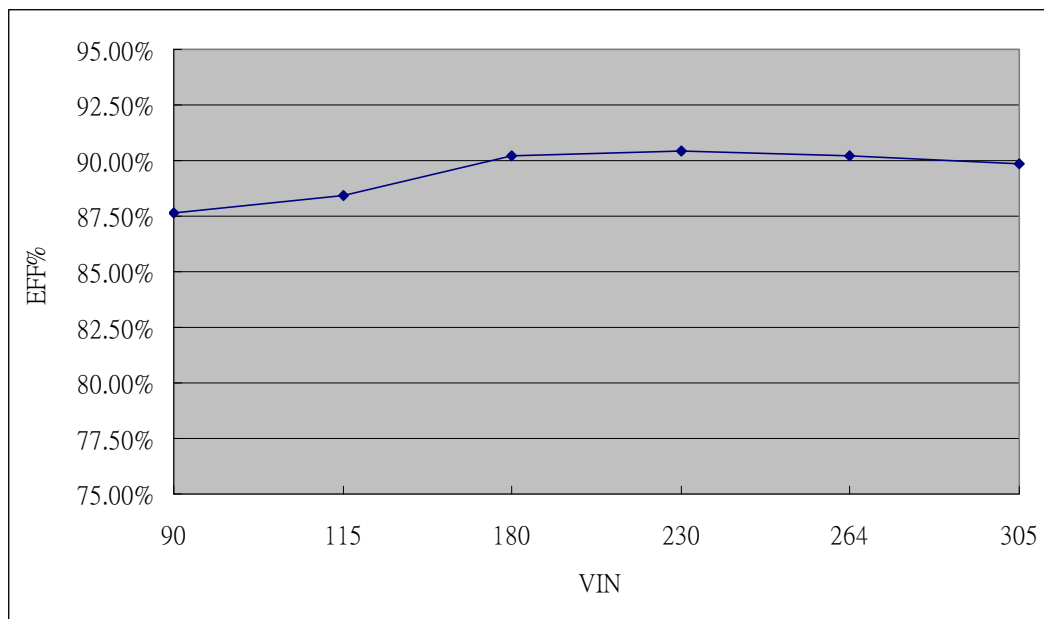


DERATING



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 |

