

AFCV20
20 Watts
KEY FEATURES

- Universal Input Range 90-305VAC, 47-63 Hz
- I/O Isolation 4300VAC
- Operating Ambient Temperature Range -40°C to +85°C
- No Load Power Consumption < 0.1W
- 5000m Altitude Application
- Over-Voltage Category OVC III (New Edition)
- High Efficiency up to 87%
- Isolation Class II
- EMC Compliant without External Components
- Safety Approval to UL / IEC / EN 62368-1
- Design meet IEC / EN 61558-1, IEC / EN 61558-2-16, IEC / EN 60335-1
- 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) | AFCV20-5S | AFCV20-12S | AFCV20-15S | AFCV20-24S | |
|---------------------------|--------------------------------------|---|------------|------------|--------|
| Max Output Wattage (W) | 20W | | | | |
| Input | Voltage | 90-305 VAC or 120-430 VDC | | | |
| | Frequency (Hz) | 47-63 Hz | | | |
| | Current (Full load) | 385 mA max. (115 VAC) / 250 mA max. (230 VAC) | | | |
| | Inrush Current (Cold Start) | 30 A max. (115 VAC) / 60 A max. (230 VAC) | | | |
| | No Load Power Consumption | < 0.1W (115/230 VAC) | | | |
| | External Fuse (mandatory) | 2 A slow blow type | | | |
| Output | Voltage (V.DC.) | 5V | 12V | 15V | 24V |
| | Voltage Accuracy | ±2% | | | |
| | Current (mA) max | 4000 | 1670 | 1330 | 833 |
| | Maximum Capacitive Load | 10000 uF | 1500 uF | 1000 uF | 470 uF |
| | Minimum Load | 0% | | | |
| | Line Regulation (LL-HL) (typ.) | ±0.5% | | | |
| | Load Regulation (typ.) | ±1% | | | |
| | Ripple & Noise (Full load) | 120mV (Vp-p) | | 1% of Vout | |
| | Efficiency (at 230VAC) | 85% | 86% | 87% | 87% |
| Hold-up Time(typ) | 6 ms (at 115VAC) / 46 ms (at 230VAC) | | | | |
| Protection | Over Power Protection | Hiccup technique, auto-recovery | | | |
| | Over Voltage Protection | Zener diode clamp | | | |
| | Short Circuit Protection | Hiccup mode (automatic recovery) | | | |
| Isolation | Input-Output (V.AC) 4300V | | | | |
| Environment | Operating Temperature | -40°C...+85°C (with derating) | | | |
| | Storage Temperature | -40°C...+85°C | | | |
| | Temperature Coefficient | ±0.05%/°C | | | |
| | Altitude During Operation | 5000m (UL / IEC / EN 62368-1) | | | |
| | Humidity | 95% RH | | | |
| | MTBF | >400,000 h @ 25°C (MIL-HDBK-217F) | | | |
| | Over Voltage Category | III: Compliance to EN 61558; altitude up to 2000 meters. | | | |
| | Vibration | IEC60068-2-6 (10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes) | | | |
| Shock | IEC60068-2-27 | | | | |
| Physical | Dimensions (L x W x H) | 2.07 x 1.08 x 0.93 Inches (52.5 x 27.5 x 23.5 mm) Tolerance ±0.5 mm | | | |
| | Case Material | Plastic resin (flammability to UL 94V-0) | | | |
| | Weight | 62 g | | | |
| | Cooling Method | Free air convection | | | |
| Safety | Approval | UL / IEC / EN 62368-1 | | | |
| | Meet | IEC / EN 61558-1, IEC / EN 61558-2-16, IEC / EN 60335-1 | | | |
| 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.

| Model No. (Single Output) | AFCV20-5S12S | | AFCV20-12D | | AFCV20-15D | | |
|-----------------------------|--|---|---------------------------------|----------|------------|----------|----------|
| Max Output Wattage (W) | 18.4W | | 20W | | | | |
| Input | Voltage | 90-305 VAC or 120-430 VDC | | | | | |
| | Frequency (Hz) | 47-63 Hz | | | | | |
| | Current (Full load) | 385 mA max. (115 VAC) / 250 mA max. (230 VAC) | | | | | |
| | Inrush Current (Cold Start) | 30 A max. (115 VAC) / 60 A max. (230 VAC) | | | | | |
| | No Load Power Consumption | < 0.1W (115/230 VAC) | | | | | |
| | External Fuse (mandatory) | 2 A slow blow type | | | | | |
| Output | | Output 1 | Output 2 | Output 1 | Output 2 | Output 1 | Output 2 |
| | Voltage (V.DC.) | 5V | 12V | +12V | -12V | +15V | -15V |
| | Voltage Accuracy | ±5% | ±6% | ±5% | | | |
| | Current (mA) max | 2000 | 700 | 833 | 833 | 666 | 666 |
| | Maximum Capacitive Load | 5000 uF | 750 uF | ±1000 uF | | ±470 uF | |
| | Minimum Load | 25% | | | | | |
| | Line Regulation (LL-HL) (typ.) | ±5% | | | | | |
| | Load Regulation (typ.) (25-100%) (Symmetric Load) | ±2% | ±4% | ±1% | | | |
| | Ripple & Noise (Full load) | 150mV (Vp-p) | | | | | |
| | Efficiency (at 230VAC) | 81% | | 85% | | 85% | |
| | Hold-up Time(typ) | 6 ms (at 115VAC) / 46 ms (at 230VAC) | | | | | |
| | Protection | Over Power Protection | Hiccup technique, auto-recovery | | | | |
| Over Voltage Protection | | Zener diode clamp | | | | | |
| Short Circuit Protection | | Hiccup mode (automatic recovery) | | | | | |
| Isolation | Input-Output (V.AC) | 4300V | | | | | |
| Environment | Operating Temperature | -40°C...+85°C (with derating) | | | | | |
| | Storage Temperature | -40°C...+85°C | | | | | |
| | Temperature Coefficient | ±0.05%/°C | | | | | |
| | Altitude During Operation | 5000m (UL / IEC / EN 62368-1) | | | | | |
| | Humidity | 95% RH | | | | | |
| | MTBF | >400,000 h @ 25°C (MIL-HDBK-217F) | | | | | |
| | Over Voltage Category | III: Compliance to EN 61558; altitude up to 2000 meters. | | | | | |
| | Vibration | IEC60068-2-6 (10-500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes) | | | | | |
| Shock | IEC60068-2-27 | | | | | | |
| Physical | Dimensions (L x W x H) | 2.07 x 1.08 x 0.93 Inches (52.5 x 27.5 x 23.5 mm) Tolerance ±0.5 mm | | | | | |
| | Case Material | Plastic resin (flammability to UL 94V-0) | | | | | |
| | Weight | 62 g | | | | | |
| | Cooling Method | Free air convection | | | | | |
| Safety | Approval | UL / IEC / EN 62368-1 | | | | | |
| | Meet | IEC / EN 61558-1, IEC / EN 61558-2-16, IEC / EN 60335-1 | | | | | |
| EMC | EMI (Conducted & Radiated Emission) | EN 55032 class B | | | | | |
| | EMS (Noise Immunity) | EN 55035 | | | | | |

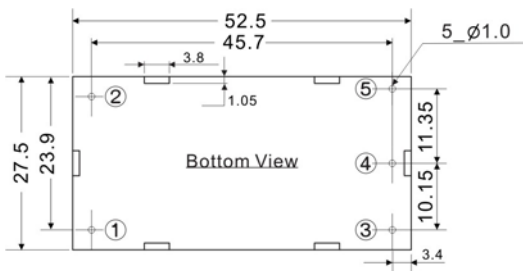
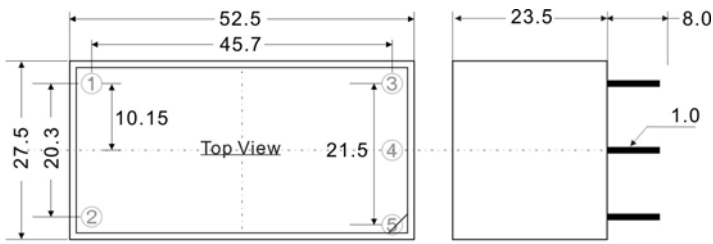
NOTE

- Ripple & Noise are measured at 20MHz of bandwidth with 0.1 uF & 47uF parallel capacitor.
- The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).
- Please refer to our PDF file "AC-DC Application"

AFCV20

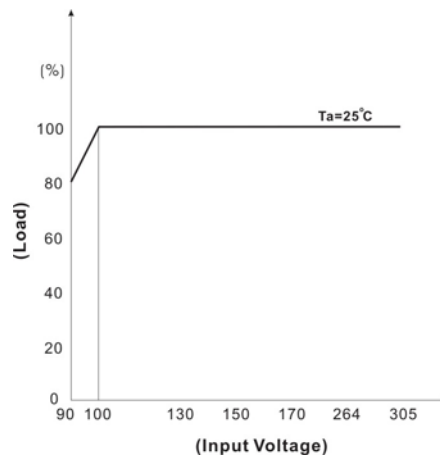
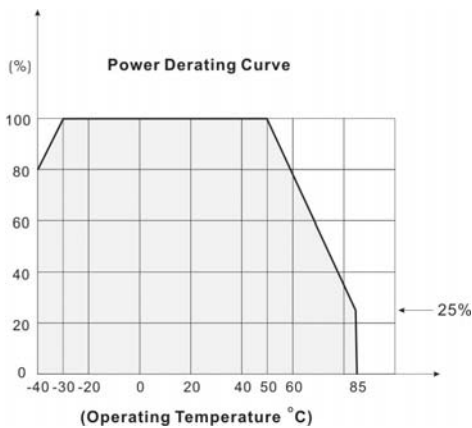
20 Watts

MECHANICAL DIMENSIONS (Top View)



| PIN# | Single | Dual | 5S12S |
|------|-----------|-----------|-----------|
| 1 | AC IN (L) | AC IN (L) | AC IN (L) |
| 2 | AC IN (N) | AC IN (N) | AC IN (N) |
| 3 | +DC OUT | +DC OUT | +12V OUT |
| 4 | -DC OUT | COMMON | +5V OUT |
| 5 | NO PIN | -DC OUT | COMMON |

DERATING



Specifications are subject to change without notice, E&OE. ALL PSU Terms & Conditions apply.
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