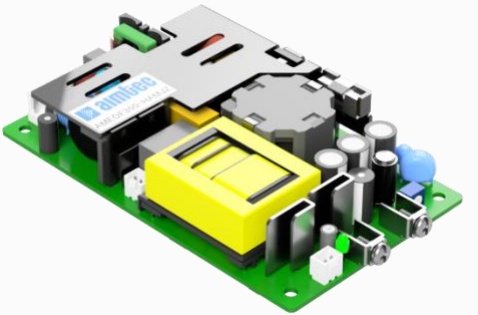


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samples

AMEOF350-HAMJZ



Open Frame/ Enclosed

AMEOF350-HAMJZ series is one of Aimtec's compact size (3"x5"x1") 350W AC/DC converter with active PFC and suitable for medical system equipment. It features universal AC input and at the same time accepts DC input voltage, cost-effective, high efficiency, high reliability and double or reinforced isolation. These converters offer excellent EMC and safety performance, which with ES60601-1, EN62368-1 approval and meet UL62368-1, IEC62368-1, GB4943.1, EN60335-1, IEC/EN61558-1, IEC/EN60601-1 standards and they are widely used in areas of industrial, LED, street light control, electricity, security, telecommunications, smart home, medical, etc.

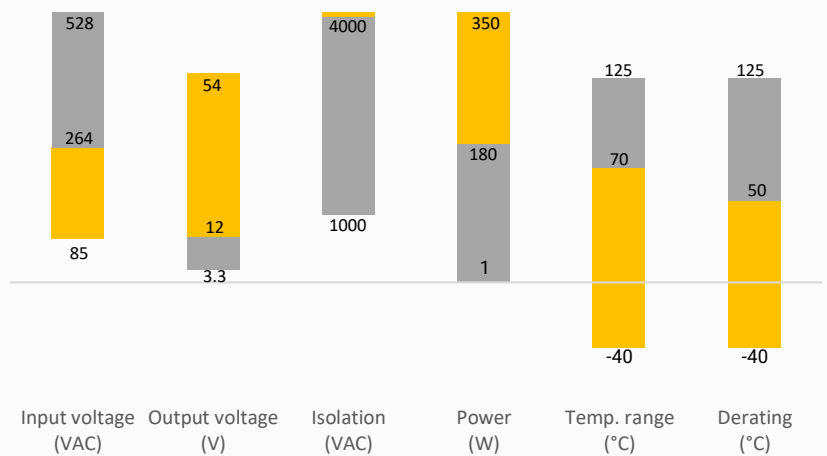
Features

- Universal Input: 85 - 264VAC/120 - 370VDC
- Operating Temp: -40 °C to +70 °C
- High isolation voltage: 4000VAC
- Active PFC
- Output short circuit, over-current, over-voltage, over temperature protection
- Low no-load power consumption of 0.5W
- Suitable for Type BF application
- Certified : ES60601-1
- Designed to meet IEC/EN/UL62368-1, EN60335-1, EN61558-1, IEC/EN60601-1, GB4943.1



Summary

AMEOF350-HAMJZ



Training



Product Training Video
(click to open)



Press Release

Coming Soon!

Application Notes

Applications



Power Grid



Industrial



Telecom



Medical

Models & Specifications

Single Output

| Model | Input Voltage (VAC/Hz) | Input Voltage (VDC) | Cooling method | Max Output wattage (W) | Output Voltage (V) | Output Voltage Adjustable Range (V) | Output Current (A) | Maximum capacitive load (μ F) | Efficiency @230VAC Typ. (%) |
|-------------------------------|------------------------|---------------------|----------------|------------------------|--------------------|-------------------------------------|--------------------|------------------------------------|-----------------------------|
| AMEOF350-12SHAMJZ | 90-264/47-63 | 127-373 | Free air | 180 | 12 | 11.4-12.6 | 15 | 6000 | 92 |
| | | | 20.5CFM | 300 | | | 25 | | |
| AMEOF350-15SHAMJZ | 90-264/47-63 | 127-373 | Free air | 180 | 15 | 14.25-15.75 | 12 | 5000 | 92 |
| | | | 20.5CFM | 325 | | | 21.67 | | |
| AMEOF350-24SHAMJZ | 90-264/47-63 | 127-373 | Free air | 199.9 | 24 | 22.8-25.2 | 8.33 | 3200 | 93 |
| | | | 20.5CFM | 350.4 | | | 14.6 | | |
| AMEOF350-27SHAMJZ | 90-264/47-63 | 127-373 | Free air | 199.8 | 27 | 26.65-28.35 | 7.4 | 2600 | 93 |
| | | | 20.5CFM | 351 | | | 13 | | |
| AMEOF350-36SHAMJZ | 90-264/47-63 | 127-373 | Free air | 200.16 | 36 | 34.2-37.8 | 5.56 | 2000 | 93 |
| | | | 20.5CFM | 350.28 | | | 9.73 | | |
| AMEOF350-48SHAMJZ | 90-264/47-63 | 127-373 | Free air | 200.1 | 48 | 45.6-50.4 | 4.17 | 2000 | 94 |
| | | | 20.5CFM | 350.4 | | | 7.3 | | |
| AMEOF350-54SHAMJZ \emptyset | 90-264/47-63 | 127-373 | Free air | 199.8 | 54 | 51.3-56.7 | 3.7 | 2000 | 94 |
| | | | 20.5CFM | 351 | | | 6.5 | | |

Add suffix -F for enclosed package. (ex. AMEOF350-12SHAMJZ-F is enclosed package version)

Input Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|----------------|--------------------------------|-------------|---------|-------|
| Input current | 115VAC | | 4 | A |
| | 230VAC | | 2 | A |
| Inrush current | 115VAC, cold start | 50 | | A |
| | 230VAC, cold start | 75 | | A |
| Leakage | 240VAC, normal condition | | 0.1 | mA |
| | 240VAC, single fault condition | | 0.3 | mA |
| Power factor | 115VAC, 100% load | ≥ 0.98 | | |
| | 230VAC, 100% load | ≥ 0.95 | | |

Output Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|---------------------|-----------------------|-----------|---------|--------|
| Voltage accuracy | 12, 15V | ± 3 | | % |
| | 24, 27, 36, 48, 54V | ± 2 | | % |
| Line regulation | Full load | ± 0.5 | | % |
| Load regulation | 0-100% load | ± 1 | | % |
| Ripple & Noise* | 12, 15V, 10-100% load | | 120 | mV p-p |
| | 24V, 10-100% load | | 150 | mV p-p |
| | 27, 36V, 10-100% load | | 200 | mV p-p |
| | 48, 54V, 10-100% load | | 250 | mV p-p |
| | 12, 15V, 0-10% load | | 180 | mV p-p |
| | 24V, 0-10% load | | 225 | mV p-p |
| | 27, 36V, 0-10% load | | 300 | mV p-p |
| 48, 54V, 0-10% load | | 375 | mV p-p | |

| | | | | |
|---|-----------------------------|----|--|----|
| Hold up time | 230VAC, Free air convection | 14 | | ms |
| | 230VAC, 20.5CFM | 8 | | ms |
| * Ripple and Noise are measured at 20MHz bandwidth with a 10 μ F electrolytic capacitor and a 0.1 μ F ceramic capacitor. Please refer to the application note for specific details. | | | | |

| Isolation Specification | | | | |
|--|-----------------------------|-------------|---------|------------|
| Parameters | Conditions | Typical | Maximum | Units |
| Tested I/O voltage | 60 sec, leakage \leq 10mA | \geq 4000 | | VAC |
| Tested I/PE voltage | 60 sec, leakage \leq 10mA | \geq 2000 | | VAC |
| Tested O/PE voltage | 60 sec, leakage \leq 10mA | \geq 1500 | | VAC |
| Resistance I/O* | 500VDC | $>$ 100 | | M Ω |
| Resistance I/PE* | 500VDC | $>$ 100 | | M Ω |
| Resistance O/PE* | 500VDC | $>$ 100 | | M Ω |
| MOP I/O | | | 2xMOPP | |
| MOP I/PE | | | 1xMOPP | |
| MOP O/PE | | | 1xMOPP | |
| * Tested under 25 \pm 5 $^{\circ}$ C ambient temperature with relative humidity $<$ 95% and no condensation. | | | | |

| General Specifications | | | | |
|--|--|--|---------|--------------------|
| Parameters | Conditions | Typical | Maximum | Units |
| Protection class | Class II without protective earth connection, Class I with protective earth connection | | | |
| Over current protection | Auto recovery, hiccup | \geq 110 | | % of Iout |
| Over voltage protection | 12Vout, shut down, manual recovery | | 15 | VDC |
| | 15Vout, shut down, manual recovery | | 18.5 | VDC |
| | 24Vout, shut down, manual recovery | | 30 | VDC |
| | 27Vout, shut down, manual recovery | | 33.5 | VDC |
| | 36Vout, shut down, manual recovery | | 45 | VDC |
| | 48Vout, shut down, manual recovery | | 59.5 | VDC |
| | 54Vout, shut down, manual recovery | | 63 | VDC |
| Short circuit protection | Hiccup, Continuous, Auto recovery time $<$ 3S | | | |
| Over temperature protection | Shut down, manual recovery | | | |
| Fan power | 27V | 12V/0.5A, Voltage accuracy \pm 15/-25% | | |
| No-load power consumption | 12, 15, 24, 36, 48, 54V | 12V/0.5A, Voltage accuracy \pm 15% | | |
| Operating temperature | See derating graph | -40 to +70 | | $^{\circ}$ C |
| Storage temperature | | -40 to +85 | | $^{\circ}$ C |
| Power Derating | +50 $^{\circ}$ C to +70 $^{\circ}$ C | 2.5 | | %/ $^{\circ}$ C |
| Ambient temperature derating | 90VAC to 100VAC | 1 | | %/VAC |
| Temperature coefficient | Operating altitude $>$ 2000m | 5 | | $^{\circ}$ C/1000m |
| Cooling | | \pm 0.03 | | %/ $^{\circ}$ C |
| Humidity | Free air convection, forced air convection 20.5CFM | | | |
| | Non-condensing, storage | $>$ 10 | 95 | % RH |
| Case material | Non-condensing, operating | | | |
| | Enclosed package | $>$ 20 | 90 | % RH |
| Weight | Metal (1100 Aluminum, SUS304) | | | |
| | Open frame | 295 | | g |
| Dimensions (L x W x H) | Enclosed | | | |
| | Open frame | 430 | | g |
| MTBF | Open frame | | | |
| | Enclosed | 5.00 x 3.00 x 1.00 inches (127.0 x 76.2 x 25.4 mm) | | |
| NOTE: All specifications in this datasheet are measured at an ambient temperature of 25 $^{\circ}$ C, humidity $<$ 75%, nominal input voltage and at rated output load unless otherwise specified. | | | | |

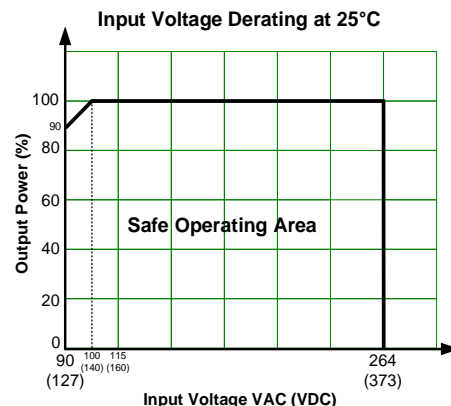
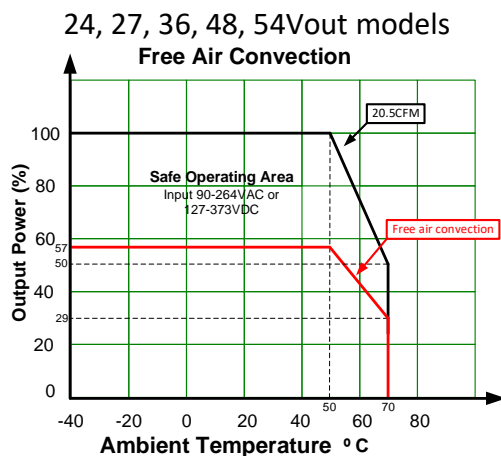
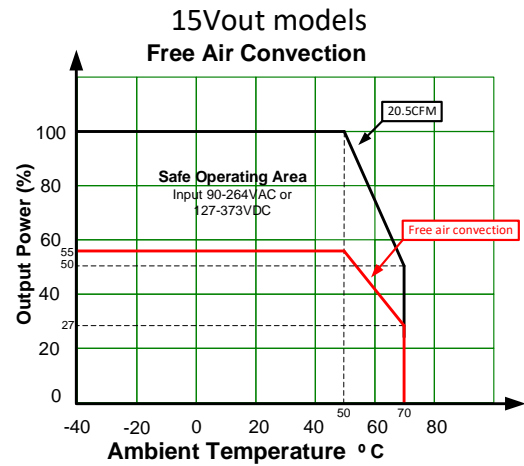
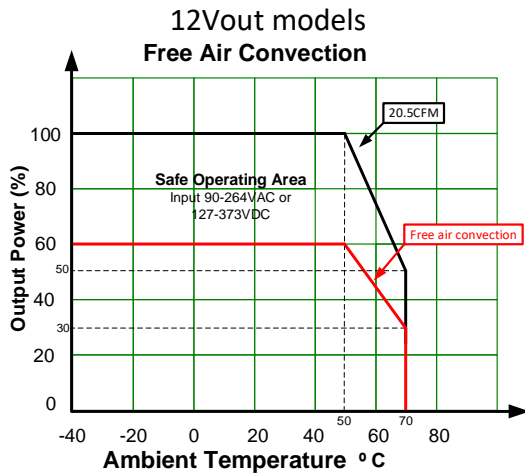
Safety Specifications

Parameters

| | | |
|--|---|---|
| Agency approvals | ANSI/AAMI ES60601-1 V3.1(Ø With exception of 54Vout model); CAN/CSA-C22.2 No.60601-1:14 Ed3(Ø With exception of 54Vout model) CE: EN62368-1 (Ø With exception of 54Vout model) | |
| Standards | Design to meet UL 62368-1(Ø With exception of 54Vout model), IEC/EN62368-1, EN60335-1, IEC/EN61558-1, IEC/EN60601-1, EN60601-1-2 Ed4, GB4943.1 | |
| | EMC - Conducted and radiated emission* | CISPR32 / EN55032, conducted class B CISPR32 / EN55032, radiated class B with protective earth connection CISPR32 / EN55032, radiated class A without protective earth connection |
| | EMC - Harmonic current emissions* | IEC 61000-3-2 class A and class D |
| | EMC - Voltage fluctuations and flicker * | IEC 61000-3-3 |
| | Electrostatic Discharge Immunity * | IEC 61000-4-2 Contact ±8KV, Air ±15KV, Criteria A |
| | RF, Electromagnetic Field Immunity * | IEC 61000-4-3 10V/m, Criteria A |
| | Electrical Fast Transient/Burst Immunity * | IEC 61000-4-4 ±4KV, Criteria A |
| | Surge Immunity * | IEC 61000-4-5 L-L ±2KV L-G ±4KV, Criteria A |
| RF, Conducted Disturbance Immunity * | IEC 61000-4-6 10Vr.m.s, Criteria A | |
| Voltage dips, Short Interruptions Immunity * | IEC 61000-4-11 0%, 70%, Criteria B | |

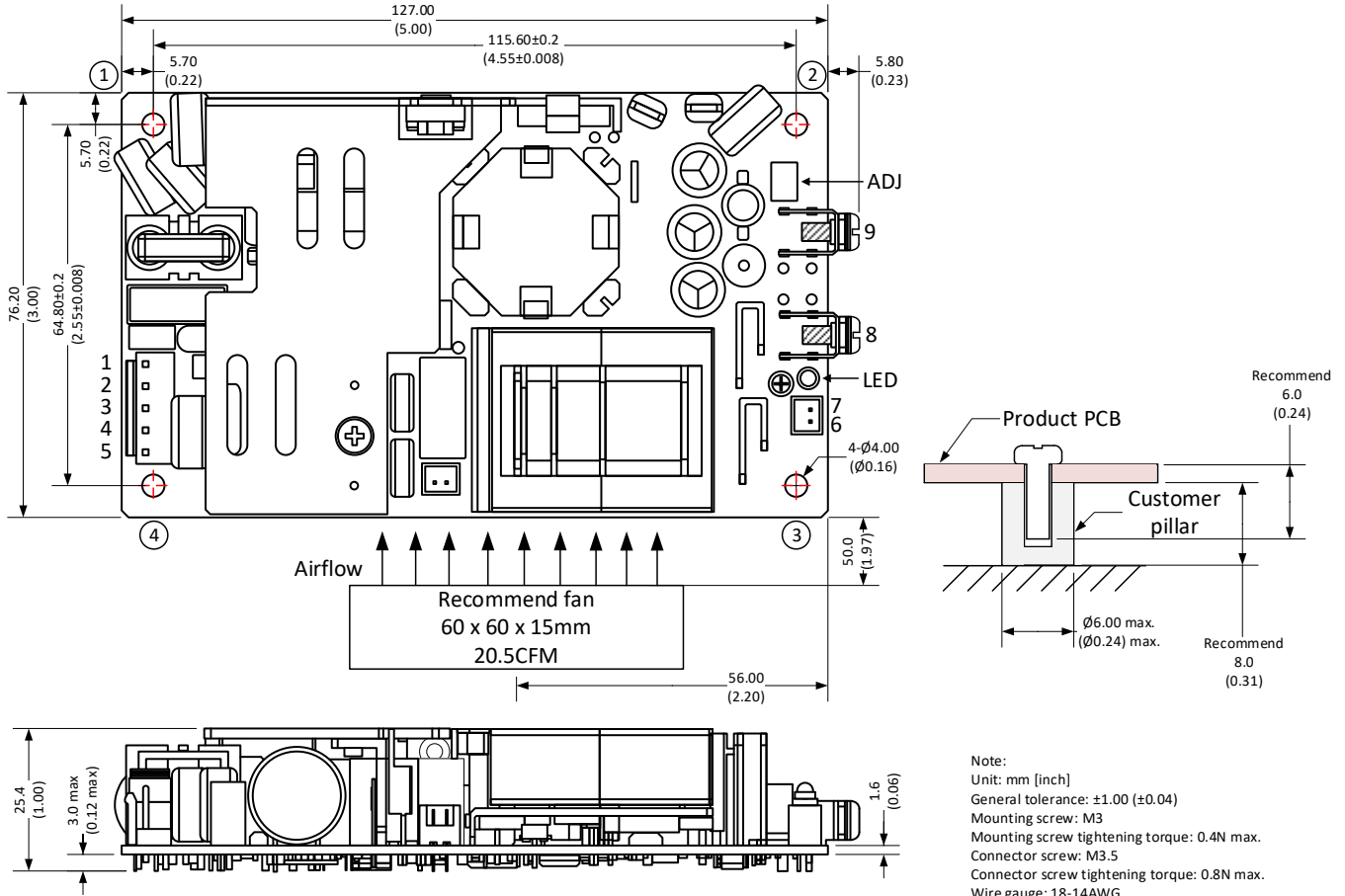
* The power supply is considered as a component and will be installed in an end-product. All the EMC tests are performed with the power supply mounted on a 1mm thick 360mm x 360mm metal plate. The EMC compliance of the end-product must be reconfirmed.

Derating



Dimensions

Open frame model



Note:

1. It is needed to have ≥ 10 mm distance between the product and external components for safety.
2. Connect mounting point 1, 2 and 4 to protective earth for Class I system.
3. Connect mounting point 1, 2 and 4 together for Class II system.

| Pin Output Specifications | | | |
|---------------------------|---------------|-----------------------------|---|
| Pin | Function | Connector | Recommended connector |
| 1 | AC Input (N) | JST B5P-VH or equivalent | JST VHR, JST SVH-21PT-P1.1 or equivalent |
| 2 | NC | | |
| 3 | AC Input (L) | | |
| 4 | NC | | |
| 5 | Earth \perp | | |
| 6 | - Fan Output | 2.5 XHS-2A or equivalent | 2.5 XHS-2Y or equivalent |
| 7 | + Fan Output | | |
| 8 | -V Output | | |
| 9 | +V Output | | |

