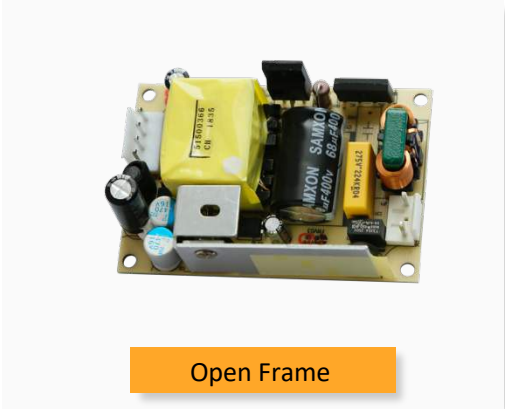


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ORDER
samples

AMEOF45-JZ



Open Frame

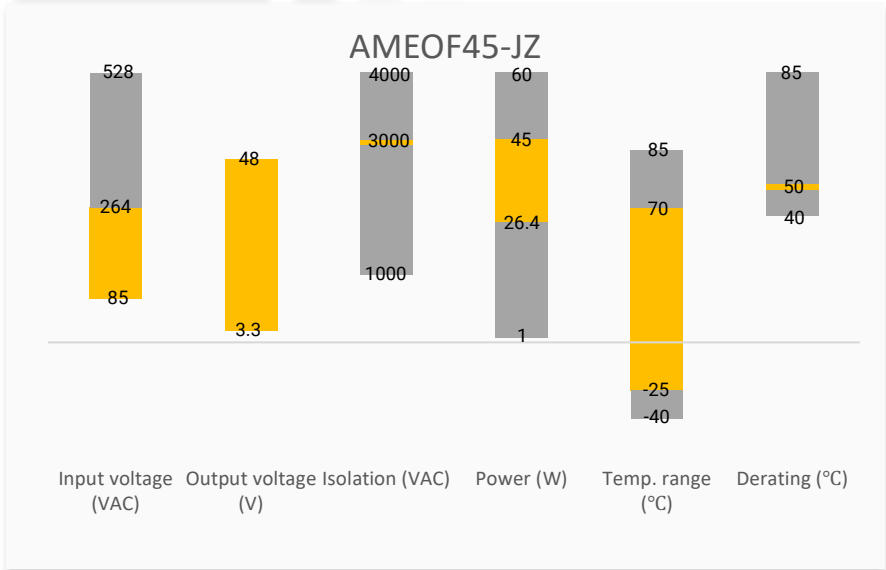
The AMEOF45-JZ series is one of Aimtec’s compact size open frame 45W AC/DC converter. It features universal AC input of 85 – 264VAC and at the same time accepts a DC input voltage range of 100 – 370VDC. Furthermore, the AMEOF45-JZ has a low power consumption, high efficiency up to 87%, high reliability and reinforced isolation of 3000VAC. It offers an EMC compliance of IEC/EN61000-4 and CISPR32/EN5 5032 and meets IEC/EN/UL 62368 standards. The converters also include output short circuit, over-current & over-voltage protection. These converters are widely used in industrial, office and civil applications, such as modems, printers and telecom devices. For extremely harsh EMC environments, we recommend using the Typical Application Circuit on this datasheet.

Features

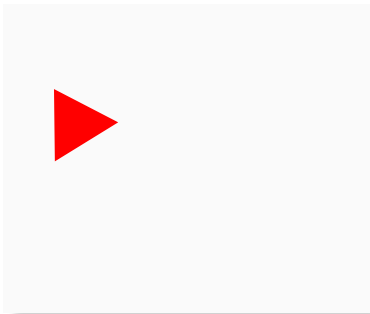


- Universal Input: 85 - 264VAC/100 - 370VDC
- Operating Temp: -25 °C to +70 °C
- High isolation voltage: 3000VAC
- Low ripple & noise, 100mV(p-p), typ.
- Output short circuit, over-current, over-voltage protection
- Regulated Output

Summary



Training



Product Training Video
(click to open)



Application Notes

Applications



Power Grid



Industrial



Telecom



Instrumentation

Models & Specifications

| Single Output | | | | | | | |
|----------------|------------------------|---------------------|------------------------|--------------------|------------------------|------------------------------|------------------------------|
| Model | Input Voltage (VAC/Hz) | Input Voltage (VDC) | Max Output wattage (W) | Output Voltage (V) | Output Current max (A) | Maximum capacitive load (μF) | Efficiency @ 230VAC Typ. (%) |
| AMEOF45-3.3SJZ | 85-264/47-63 | 100-370 | 26.4 | 3.3 | 8 | 30,000 | 76 |
| AMEOF45-5SJZ | 85-264/47-63 | 100-370 | 40 | 5 | 8 | 20,000 | 82 |
| AMEOF45-9SJZ | 85-264/47-63 | 100-370 | 40 | 9 | 4.44 | 6,000 | 84 |
| AMEOF45-12SJZ | 85-264/47-63 | 100-370 | 45 | 12 | 3.75 | 4,000 | 84 |
| AMEOF45-15SJZ | 85-264/47-63 | 100-370 | 45 | 15 | 3 | 3,500 | 86 |
| AMEOF45-24SJZ | 85-264/47-63 | 100-370 | 45 | 24 | 1.88 | 1,000 | 86 |
| AMEOF45-48SJZ | 85-264/47-63 | 100-370 | 45 | 48 | 0.94 | 600 | 87 |

| Input Specifications | | | | | |
|----------------------|------------|---------|---------|---------|-------|
| Parameters | Conditions | Minimum | Typical | Maximum | Units |
| Current | 115VAC | | | 1.2 | A |
| | 230VAC | | | 0.7 | A |
| Inrush current | 115VAC | | 35 | | A |
| | 230VAC | | 50 | | A |

| Output Specifications | | | | |
|-----------------------|-----------------|---------|---------|--------|
| Parameters | Conditions | Typical | Maximum | Units |
| Voltage accuracy | 3.3V Output | ±3 | | % |
| | Others | ±2 | | % |
| Line regulation | Full load | ±0.5 | | % |
| Load regulation | 0-100% load | ±1 | | % |
| Ripple & Noise* | 20MHz bandwidth | | 100 | mV p-p |
| Hold up time | 230VAC | 50 | | ms |

* Ripple and Noise are measured at 20MHz bandwidth by using the referenced Application circuit.

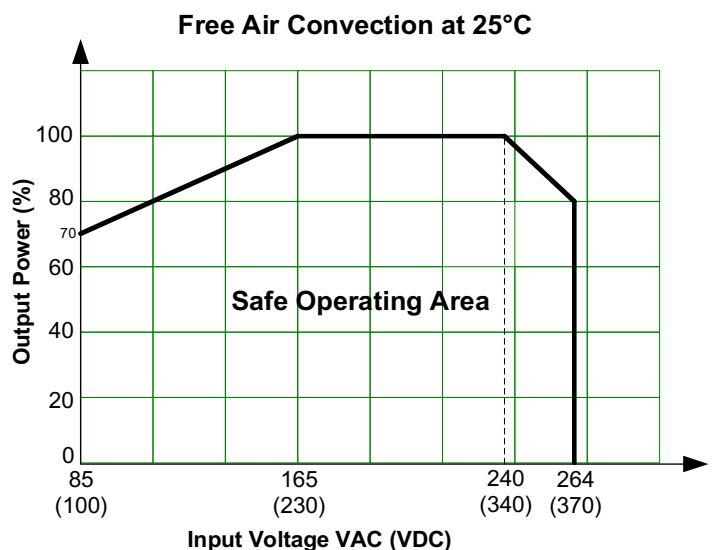
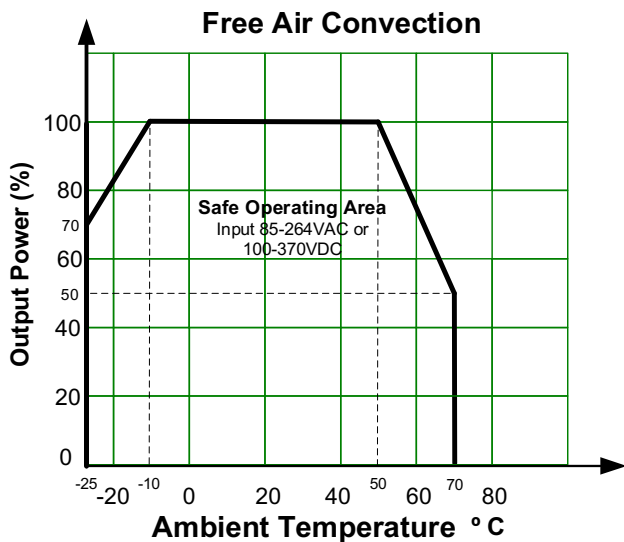
| Isolation Specifications | | | | |
|--------------------------|-------------------------------|---------|-------|-------|
| Parameters | Conditions | Typical | Rated | Units |
| Tested I/O voltage | 60 sec, leakage current < 5mA | | 3000 | VAC |

| General Specifications | | | | |
|-------------------------|---------------|---------|---------|-----------|
| Parameters | Conditions | Typical | Maximum | Units |
| Protection class | Class II | | | |
| Over Current protection | Auto recovery | ≥ 150 | 300 | % of Iout |
| Over voltage protection | 3.3V Vout | | ≤ 7.5 | VDC |
| | 5V Vout | | ≤ 9 | |
| | 9V Vout | | ≤ 16 | |
| | 12V Vout | | ≤ 20 | |
| | 15V Vout | | ≤ 24 | |

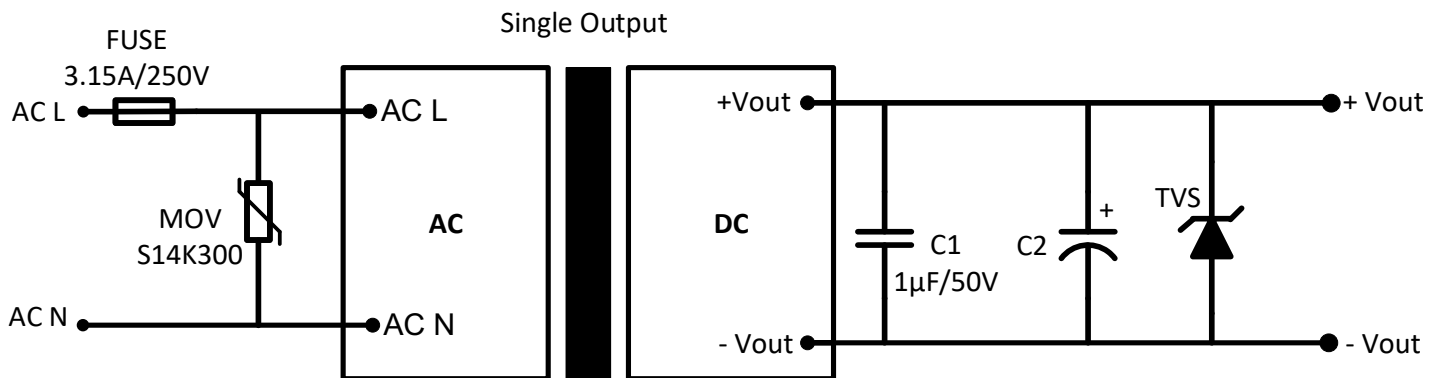
| | | | | |
|---|---|---|------|---------|
| | 24V Vout | | ≤ 35 | |
| | 48V Vout | | ≤ 60 | |
| Short circuit protection | Hiccup, Continuous | | | |
| Short circuit restart | Auto recovery | | | |
| Switching Frequency | | 65 | | KHz |
| Operating temperature | See derating graph | -25 to +70 | | °C |
| Storage temperature | | -25 to +85 | | °C |
| Power consumption | | | 0.5 | W |
| Power Derating | -25 °C to -10 °C | 2.0 | | % / °C |
| | +50 °C to +70 °C | 2.5 | | |
| | 85VAC to 165VAC | 0.375 | | % / VAC |
| | 240VAC to 264VAC | 0.833 | | |
| Temperature coefficient | | ±0.02 | | % / °C |
| Cooling | Free air convection | | | |
| Humidity | Non-condensing | 90 | | % RH |
| Weight | | 90 | | g |
| Dimensions (L x W x H) | PCB mountable models | 3.00 x 2.00 x 1.18 inches (76.20 x 50.80 x 30.00mm) | | |
| MTBF | > 300 000 hrs (MIL-HDBK -217F, t _a =+25°C)/Full Load | | | |
| NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. | | | | |

| Safety Specifications | | |
|-----------------------|--|--|
| Parameters | | |
| Agency approvals | UL 62368-1 | |
| Standards | Information technology Equipment | Design to meet IEC/EN 62368-1 |
| | EMC - Conducted and radiated emission | CISPR32 / EN55032, class B |
| | Electrostatic Discharge Immunity | IEC 61000-4-2 Contact ±6KV, Criteria B |
| | RF, Electromagnetic Field Immunity | IEC 61000-4-3 10V/m, Criteria A |
| | Electrical Fast Transient/Burst Immunity | IEC 61000-4-4 ±2KV, Criteria B |
| | Surge Immunity | IEC 61000-4-5 L-L ±1KV, Criteria B |
| | 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 |

Derating



Typical Application Circuit

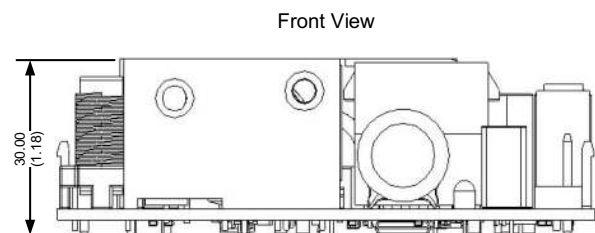
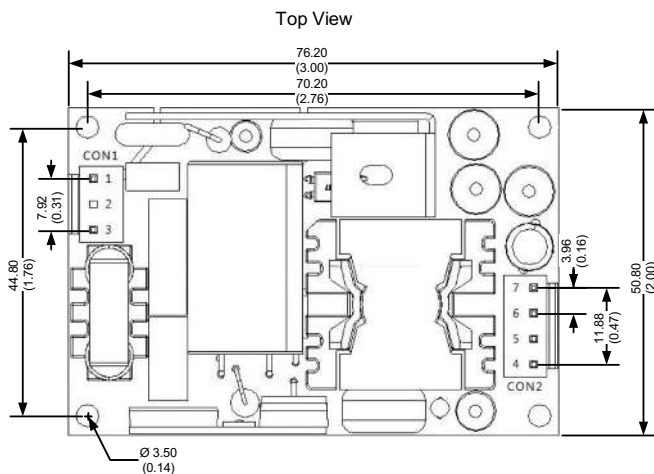


| Model | C2 | TVS |
|--------------|--------------|-----|
| 3.3 / 5 Vout | 680 μF / 10V | 7V |
| 9 Vout | 47 μF / 16V | 12V |
| 12 / 15 Vout | 47 μF / 25V | 20V |
| 24 Vout | 47 μF / 35V | 30V |
| 48 Vout | 47 μF / 63V | 64V |

For Filtering Components:

The C2 capacitor is recommended to use electrolytic type with high frequency and low ESR rating. The C1 capacitor is recommended to use ceramic type for filtering high-frequency noise. The TVS is recommended suppressor diode.

Dimensions



All dimensions are typical: millimeters (inches)
General Tolerances : ± 0.5 (±0.02)
CON1 model: VH-3A (Terminal: VH-3Y)
CON2 model: VH-4A (Terminal: VH-4Y)
Mounting hole screwing torque: Max 0.4 N.m

Pin Output Specifications

| Pin | Function | Connector | Terminal |
|-----|--------------|----------------------------|----------------------------|
| 1 | AC Input (L) | VH-3A or the same Spec. | VH-3Y or the same Spec. |
| 2 | No Pin | | |
| 3 | AC Input (N) | | |
| 4 | -V Output | VH-4A or the same Spec. | VH-4Y or the same Spec. |
| 5 | -V Output | | |
| 6 | +V Output | | |
| 7 | +V Output | | |

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