

ASD-12 Series, 12Watt

FEATURES:

- ✓ Universal AC input range
- ✓ Low ripple and noise
- ✓ Short circuit, over voltage, and over current protections
- ✓ Board in-line type installation
- ✓ High voltage isolation 4000Vac
- ✓ 100% burn-in test
- ✓ 3 year warranty



| Model | Input voltage (Vac) | Output voltage (Vdc) | Output current (A) | Efficiency Typ. |
|----------|------------------------|-------------------------|-----------------------|--------------------|
| ASD12-3 | 90-264 | 3.3 | 2.2 | 74% |
| ASD12-5 | | 5 | 2.2 | 77% |
| ASD12-9 | | 9 | 1.33 | 79% |
| ASD12-12 | | 12 | 1 | 80% |
| ASD12-15 | | 15 | 0.8 | 82% |
| ASD12-24 | | 24 | 0.5 | 83% |

Note: 1. other input and output models may available on request;
2. Add suffix "-C" for chassis mounting.

ELECTRICAL

| Parameters | Test Conditions / Comment | Input | | | Units |
|-------------------------|---------------------------|----------|------|------|-------|
| | | Min. | Typ. | Max. | |
| Input voltage | --- | 90 | -- | 264 | Vac |
| | | 80 | -- | 370 | Vdc |
| Input frequency | --- | 47 | -- | 440 | Hz |
| Input current | Vin=115Vac | -- | 285 | -- | mA |
| | Vin=230Vac | -- | 175 | -- | mA |
| Inrush current | Cold start, Vin=230Vac | -- | 30 | -- | A |
| Leakage current | 265Vac/50Hz | -- | -- | 0.1 | mA |
| Recommend external fuse | | T1A/250V | | | |

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Output

| Parameters | Test Conditions / Comment | Min. | Typ. | Max. | Units |
|-------------------------|---------------------------|------|------|------|-------|
| Output voltage accuracy | -- | -- | ±2 | -- | % |
| Line regulation | -- | -- | ±1 | -- | % |
| Load regulation | -- | -- | ±1 | -- | % |
| Set-up rise time | Full load, Vin =115Vac | -- | 200 | -- | ms |
| | Full load, Vin =230Vac | -- | 100 | -- | ms |
| Hold-up time | Full load, Vin =115Vac | -- | 15 | -- | ms |
| | Full load, Vin =230Vac | -- | 40 | -- | ms |
| Ripple | --- | -- | 50 | -- | mV |

Protection

| | |
|---------------|---|
| Over current | Hiccup mode, it will auto-recovery after fault condition is removed |
| Over voltage | Hiccup mode, it will auto-recovery after fault condition is removed |
| Short circuit | Hiccup mode, it will auto-recovery after fault condition is removed |

Environment

| | | | | | |
|-------------------------------|---|-----|----|-----|------|
| Storage | Humidity: 10% RH to 95% RH | -40 | -- | +85 | °C |
| Ambient operating temperature | Startup at rated voltage (≥ 50°C, derating with 0.1W/°C) | -40 | -- | +70 | °C |
| Operating relative humidity | Non condensing | -- | -- | 85 | % |
| MTBF | Full load, 230Vac input, 25°C ambient temperature | 200 | -- | -- | kHrs |
| Temperature coefficient | 0.03%/ (0~ 50°C) | | | | |
| Vibration coefficient | 10~500Hz, 2G10min./1cycle, 60min.each along X, Y, Z axes | | | | |
| Dimension(LxWxH) | 50.8 x 25.4 x 15.5mm | | | | |
| Weight | 30g/pcs, 350g/tube, 19.45kg/carton | | | | |
| Package | 10pcs/tube, 54tubes/carton, carton size: 360x300x250mm | | | | |

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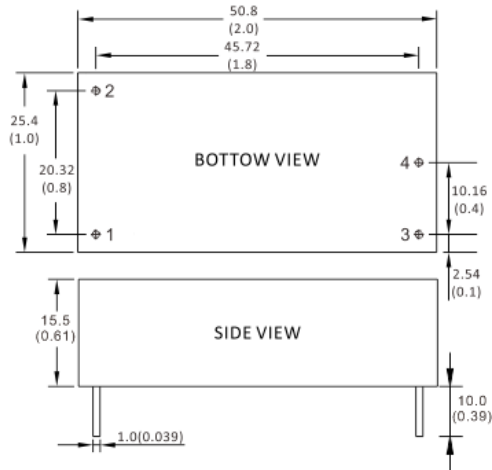
Safety

| | |
|---------------------------|---|
| Safety standards | EN60950, EN60601, UL60950 |
| Isolation voltage | I/P-O/P:4000VAC |
| Insulation Resistance | I/P-O/P>100M Ohms/500VDC 25°C 70% RH |
| EMI / EMC | EN55011, EN55022 (CISPR22) CLASS B (refer to below application circuit) |
| ESD | IEC/EN 61000-4-2 level 4 8KV/15KV (refer to below application circuit) |
| RF Immunity | IEC/EN 61000-4-3 (refer to below application circuit) |
| Electrical Fast Transient | IEC/EN 61000-4-4 level 4 4KV (refer to below application circuit) |
| Surge | IEC/EN 61000-4-5 level 4 2KV |

Notes: 1. Unless otherwise specified, all the above parameters are measured at ambient temperature of 25°C and input nominal voltage 230Vac;

2. Ripple & Noise are measured at 20MHZ of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µF & 47µF parallel capacitor.

MECHANICAL



CONNECTION

| PIN # | SINGLE |
|-------|--------|
| 1 | AC(L) |
| 2 | AC(N) |
| 3 | +Vo |
| 4 | -Vo |

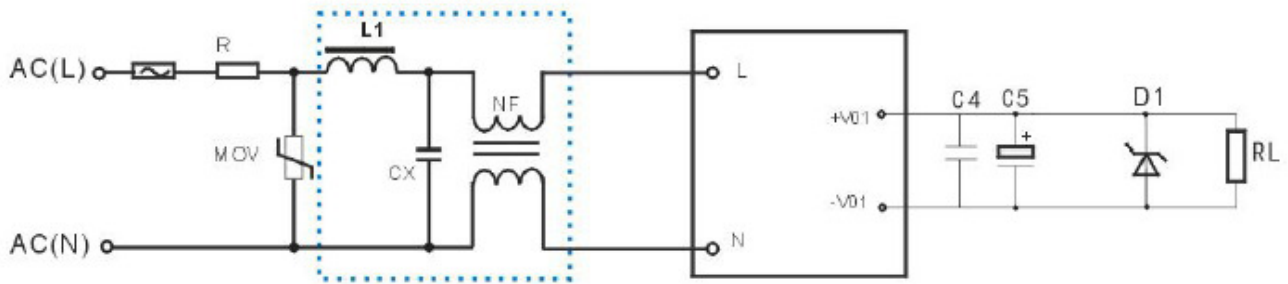
Note:

Unit is mm(inch).

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NOTE

RECOMMENDED TEST AND APPLICATION CIRCUIT



EMC RECOMMENDED APPLICATION CIRCUIT

| | 3.3VDC | 5VDC | 9VDC | 12VDC | 15VDC | 24VDC |
|-------|-----------|-----------|-----------|-------------------|-----------|-----------|
| FUSE | | | | T1A/250V | | |
| R | | | | 10D-9 | | |
| NF | | | | L=30mH,I=0.2-0.5A | | |
| MOV | | | | 14D471K | | |
| CX | | | | 104K/275V | | |
| L1 | | | | 1mH/0.5A | | |
| C4 | | | | 104K/50V | | |
| C5/C6 | 470uF/16V | 470uF/16V | 150uF/16V | 120uF/16V | 120uF/25V | 100uF/35V |
| D1 | P6KE6.8A | P6KE6.8A | P6KE16A | P6KE16A | P6KE20A | P6KE33A |