



FEATURES:

- RoHS Compliant
- 24 Pin DIP Package
- Low Profile Plastic Package
- High Efficiency up to 83%
- Operating Temperature -40°C to + 85°C
- Input / Output Isolation 6000VDC
- Pin Compatible With Multiple Manufacturers
- Continuous Short Circuit Protection

Models Single output



| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Isolation (VDC) | Input Current Full Load No Load (mA) | | Efficiency (%) |
|------------------|-------------------|--------------------|-------------------------|-----------------|--|----|----------------|
| AM2N-0505SH60-NZ | 4.5-5.5 | 5 | 400 | 6000 | 500 | 40 | 76 |
| AM2N-0509SH60-NZ | 4.5-5.5 | 9 | 222 | 6000 | 500 | 40 | 79 |
| AM2N-0512SH60-NZ | 4.5-5.5 | 12 | 167 | 6000 | 500 | 40 | 80 |
| AM2N-1205SH60-NZ | 10.8-13.2 | 5 | 400 | 6000 | 200 | 15 | 78 |
| AM2N-1209SH60-NZ | 10.8-13.2 | 9 | 222 | 6000 | 200 | 15 | 81 |
| AM2N-1215SH60-NZ | 10.8-13.2 | 15 | 133 | 6000 | 200 | 15 | 83 |

Models Dual output

| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Isolation (VDC) | Input Current Full Load No Load (mA) | | Efficiency (%) |
|------------------|-------------------|--------------------|-------------------------|-----------------|--|----|----------------|
| AM2N-0505DH60-NZ | 4.5-5.5 | ±5 | ±200 | 6000 | 500 | 40 | 76 |
| AM2N-0509DH60-NZ | 4.5-5.5 | ±9 | ±110 | 6000 | 500 | 40 | 79 |
| AM2N-0512DH60-NZ | 4.5-5.5 | ±12 | ±84 | 6000 | 500 | 40 | 80 |
| AM2N-0515DH60-NZ | 4.5-5.5 | ±15 | ±67 | 6000 | 500 | 40 | 81 |
| AM2N-1205DH60-NZ | 10.8-13.2 | ±5 | ±200 | 6000 | 200 | 15 | 79 |
| AM2N-1209DH60-NZ | 10.8-13.2 | ±9 | ±110 | 6000 | 200 | 15 | 81 |
| AM2N-1212DH60-NZ | 10.8-13.2 | ±12 | ±84 | 6000 | 200 | 15 | 82 |
| AM2N-1215DH60-NZ | 10.8-13.2 | ±15 | ±67 | 6000 | 200 | 15 | 83 |

Input Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|------------------------------|------------|-----------|------------|-------|
| Voltage range | 5 Vin | 4.5-5.5 | | VDC |
| | 12 Vin | 10.8-13.2 | | |
| Absolute maximum (1 sec max) | 5 Vin | | -0.7 to 9 | VDC |
| | 12 Vin | | -0.7 to 18 | |
| Reflected Ripple Current | 5 Vin | 15 | | mA |
| | 12 Vin | 5 | | |
| Filter | Capacitor | | | |

Isolation Specifications

| Parameters | Conditions | Typical | Rated | Units |
|--------------------|------------|---------|-------|-------|
| Tested I/O voltage | 60 sec | | 6000 | VDC |
| Resistance | | >1000 | | MOhm |
| Capacitance | | 5 | | pF |

Output Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|----------------------------------|--------------------|-------------------------------|---------|--------|
| Voltage accuracy | | See tolerance graph | | |
| Short Circuit protection | | Continuous with Auto Recovery | | |
| Line voltage regulation (Single) | For 1.0% of Vin | ±1.2 | | % |
| Line voltage regulation (Dual) | For 1.0% of Vin | ±1.2 | | % |
| Load voltage regulation (Single) | Load 10-100% | 15 | | % |
| Load voltage regulation (Dual) | Load 10-100% | 15 | | % |
| Temperature coefficient | | ±0.03 | | %/°C |
| Ripple & Noise | At 20MHz Bandwidth | 150 | | mV p-p |

General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|------------------------|------------------|--|--------------------------|-------|
| Switching frequency | 100% load | 5Vin 60 12vin 80 | | KHz |
| Operating temperature | Without derating | | -40 to +85 | °C |
| Storage temperature | | | -55 to +125 | °C |
| Max Case temperature | | | 95 | °C |
| Cooling | | Free air convection | | |
| Humidity | | | 95 | % |
| Case material | | Plastic UL94-VO | | |
| Weight | | 8.2 | | g |
| Dimensions (L x W x H) | | 1.27 x 0.65x 0.40 inches | 32.30 x 16.65 x 10.30 mm | |
| MTBF | | >3500 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C) | | |

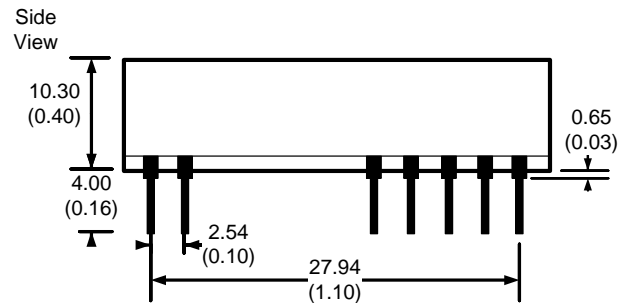
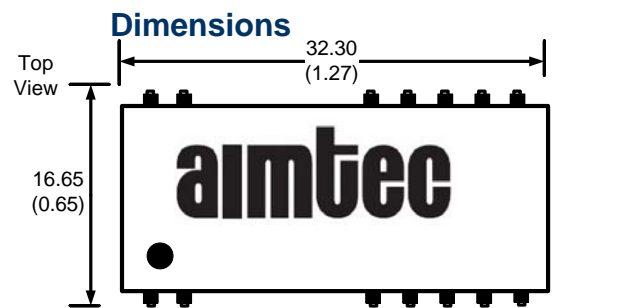
NOTE: All specifications are in this datasheet measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Safety Specifications

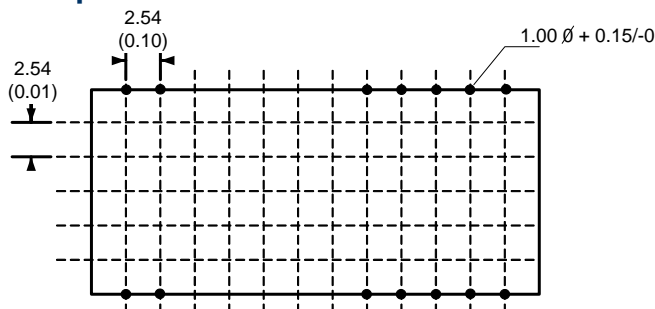
| Parameters | |
|------------------|-----------|
| Agency approvals | cULus |
| Standards | UL60950-1 |

Pin Out Specifications

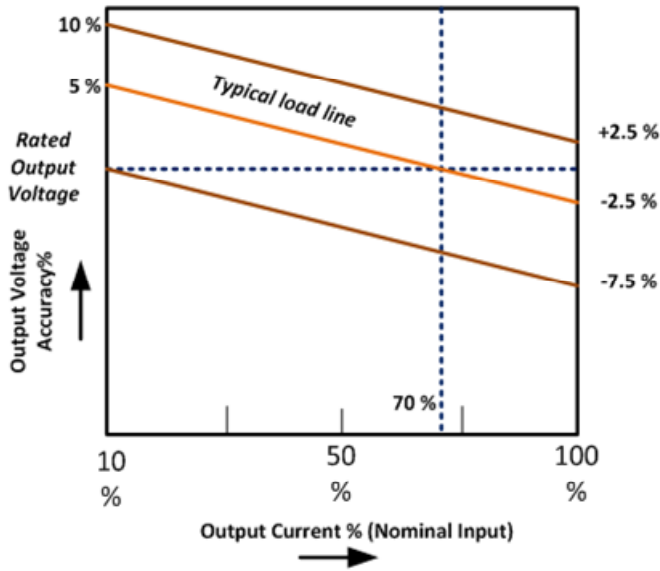
| Pin | Single | Dual |
|------------------------------|-----------|-----------|
| 1 | +V Input | +V Input |
| 2 | -V Input | -V Input |
| 8,17 | N.C. | -V Output |
| 10,15 | -V Output | Common |
| 12,13 | +V Output | +V Output |
| All other pins No Connection | | |



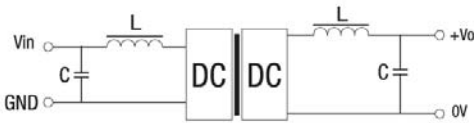
Footprint



Typical characteristics



Filtering single output

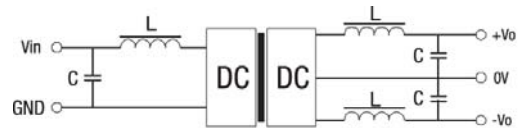


<Figure 1>

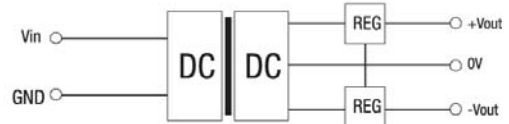


<Figure 2>

Filtering dual output



<Figure 1>



<Figure 2>

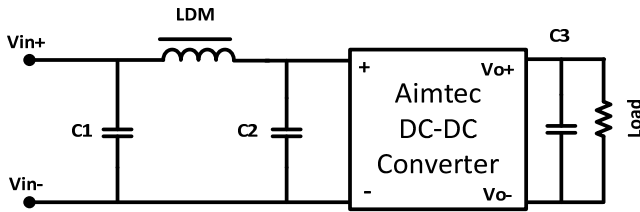
External capacitor – Single output

| Vin (VDC) | External capacitor (uF) | Vout (VDC) | External capacitor (uF) |
|-----------|-------------------------|------------|-------------------------|
| 5 | 4.7 | 5 | 10 |
| 12 | 2.2 | 9 | 4.7 |
| - | - | 12 | 2.2 |
| - | - | 15 | 1 |

External capacitor – Dual output

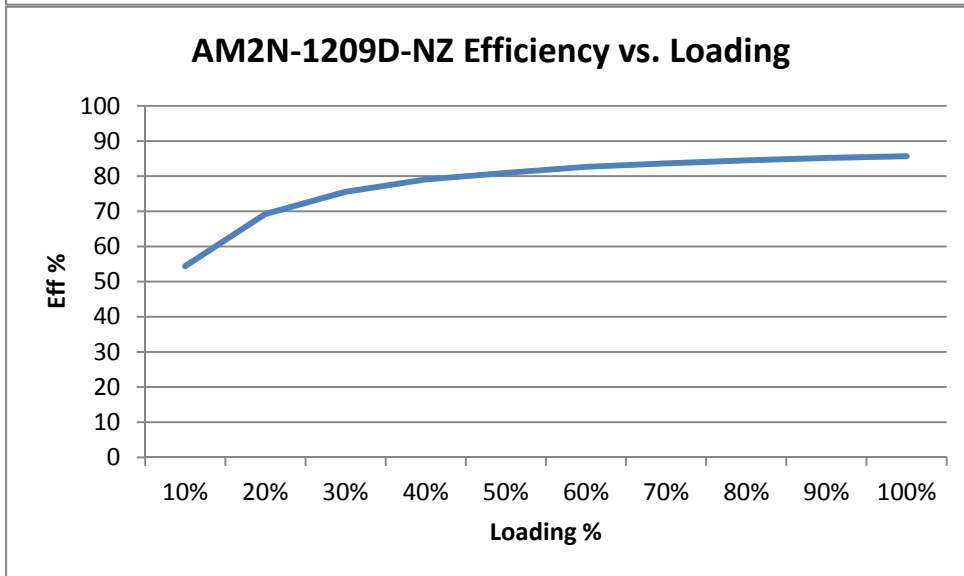
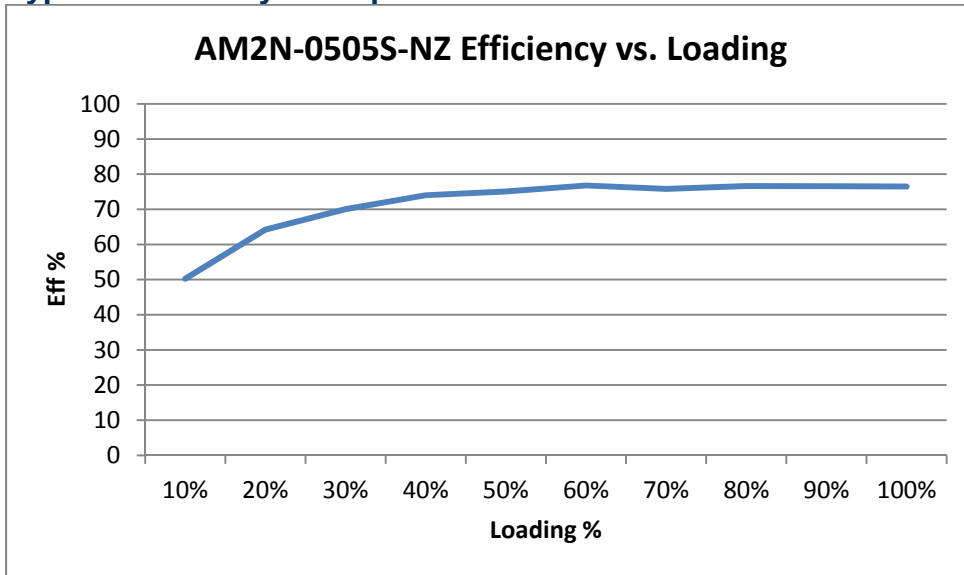
| Vin (VDC) | External capacitor (uF) | Vout (VDC) | External capacitor (uF) |
|-----------|-------------------------|------------|-------------------------|
| 5 | 4.7 | 5 | 4.7 |
| 12 | 2.2 | 9 | 2.2 |
| - | - | 12 | 1 |
| - | - | 15 | 0.47 |

EMI Filtering Recommended Circuit



| C1 | LDM | C2 | C3 |
|-------------------|-------------|-------------------|-------------------------------------|
| 4.7 μ F / 50V | 6.8 μ H | 4.7 μ F / 50V | See external Capacitor tables Above |

Typical Efficiency Example Charts



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