

FEATURES:



- Low Profile SMD
- Continuous Short circuit protection
- Pin-out compatible with DCP01 Series
- Operating Temperature: -40°C to +105°C
- 3000 VDC Isolation regulated model
- 1500 VDC Isolation unregulated models



Models

Single output

| Model | Input Voltage(V) | Output Voltage (V) | Output Current max(mA) | Maximum Capacitive Load (µF) | Isolation (VDC) | Efficiency (%) |
|-------------------|------------------|--------------------|------------------------|------------------------------|-----------------|----------------|
| AM1LT-0505S-NZ | 4.5-5.5 | 5 | 200 | 220 | 1500 | 76 |
| AM1LT-0505SH30-NZ | 4.75 -5.25 | 5 | 200 | 220 | 3000 | 70 |
| AM1LT-1205SH30-NZ | 11.4-12.6 | 5 | 200 | 220 | 3000 | 72 |

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.

Input Specifications

| Parameters | Nominal | Typical | Maximum | Units |
|--------------------------------|---|----------------------------------|-----------------------|--------|
| Voltage range | 5 12 | 4.5-5.5 & 4.75-5.25 11.4-12.6 | | VDC |
| Full load Input current | 5Vin, 5Vout, 1500V Isolation 5Vin, 5Vout, 3000V Isolation 12Vin, 5Vout, 3000V Isolation | 250 285 115 | | mA |
| No load Input current | 5Vin, 5Vout 12Vin, 5Vout | 25 15 | | mA |
| Absolute Max Input | 5 12 | | -0.7 – 9 -0.7 - 18 | VDC |
| Filter | | Capacitor | | |
| Input reflected ripple current | 5Vin, 5Vout, 1500V Isolation | 15 | | mA p-p |

Isolation Specifications

| Parameters | Conditions | Typical | Rated | Units |
|--------------------|---|----------|-------------|-------|
| Tested I/O voltage | 60 Sec, 1mA | | 1500 & 3000 | VDC |
| Resistance | 500Vdc | 1000 | | MOhm |
| Capacitor | 5Vin, 5Vout, I/O, 100KHz/0.1V Others, I/O, 100KHz/0.1V | 20 25 | | pF |

Output Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|--------------------------|--|------------------------------------|-----------|----------|
| Voltage accuracy | 1500V Isolation models 3000V Isolation models | See tolerance envelope graph ±3 | | % |
| Short Circuit protection | | Continuous | | |
| Short circuit restart | | Auto-Recovery | | |
| Line voltage regulation | For 1500V Isolation models & Vin change of 1% For 3000V Isolation models & Vin change of 5% | ±1.2 ±0.25 | | % of Vin |
| Load voltage regulation | 10% to 100% load for 1500V Isolation models 10% to 100% load for 3000V Isolation models | | ±15 ±1 | % |
| Temperature coefficient | Nominal input, 100% full load | 0.03 | | %/°C |
| Ripple & Noise | 20MHz Bandwidth | 60 | 100 | mVp-p |
| Minimum Load Current | | 10 | | % of Max |

NOTE: It is not recommended to have the outputs connected in parallel.

General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|--------------------------------|--|--------------|---------|-------|
| Switching frequency | 5Vin, 5Vout, 100% load Others, 100% load | 100 100 | 300 | KHz |
| Operating temperature | For 1500V isolation derating above 85°C | -40 to + 105 | | °C |
| | For 3000V Isolation derating above 71°C | -40 to + 85 | | |
| Storage temperature | -55 to +125 | | | °C |
| Maximum case temperature | | | | 100 |
| Cooling | Free Air Convection | | | |
| Humidity | | | | 95 |
| Case material | Epoxy Resin(UL94-V0) | | | |
| Weight | 1.4 | | | g |
| Dimensions (L x W x H) | 0.77 x 0.42 x 0.20 inches, 19.50 x 10.53 x 5.10 mm | | | |
| MTBF | >1,500,000 hours (MIL-HDBK -217F, Ground Benign, t=+25°C) for 1500V Isolation models | | | |
| | >3,500,000 hours (MIL-HDBK -217F, Ground Benign, t=+25°C) for 3000V Isolation models | | | |
| Maximum Soldering Temperature* | 1.5mm from case for 10 seconds | | 260 | °C |

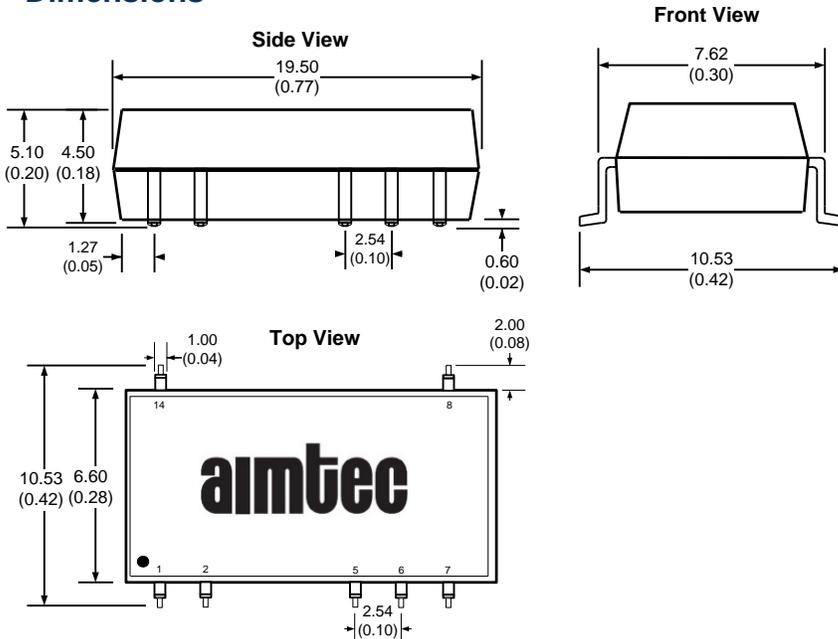
* Manual soldering

Pin Out Specifications

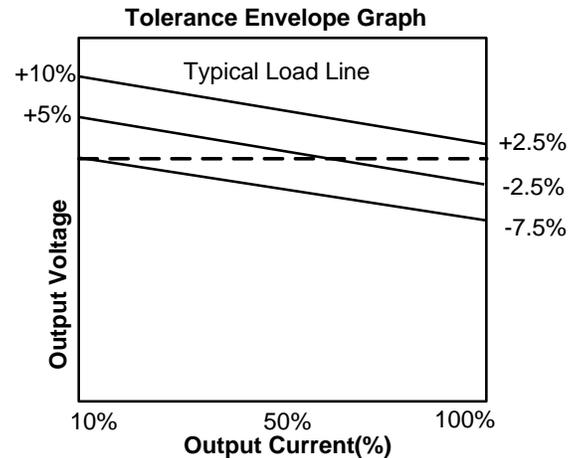
| Pin | Single |
|-----|--------|
| 1 | +Vin |
| 2 | -Vin |
| 5 | -Vout |
| 6 | +Vout |
| 7 | NC |
| 8 | NC |
| 14 | NC |

NC: not connected

Dimensions

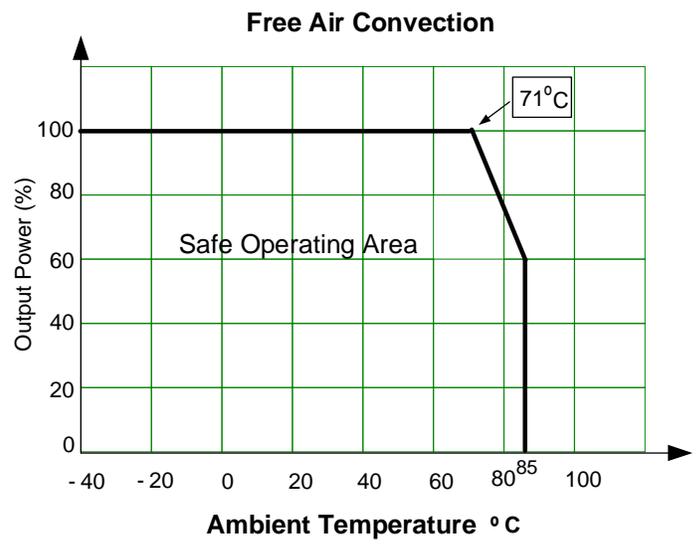
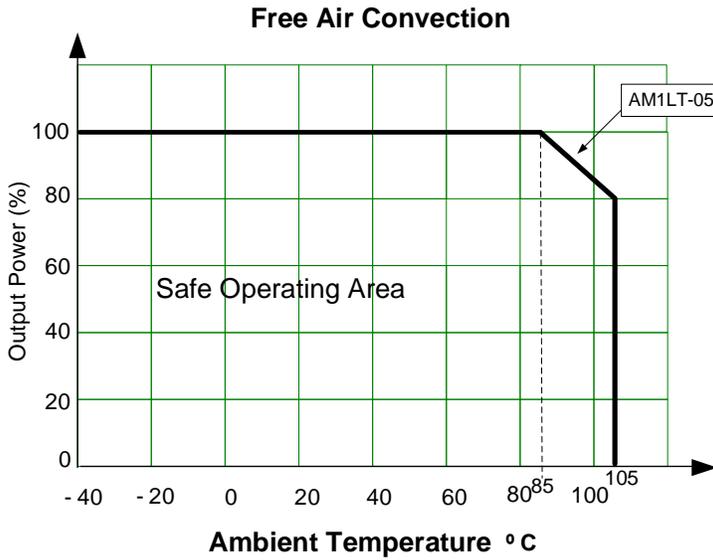


Typical Characteristics

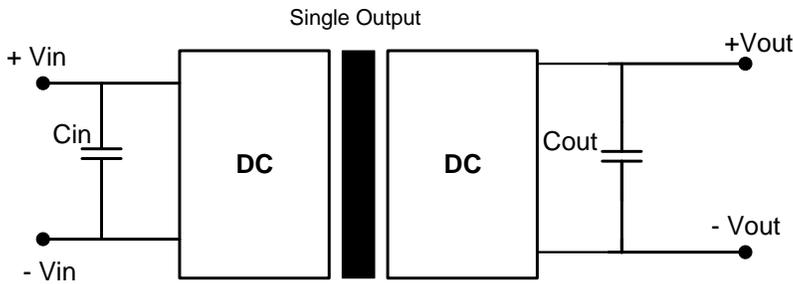


Derating for 1500VDC Isolated models

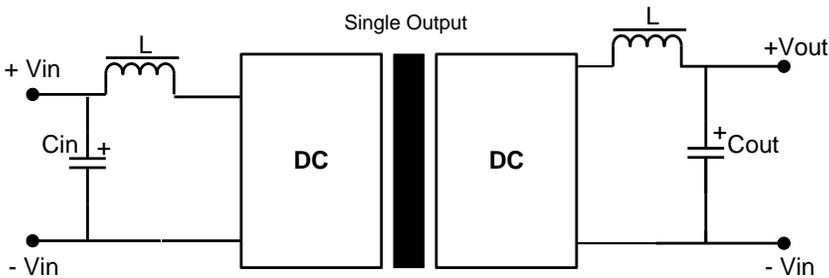
Derating for 3000VDC Isolated models



Typical application circuit for 1500VDC Isolated models



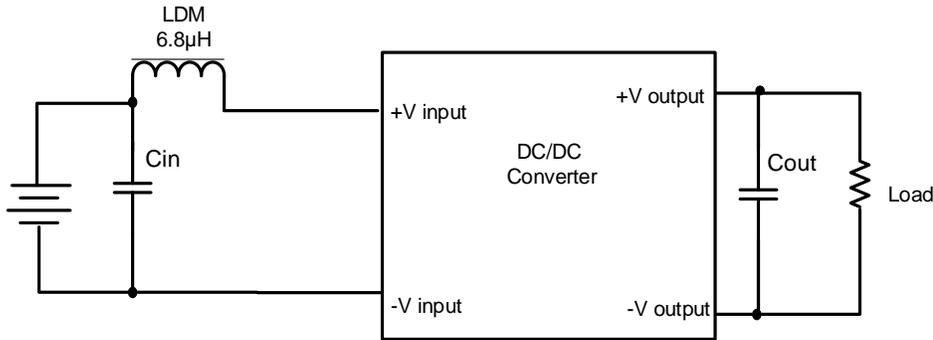
Typical application circuit for 3000VDC Isolated models



It is not recommended to connect any external capacitor in the application field when output loading is less than 0.5 watt.

| Vin (VDC) | Cin (uF) | Vout (VDC) | Cout (uF) |
|-----------|----------|------------|-----------|
| 5 | 4.7 | 5 | 10 |
| 12 | 2.2 | | |

EMI Recommended Circuit (Class B) for 1500VDC Isolated models



NOTE: Cin and Cout values are the same as referenced in the Application Circuit.

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