



FEATURES:

- Ultra compact footprint 1"x1"
- Wide Input Range 2:1
- 1600 VDC Isolation
- Remote ON/OFF Function
- No Minimum Load Required
- Adjustable Output Voltage
- Operating Temperature -40°C to +85°C
- Over Current and Over Voltage Protection
- Efficiency up to 89%
- RoHS Compliant



Models Single output

| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (A) | Isolation (VDC) | Max Capacitive Load (uF) | Efficiency (%) |
|--------------|-------------------|--------------------|------------------------|-----------------|--------------------------|----------------|
| AM15C-1203SZ | 9-18 | 3.3 | 4 | 1600 | 1000 | 84 |
| AM15C-1205SZ | 9-18 | 5 | 3 | 1600 | 1000 | 86 |
| AM15C-1212SZ | 9-18 | 12 | 1.3 | 1600 | 330 | 85 |
| AM15C-1215SZ | 9-18 | 15 | 1 | 1600 | 220 | 87 |
| AM15C-2403SZ | 18-36 | 3.3 | 4 | 1600 | 1000 | 86 |
| AM15C-2405SZ | 18-36 | 5 | 3 | 1600 | 1000 | 87 |
| AM15C-2412SZ | 18-36 | 12 | 1.3 | 1600 | 330 | 88 |
| AM15C-2415SZ | 18-36 | 15 | 1 | 1600 | 220 | 89 |
| AM15C-4803SZ | 36-75 | 3.3 | 4 | 1600 | 1000 | 84 |
| AM15C-4805SZ | 36-75 | 5 | 3 | 1600 | 1000 | 86 |
| AM15C-4812SZ | 36-75 | 12 | 1.3 | 1600 | 330 | 87 |
| AM15C-4815SZ | 36-75 | 15 | 1 | 1600 | 220 | 88 |

Models Dual output

| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (A) | Isolation (VDC) | Max Capacitive Load (uF) | Efficiency (%) |
|--------------|-------------------|--------------------|------------------------|-----------------|--------------------------|----------------|
| AM15C-1205DZ | 9-18 | ±5 | ±1.5 | 1600 | ±470 | 85 |
| AM15C-1212DZ | 9-18 | ±12 | ±0.625 | 1600 | ±220 | 87 |
| AM15C-1215DZ | 9-18 | ±15 | ±0.5 | 1600 | ±100 | 88 |
| AM15C-2405DZ | 18-36 | ±5 | ±1.5 | 1600 | ±470 | 85 |
| AM15C-2412DZ | 18-36 | ±12 | ±0.625 | 1600 | ±220 | 88 |
| AM15C-2415DZ | 18-36 | ±15 | ±0.5 | 1600 | ±100 | 89 |
| AM15C-4805DZ | 36-75 | ±5 | ±1.5 | 1600 | ±470 | 84 |
| AM15C-4812DZ | 36-75 | ±12 | ±0.625 | 1600 | ±220 | 87 |
| AM15C-4815DZ | 36-75 | ±15 | ±0.5 | 1600 | ±100 | 88 |

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 | 12 | 9-18 | | VDC |
| | 24 | 18-36 | | |
| | 48 | 36-75 | | |
| Filter | π | | | |
| Start up time | Nominal Vin with constant resistive load | | 20 | ms |
| Absolute Maximum Rating | 12 Vin | | 36 | VDC |
| | 24 Vin | | 50 | |
| | 48 Vin | | 100 | |
| Peak Input Voltage time | | | 100 | ms |
| On/Off control | ON –3 to 12VDC (or open) | | | |
| | OFF – 0 to 1.2VDC or short pin 2 to pin 3; OFF idle current – 5mA | | | |

Input Specifications (continued)

| Parameters | Nominal | Typical | Maximum | Units |
|--------------------------------|---------------|---------|---------|--------|
| No load current | | | 15 | mA |
| Under voltage lockout | 12 Vin ON/OFF | 8.5 /7 | | VDC |
| | 24 Vin ON/OFF | 17/15 | | |
| | 48 Vin ON/OFF | 34/35 | | |
| Input reflected ripple current | | 20 | | mA p-p |

Isolation Specifications

| Parameters | Conditions | Typical | Rated | Units |
|--------------------|------------|---------|-------|-------|
| Tested I/O voltage | 3 sec | | 1600 | VDC |
| Case to Input | 3 sec | 1600 | | VDC |
| Case to Output | 3 sec | 1600 | | VDC |
| Resistance | | >1000 | | MOhm |
| Capacitance | | 1200 | | pF |

Output Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|---------------------------------------|---|---------------|---------|--------|
| Voltage accuracy | | ±1 | | % |
| Cross Regulation (Dual Output Models) | 25% load on one output - 100% load on second load | ±5 | | % |
| Over voltage protection | Zener Diode Clamp | 120 | | % |
| Over current protection | Full Load | 170 | | % |
| Short Circuit protection | | Continuous | | |
| Short circuit restart | | Auto-Recovery | | |
| Line voltage regulation | HL-LL | ±0.2 | | % |
| Load voltage regulation (Single) | 0% to 100% load | ±0.5 | | % |
| Load voltage regulation (Dual) | 0% to 100% balanced load | ±1 | | % |
| Temperature coefficient | | ±0.02 | | %/°C |
| Ripple & Noise | 20MHz Bandwidth | 100 | | mV p-p |
| Voltage adjustment range | Trim - Single output models only | ±10 | | % |

General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|-------------------------------|------------------------------------|--|---------|-------|
| Switching frequency | 100% load | 375 | | KHz |
| Operating temperature | With derating above +65°C | -40 to +85 | | °C |
| Storage temperature | | -40 to +125 | | °C |
| Maximum case temperature | | | 105 | °C |
| Derating | | 2.6 | | %/°C |
| Cooling | | Free air convection | | |
| Humidity | | | 95 | % RH |
| Case material | | Nickel-coated copper | | |
| Weight | | 18 | | g |
| Dimensions (L x W x H) | 1.00 x 1.00 x 0.40 inches | 25.40 x 25.40 x 10.16 mm | | |
| MTBF | | > 560,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C) | | |
| Maximum soldering temperature | 1.5mm from case for 10 sec | | 260 | °C |
| Transient recovery time | Load step change 75% to 50% to 25% | 250 | | µS |
| Transient recovery deviation | Load step change 75% to 50% to 25% | ±3 | | % |

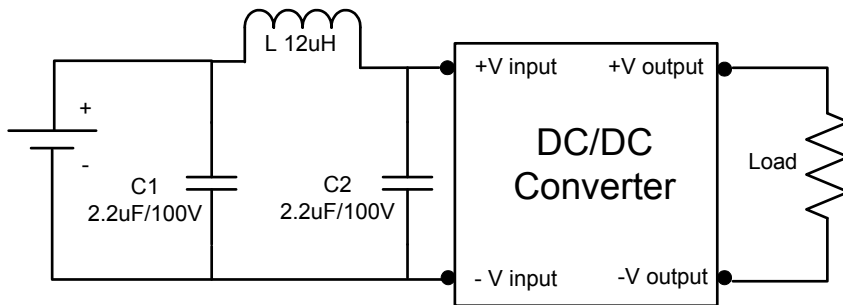
Safety Specifications

| Parameters | |
|--|--|
| Agency Approvals | CE |
| Standards | EN 55022 Class A |
| | EN 61000-4-2 Perf. Criteria A |
| | EN 61000-4-3 Perf. Criteria A |
| | EN 61000-4-4 Perf. Criteria A (external 220uF/100V cap required) |
| | EN 61000-4-5 Perf. Criteria A (external 220uF/100V cap required) |
| | EN 61000-4-6 Perf. Criteria A |
| | EN 61000-4-8 Perf. Criteria A |
| NOTE: also designed to meet IEC 60950-1:2001 | |

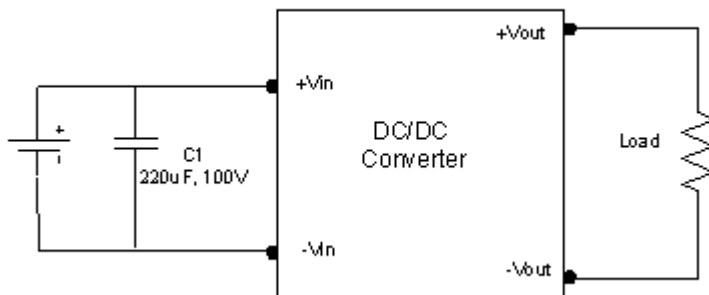
Test Circuits

Notes

- Input filter (C1, C2, L) are needed to meet conducted emission (EN 55022 Class A) and should be mounted as close as possible to the converter.



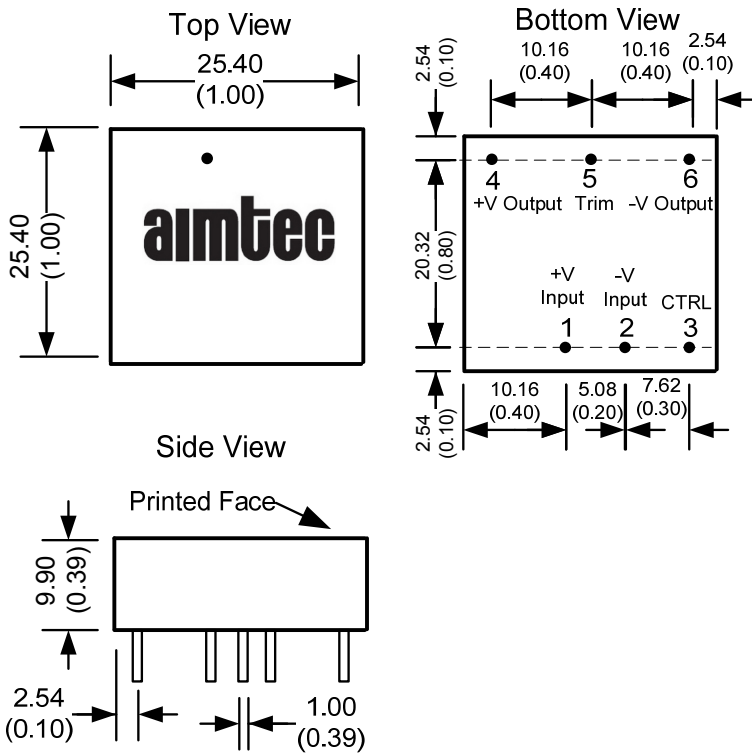
Surge:



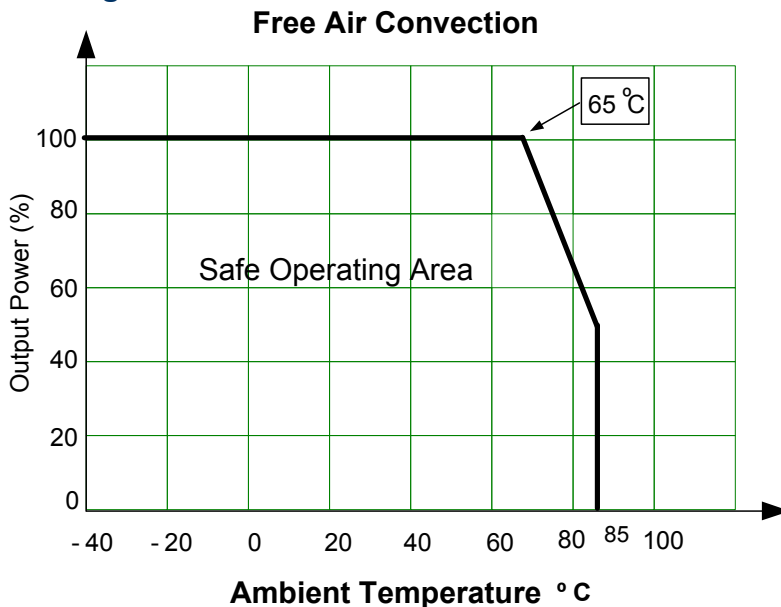
Pin Out Specifications

| Pin | Single | Dual |
|-----|----------------|----------------|
| 1 | + V input | + V input |
| 2 | - V input | - V input |
| 3 | On/Off Control | On/Off Control |
| 4 | + V output | + V output |
| 5 | Trim | Common |
| 6 | - V output | - V output |

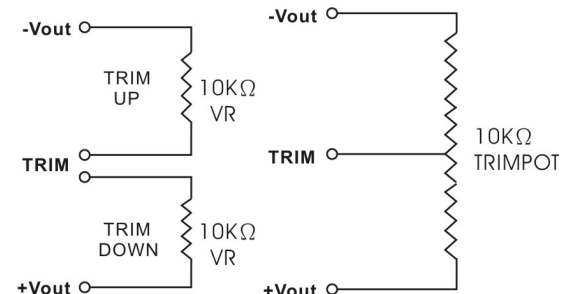
Dimensions



Derating



Trimming



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