

**FEATURES:**

- SMD Package
- Single Output Models
- Low Ripple and Noise
- Industry Standard Pinout
- Input / Output Isolation 1500 & 3000 VDC
- Operating Temperature -40°C to +105°C
- RoHS Compliant
- Continuous Short Circuit Protection


**Models**  
**Single output**

| Model                | Input Voltage (V) | Output Voltage (V) | Output Current Max / Min (mA) | Isolation (VDC) | Input Current Max   No Load (mA) |    | Max Capacitive Load (μF) | Efficiency (%) (Typ.) |
|----------------------|-------------------|--------------------|-------------------------------|-----------------|----------------------------------|----|--------------------------|-----------------------|
| AM1LS-0303S-NZ‡      | 2.97-3.63         | 3.3                | 303 / 30                      | 1500            | 404                              | 25 | 220                      | 69                    |
| AM1LS-0305S-NZ‡#     | 2.97-3.63         | 5                  | 200 / 20                      | 1500            | 404                              | 25 | 220                      | 74                    |
| AM1LS-0309S-NZ‡      | 2.97-3.63         | 9                  | 111 / 12                      | 1500            | 404                              | 25 | 220                      | 80                    |
| AM1LS-0312S-NZ‡      | 2.97-3.63         | 12                 | 84 / 9                        | 1500            | 404                              | 25 | 220                      | 80                    |
| AM1LS-0315S-NZ‡      | 2.97-3.63         | 15                 | 67 / 7                        | 1500            | 404                              | 25 | 220                      | 80                    |
| AM1LS-0324S-NZ‡      | 2.97-3.63         | 24                 | 42 / 4                        | 1500            | 404                              | 25 | 220                      | 80                    |
| AM1LS-0503SJZ        | 4.5-5.5           | 3.3                | 303 / 30                      | 1500            | 270                              | 5  | 2400                     | 74                    |
| AM1LS-0505SJZ**      | 4.5-5.5           | 5                  | 200 / 20                      | 1500            | 270                              | 5  | 2400                     | 82                    |
| AM1LS-0509SJZ        | 4.5-5.5           | 9                  | 111 / 12                      | 1500            | 241                              | 12 | 1000                     | 83                    |
| AM1LS-0512SJZ        | 4.5-5.5           | 12                 | 84 / 9                        | 1500            | 241                              | 12 | 560                      | 83                    |
| AM1LS-0515SJZ        | 4.5-5.5           | 15                 | 67 / 7                        | 1500            | 241                              | 18 | 560                      | 83                    |
| AM1LS-0524SJZ        | 4.5-5.5           | 24                 | 42 / 4                        | 1500            | 241                              | 18 | 220                      | 85                    |
| AM1LS-0503S-NZ***    | 4.5-5.5           | 3.3                | 303 / 30                      | 1500            | 270                              | 5  | 2400                     | 74                    |
| AM1LS-0505S-NZ***    | 4.5-5.5           | 5                  | 200 / 20                      | 1500            | 270                              | 5  | 2400                     | 82                    |
| AM1LS-0509S-NZ***    | 4.5-5.5           | 9                  | 111 / 12                      | 1500            | 241                              | 12 | 1000                     | 83                    |
| AM1LS-0512S-NZ***    | 4.5-5.5           | 12                 | 84 / 9                        | 1500            | 241                              | 12 | 560                      | 83                    |
| AM1LS-0515S-NZ***    | 4.5-5.5           | 15                 | 67 / 7                        | 1500            | 241                              | 18 | 560                      | 83                    |
| AM1LS-0524S-NZ***    | 4.5-5.5           | 24                 | 42 / 4                        | 1500            | 241                              | 18 | 220                      | 85                    |
| AM1LS-1203S-NZ#      | 10.8-13.2         | 3.3                | 303 / 30                      | 1500            | 104                              | 15 | 220                      | 72                    |
| AM1LS-1205S-NZ#      | 10.8-13.2         | 5                  | 200 / 20                      | 1500            | 104                              | 15 | 220                      | 75                    |
| AM1LS-1209S-NZ#      | 10.8-13.2         | 9                  | 111 / 12                      | 1500            | 104                              | 15 | 220                      | 80                    |
| AM1LS-1212S-NZ#      | 10.8-13.2         | 12                 | 84 / 9                        | 1500            | 104                              | 15 | 220                      | 80                    |
| AM1LS-1215S-NZ#      | 10.8-13.2         | 15                 | 67 / 7                        | 1500            | 104                              | 15 | 220                      | 80                    |
| AM1LS-1224S-NZ       | 10.8-13.2         | 24                 | 42 / 4                        | 1500            | 104                              | 15 | 220                      | 80                    |
| AM1LS-1505S-NZ       | 13.5-16.5         | 5                  | 200 / 20                      | 1500            | 82                               | 10 | 220                      | 80                    |
| AM1LS-1509S-NZ       | 13.5-16.5         | 9                  | 111 / 12                      | 1500            | 82                               | 10 | 220                      | 80                    |
| AM1LS-1515S-NZ       | 13.5-16.5         | 15                 | 67 / 7                        | 1500            | 82                               | 10 | 220                      | 80                    |
| AM1LS-2403S-NZ‡      | 21.6-26.4         | 3.3                | 303 / 30                      | 1500            | 52                               | 7  | 220                      | 71                    |
| AM1LS-2405S-NZ‡#     | 21.6-26.4         | 5                  | 200 / 20                      | 1500            | 52                               | 7  | 220                      | 77                    |
| AM1LS-2409S-NZ‡#     | 21.6-26.4         | 9                  | 111 / 12                      | 1500            | 52                               | 7  | 220                      | 80                    |
| AM1LS-2412S-NZ‡      | 21.6-26.4         | 12                 | 84 / 9                        | 1500            | 52                               | 7  | 220                      | 80                    |
| AM1LS-2415S-NZ‡#     | 21.6-26.4         | 15                 | 67 / 7                        | 1500            | 52                               | 7  | 220                      | 76                    |
| AM1LS-2424S-NZ‡#     | 21.6-26.4         | 24                 | 42 / 4                        | 1500            | 52                               | 7  | 220                      | 80                    |
|                      |                   |                    |                               |                 |                                  |    |                          |                       |
| AM1LS-0303SH30-NZ‡   | 2.97-3.63         | 3.3                | 303 / 30                      | 3000            | 404                              | 25 | 220                      | 69                    |
| AM1LS-0305SH30-NZ‡#  | 2.97-3.63         | 5                  | 200 / 20                      | 3000            | 404                              | 25 | 220                      | 74                    |
| AM1LS-0503SH30-NZ*** | 4.5-5.5           | 3.3                | 303 / 30                      | 3000            | 270                              | 5  | 2400                     | 74                    |
| AM1LS-0505SH30-NZ*** | 4.5-5.5           | 5                  | 200 / 20                      | 3000            | 270                              | 5  | 2400                     | 82                    |
| AM1LS-0509SH30-NZ*** | 4.5-5.5           | 9                  | 111 / 12                      | 3000            | 241                              | 12 | 1000                     | 83                    |
| AM1LS-0512SH30-NZ*** | 4.5-5.5           | 12                 | 84 / 9                        | 3000            | 241                              | 12 | 560                      | 83                    |
| AM1LS-0515SH30-NZ*** | 4.5-5.5           | 15                 | 67 / 7                        | 3000            | 241                              | 18 | 560                      | 83                    |
| AM1LS-0524SH30-NZ*** | 4.5-5.5           | 24                 | 42 / 4                        | 3000            | 241                              | 18 | 220                      | 85                    |
| AM1LS-1203SH30-NZ#   | 10.8-13.2         | 3.3                | 303 / 30                      | 3000            | 104                              | 15 | 220                      | 72                    |
| AM1LS-1205SH30-NZ#   | 10.8-13.2         | 5                  | 200 / 20                      | 3000            | 104                              | 15 | 220                      | 75                    |
| AM1LS-1209SH30-NZ#   | 10.8-13.2         | 9                  | 111 / 12                      | 3000            | 104                              | 15 | 220                      | 80                    |
| AM1LS-1212SH30-NZ#   | 10.8-13.2         | 12                 | 84 / 9                        | 3000            | 104                              | 15 | 220                      | 80                    |

|                     |           |    |          |      |     |    |     |    |
|---------------------|-----------|----|----------|------|-----|----|-----|----|
| AM1LS-1215SH30-NZ#  | 10.8-13.2 | 15 | 67 / 7   | 3000 | 104 | 15 | 220 | 80 |
| AM1LS-1224SH30-NZ   | 10.8-13.2 | 24 | 42 / 4   | 3000 | 104 | 15 | 220 | 80 |
| AM1LS-1515SH30-NZ   | 13.5-16.5 | 15 | 67 / 7   | 3000 | 82  | 10 | 220 | 80 |
| AM1LS-2405SH30-NZ‡# | 21.6-26.4 | 5  | 200 / 20 | 3000 | 52  | 7  | 220 | 77 |
| AM1LS-2409SH30-NZ‡# | 21.6-26.4 | 9  | 111 / 12 | 3000 | 52  | 7  | 220 | 80 |
| AM1LS-2415SH30-NZ‡# | 21.6-26.4 | 15 | 67 / 7   | 3000 | 52  | 7  | 220 | 76 |
| AM1LS-2424SH30-NZ‡# | 21.6-26.4 | 24 | 42 / 4   | 3000 | 52  | 7  | 220 | 80 |

## Models

### Dual output

| Model                | Input Voltage (V) | Output Voltage (V) | Output Current Max / Min (mA) | Isolation (VDC) | Input Current Max   No Load (mA) | Max Capacitive Load(μF) | Efficiency (%) |
|----------------------|-------------------|--------------------|-------------------------------|-----------------|----------------------------------|-------------------------|----------------|
| AM1LS-0305D-NZ‡      | 2.97-3.63         | ±5                 | ±100 / ±10                    | 1500            | 389 25                           | 100                     | 76             |
| AM1LS-0312D-NZ‡      | 2.97-3.63         | ±12                | ±42 / ±5                      | 1500            | 389 25                           | 100                     | 77             |
| AM1LS-0315D-NZ‡      | 2.97-3.63         | ±15                | ±33 / ±3                      | 1500            | 389 25                           | 100                     | 78             |
| AM1LS-0505D-NZ***    | 4.5-5.5           | ±5                 | ±100 / ±10                    | 1500            | 244 5                            | 1200                    | 82             |
| AM1LS-0509D-NZ***    | 4.5-5.5           | ±9                 | ±56 / ±6                      | 1500            | 241 12                           | 470                     | 82             |
| AM1LS-0512D-NZ***    | 4.5-5.5           | ±12                | ±42 / ±5                      | 1500            | 241 12                           | 220                     | 83             |
| AM1LS-0515D-NZ***    | 4.5-5.5           | ±15                | ±33 / ±3                      | 1500            | 241 18                           | 220                     | 83             |
| AM1LS-0524D-NZ***    | 4.5-5.5           | ±24                | ±21 / ±3                      | 1500            | 241 18                           | 100                     | 85             |
| AM1LS-1205D-NZ#      | 10.8-13.2         | ±5                 | ±100 / ±10                    | 1500            | 104 15                           | 100                     | 80             |
| AM1LS-1209D-NZ#      | 10.8-13.2         | ±9                 | ±56 / ±6                      | 1500            | 104 15                           | 100                     | 80             |
| AM1LS-1212D-NZ#      | 10.8-13.2         | ±12                | ±42 / ±5                      | 1500            | 104 15                           | 100                     | 77             |
| AM1LS-1215D-NZ#      | 10.8-13.2         | ±15                | ±33 / ±3                      | 1500            | 104 15                           | 100                     | 81             |
| AM1LS-1224D-NZ#      | 10.8-13.2         | ±24                | ±21 / ±2                      | 1500            | 104 15                           | 100                     | 81             |
| AM1LS-1515D-NZ       | 13.5-16.5         | ±15                | ±33 / ±3                      | 1500            | 103 15                           | 100                     | 81             |
| AM1LS-2405D-NZ‡#     | 21.6-26.4         | ±5                 | ±100 / ±10                    | 1500            | 83 12                            | 100                     | 74             |
| AM1LS-2409D-NZ‡#     | 21.6-26.4         | ±9                 | ±56 / ±6                      | 1500            | 52 10                            | 100                     | 80             |
| AM1LS-2412D-NZ‡#     | 21.6-26.4         | ±12                | ±42 / ±5                      | 1500            | 52 10                            | 100                     | 76             |
| AM1LS-2415D-NZ‡#     | 21.6-26.4         | ±15                | ±33 / ±3                      | 1500            | 52 10                            | 100                     | 75             |
| AM1LS-2424D-NZ‡#     | 21.6-26.4         | ±24                | ±21 / ±2                      | 1500            | 52 10                            | 100                     | 80             |
|                      |                   |                    |                               |                 |                                  |                         |                |
| AM1LS-0305DH30-NZ‡   | 2.97-3.63         | ±5                 | ±100 / ±10                    | 3000            | 389 25                           | 100                     | 76             |
| AM1LS-0312DH30-NZ‡   | 2.97-3.63         | ±12                | ±42 / ±5                      | 3000            | 389 25                           | 100                     | 77             |
| AM1LS-0505DH30-NZ*** | 4.5-5.5           | ±5                 | ±100 / ±10                    | 3000            | 244 5                            | 1200                    | 82             |
| AM1LS-0509DH30-NZ*** | 4.5-5.5           | ±9                 | ±56 / ±6                      | 3000            | 241 12                           | 470                     | 83             |
| AM1LS-0512DH30-NZ*** | 4.5-5.5           | ±12                | ±42 / ±5                      | 3000            | 241 12                           | 220                     | 83             |
| AM1LS-0515DH30-NZ*** | 4.5-5.5           | ±15                | ±34 / ±4                      | 3000            | 241 18                           | 220                     | 83             |
| AM1LS-0524DH30-NZ*** | 4.5-5.5           | ±24                | ±21 / ±3                      | 3000            | 241 18                           | 100                     | 85             |
| AM1LS-1205DH30-NZ#   | 10.8-13.2         | ±5                 | ±100 / ±10                    | 3000            | 104 15                           | 100                     | 80             |
| AM1LS-1209DH30-NZ#   | 10.8-13.2         | ±9                 | ±56 / ±6                      | 3000            | 104 15                           | 100                     | 80             |
| AM1LS-1212DH30-NZ#   | 10.8-13.2         | ±12                | ±42 / ±5                      | 3000            | 104 15                           | 100                     | 77             |
| AM1LS-1215DH30-NZ#   | 10.8-13.2         | ±15                | ±33 / ±3                      | 3000            | 104 15                           | 100                     | 81             |
| AM1LS-1224DH30-NZ#   | 10.8-13.2         | ±24                | ±21 / ±2                      | 3000            | 104 15                           | 100                     | 81             |
| AM1LS-1515DH30-NZ    | 13.5-16.5         | ±15                | ±33 / ±3                      | 3000            | 83 12                            | 100                     | 81             |
| AM1LS-2405DH30-NZ‡#  | 21.6-26.4         | ±5                 | ±100 / ±10                    | 3000            | 52 10                            | 100                     | 76             |
| AM1LS-2409DH30-NZ‡#  | 21.6-26.4         | ±9                 | ±56 / ±6                      | 3000            | 52 10                            | 100                     | 80             |
| AM1LS-2412DH30-NZ‡#  | 21.6-26.4         | ±12                | ±42 / ±5                      | 3000            | 52 10                            | 100                     | 76             |
| AM1LS-2415DH30-NZ‡#  | 21.6-26.4         | ±15                | ±33 / ±3                      | 3000            | 52 10                            | 100                     | 75             |
| AM1LS-2424DH30-NZ‡#  | 21.6-26.4         | ±24                | ±21 / ±2                      | 3000            | 52 10                            | 100                     | 76             |

‡ With Momentary short circuit protection of 1 second

NOTE: Add suffix "TR" to a part number when ordering in tape and reel package

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.

NOTE: Add suffix "-B" to a part number for individual packaging

**AM1LS-1215DH30-NZ, AM1LS-1215SH30-NZ, AM1LS-1224DH30-NZ, AM1LS-1224D-NZ, AM1LS-1224SH30-NZ will be discontinued (EOL) by December 30, 2021; for new designs, please refer to AM1LS-JZ series.**

## Input Specifications

| Parameters                                | Nominal   | Typical   | Maximum | Units |
|-------------------------------------------|-----------|-----------|---------|-------|
| Voltage Range                             | 3         | 2.97-3.63 |         | VDC   |
|                                           | 5         | 4.5-5.5   |         |       |
|                                           | 12        | 10.8-13.2 |         |       |
|                                           | 15        | 13.5-16.5 |         |       |
|                                           | 24        | 21.6-26.4 |         |       |
| Absolute Max Input Voltage<br>(1 sec max) | 3 Vin     |           | 5       | VDC   |
|                                           | 5 Vin     |           | 9       |       |
|                                           | 12 Vin    |           | 18      |       |
|                                           | 15 Vin    |           | 21      |       |
|                                           | 24 Vin    |           | 30      |       |
| Filter                                    | Capacitor |           |         |       |

## Isolation Specifications

| Parameters         | Conditions | Typical     | Maximum | Units |
|--------------------|------------|-------------|---------|-------|
| Tested I/O Voltage | 60 sec     | 1500 / 3000 |         | VDC   |
| Resistance         | 500VDC     | >1000       |         | MOhm  |
| Capacitance        |            | 20          |         | pF    |

## Output Specifications

| Parameters                                   | Conditions                              | Typical | Maximum | Units    |
|----------------------------------------------|-----------------------------------------|---------|---------|----------|
| Voltage Accuracy                             | 100% load (see tolerance chart)         | ±5      |         | %        |
| Short Circuit Protection                     | Continuous, unless marked with ‡        |         |         |          |
| Short Circuit Restart                        | Auto-Recovery                           |         |         |          |
| Line Voltage Regulation                      | For ±1% of Vin, 3.3V output models only |         | ±1.5    | % of Vin |
|                                              | For ±1% of Vin, others                  |         | ±1.2    | % of Vin |
| Load Voltage Regulation<br>(10% - 100% Load) | 5Vin, 3.3Vout                           | 18      | 20      | %        |
|                                              | 5Vin, 5Vout                             | 10      | 15      | %        |
|                                              | 5Vin, 9Vout                             | 8       | 10      | %        |
|                                              | 5Vin, 12Vout                            | 7       | 10      | %        |
|                                              | 5Vin, 15Vout                            | 6       | 10      | %        |
|                                              | 5Vin, 24Vout                            | 5       | 10      | %        |
|                                              | Other models, 3.3V single output        | 18      |         | %        |
|                                              | Other models, 5V single output          | 12      |         | %        |
|                                              | Other models, 9V single output          | 8       |         | %        |
|                                              | Other models, 12V single output         | 7       |         | %        |
|                                              | Other models, 15V single output         | 6       |         | %        |
|                                              | Other models, 24V single output         | 5       |         | %        |
|                                              | Other models, 5V dual output            | 12      |         | %        |
|                                              | Other models, 9V dual output            | 9       |         | %        |
|                                              | Other models, 12V dual output           | 8       |         | %        |
|                                              | Other models, 15V dual output           | 7       |         | %        |
|                                              | Other models, 24V dual output           | 6       |         | %        |
| Temperature Coefficient                      | 100% load, 5V input models              | ±0.02   |         | %/°C     |
|                                              | 100% load, Others                       | ±0.03   |         | %/°C     |
| Ripple & Noise                               | 5V input, 24V output                    | 50      | 100     | mV p-p   |
|                                              | 5V input, other models                  | 30      | 75      | mV p-p   |
|                                              | Others                                  | 60      | 150     | mV p-p   |

## General Specifications

| Parameters                       | Conditions                                | Typical     | Maximum | Units |
|----------------------------------|-------------------------------------------|-------------|---------|-------|
| Switching frequency              | 100% load, 5V input models                | 270         |         | KHz   |
|                                  | 100% load, others                         | 100         |         | KHz   |
| Operating temperature            | With derating above +100                  | -40 to +105 |         | °C    |
| Storage temperature              |                                           | -55 to +125 |         | °C    |
| Cooling                          | Free air convection                       |             |         |       |
| Storage Humidity                 | Non-condensing                            |             | 95      | % RH  |
| Moisture Sensitivity Level (MSL) | IPC/JEDEC J-STD-020D.1 (5Vin models only) |             | Level 1 |       |
| Case material                    | Flame retardant plastic (UL94-V0)         |             |         |       |

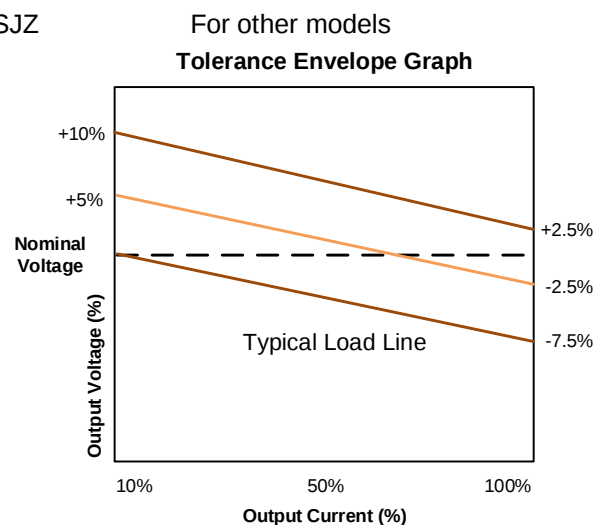
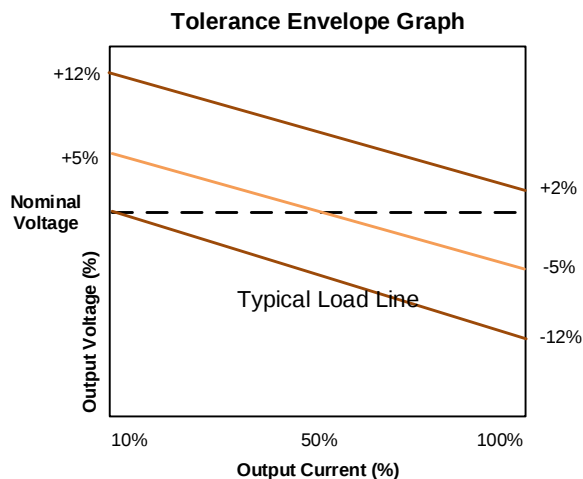
|                               |                                                        |                                                   |     |    |
|-------------------------------|--------------------------------------------------------|---------------------------------------------------|-----|----|
| Weight                        | Single 1.6(5Vin models 1.4)<br>Dual 2(5Vin models 1.4) |                                                   |     | g  |
| Dimensions (L x W x H)        | 5V Input Single Output Models                          | 0.52 x 0.45 x 0.28inches (13.20 x 11.40 x 7.25mm) |     |    |
|                               | Other Single Output Models                             | 0.50 x 0.44 x 0.28inches (12.70 x 11.20 x 7.25mm) |     |    |
|                               | 5V Input Dual Output Models                            | 0.60 x 0.45 x 0.28inches (15.24 x 11.40 x 7.25mm) |     |    |
|                               | Other Dual Output Models                               | 0.60 x 0.44 x 0.28inches (15.24 x 11.20 x 7.25mm) |     |    |
| MTBF                          | >3500Khrs (MIL-HDBK -217F, Ground Benign, t=+25°C)     |                                                   |     |    |
| Maximum soldering temperature | Manual soldering 1.5mm from case for 10 sec            |                                                   | 300 | °C |
|                               | Reflow maximum duration ≤60s at over 217°C             |                                                   | 245 | °C |
| Maximum case temperature      |                                                        | 130                                               |     | °C |

## Safety Specifications

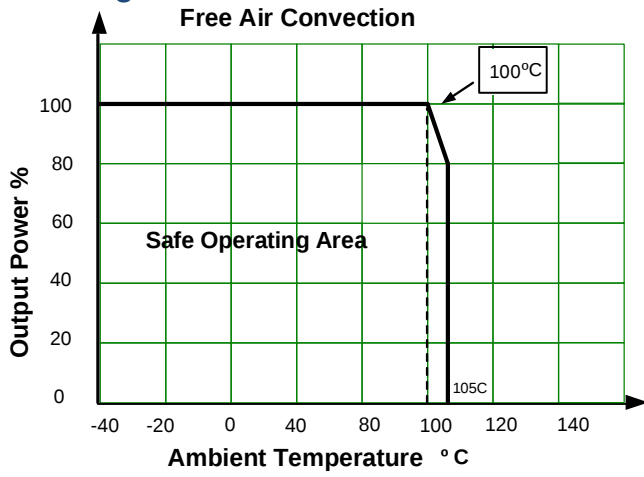
| Parameters       |                                       |                           |                                                                             |  |
|------------------|---------------------------------------|---------------------------|-----------------------------------------------------------------------------|--|
| Agency approvals | cULus                                 |                           |                                                                             |  |
| Standards        | Information technology Equipment      |                           | UL 60950-1 (The models marked with # only)                                  |  |
|                  |                                       |                           | UL 62368 (The models marked with ** only)                                   |  |
|                  | EMI - Conducted and radiated emission | 5V input                  | CISPR32/EN55032, class B (with the recommended EMC circuit for 5Vin models) |  |
|                  |                                       | Others                    | EN55022, class B (with the recommended EMC circuit)                         |  |
|                  | Electrostatic Discharge Immunity      | 5V input                  | IEC 61000-4-2, Contact ±4kV, Air ±8kV, Criteria B (3.3Vout models only)     |  |
|                  |                                       | Other single input models | IEC 61000-4-2, Contact ±8kV, Criteria B                                     |  |
|                  |                                       | Other dual input models   | IEC 61000-4-2, Contact ±6kV, Criteria B                                     |  |

## Load Accuracy Tolerance Graph

For AM1LS-0503S-NZ, AM1LS-0503SH30-NZ and AM1LS-0503SJZ



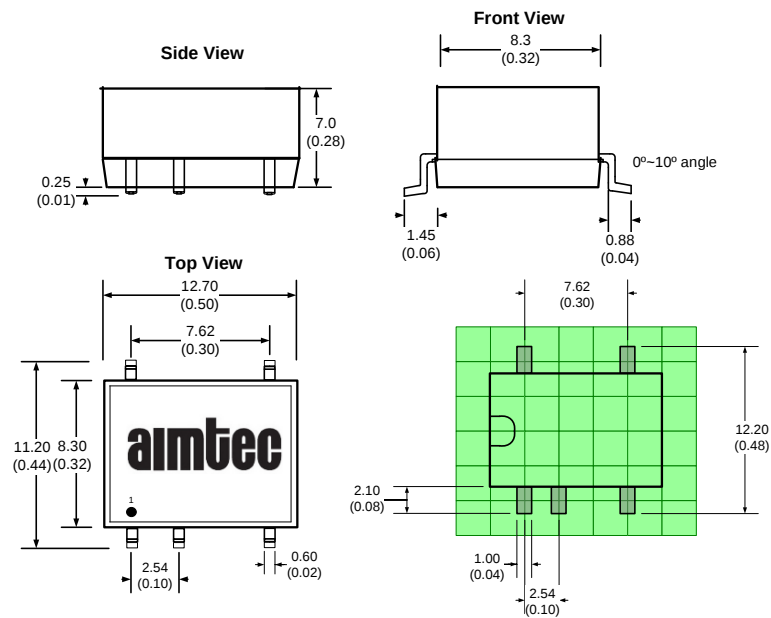
## Derating



## Pin Out Specifications and Dimensions for 3.3V, 12V, 15V, 24V Input Models##

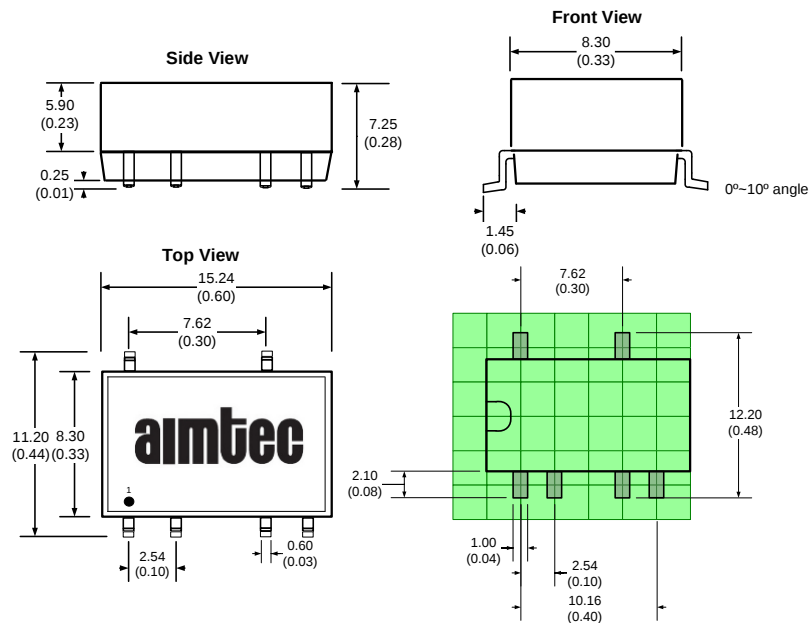
| Pin | Single    |
|-----|-----------|
| 1   | - V Input |
| 2   | + V Input |
| 3   | No Pin    |
| 4   | -V Output |
| 5   | +V Output |
| 6   | No Pin    |
| 7   | No Pin    |
| 8   | N.C.      |

Single Output Models



| Pin | Dual Output Models |
|-----|--------------------|
| 1   | -V Input           |
| 2   | +V Input           |
| 3   | No Pin             |
| 4   | Common             |
| 5   | -V Output          |
| 6   | No Pin             |
| 7   | +V Output          |
| 8   | No Pin             |
| 9   | No Pin             |
| 10  | N.C.               |

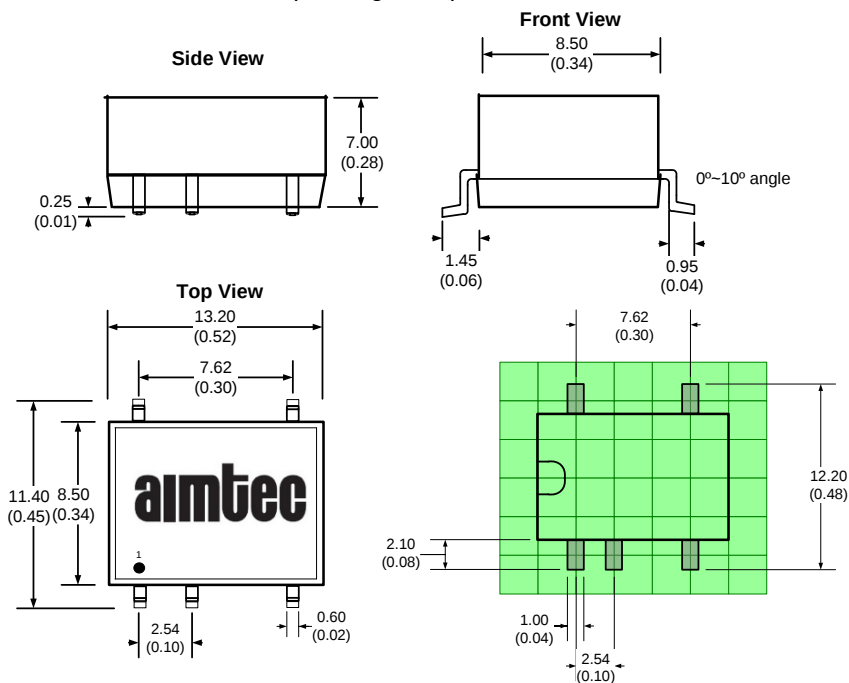
Dual Output Models



## Pin Out Specifications and Dimensions for 5V Input Models

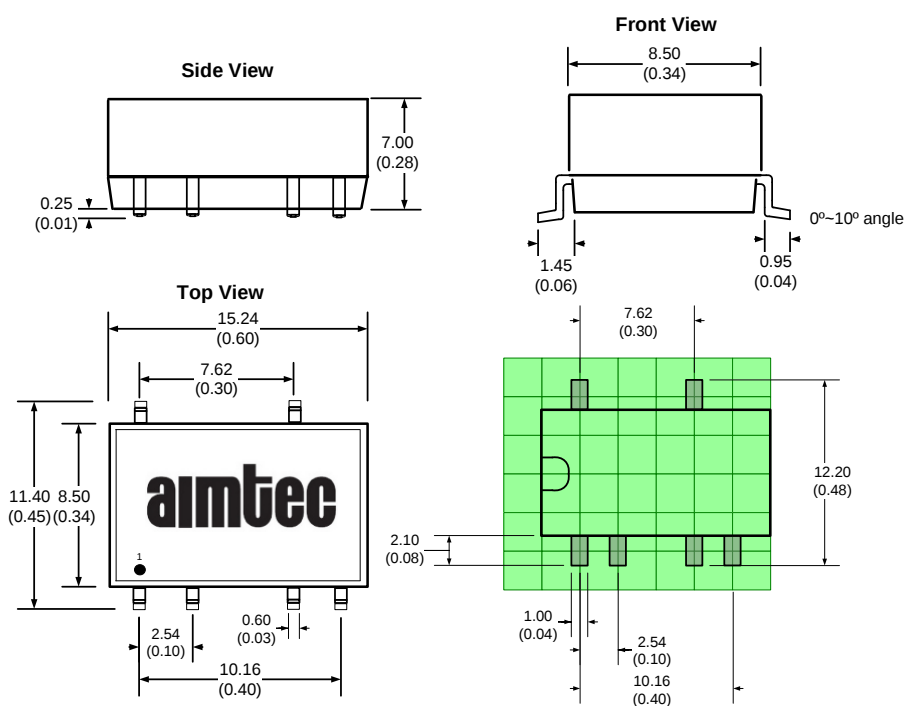
| Pin | Single    |
|-----|-----------|
| 1   | - V Input |
| 2   | + V Input |
| 3   | No Pin    |
| 4   | -V Output |
| 5   | +V Output |
| 6   | No Pin    |
| 7   | No Pin    |
| 8   | N.C.      |

5V Input Single Output Models



| Pin | Dual Output Models |
|-----|--------------------|
| 1   | -V Input           |
| 2   | +V Input           |
| 3   | No Pin             |
| 4   | Common             |
| 5   | -V Output          |
| 6   | No Pin             |
| 7   | +V Output          |
| 8   | No Pin             |
| 9   | No Pin             |
| 10  | N.C.               |

5V Input Dual Output Models

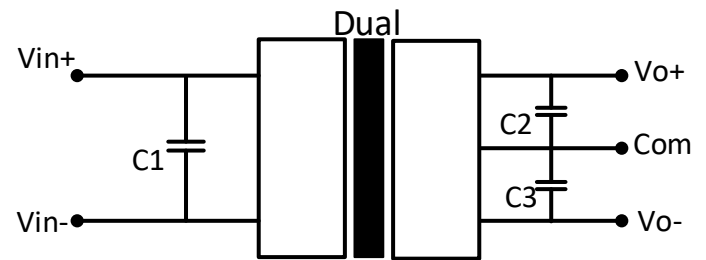
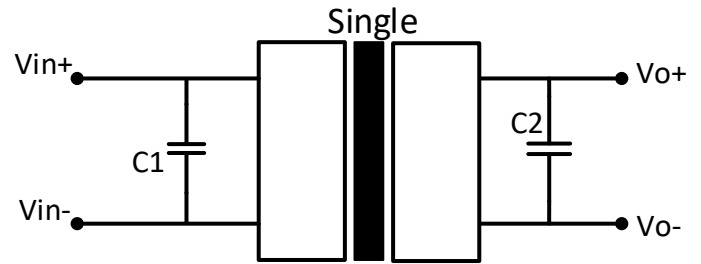


## Typical Application Circuits

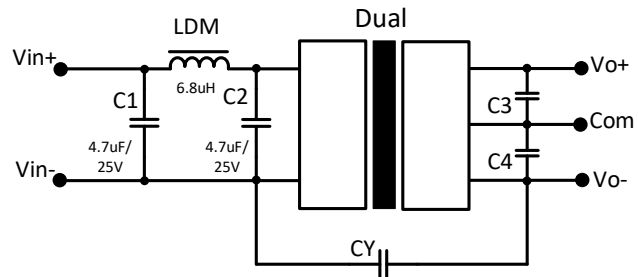
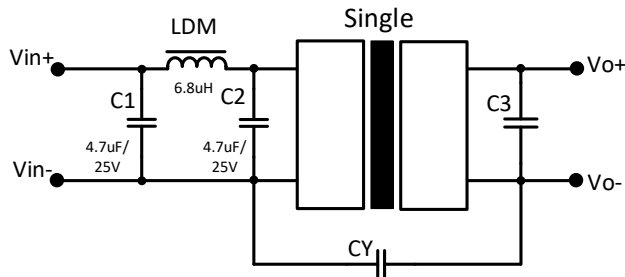
Capacitor selection Table

| Vin | C1          | Single VDC | C2           | Dual VDC   | C2/C3       |
|-----|-------------|------------|--------------|------------|-------------|
| 3.3 | 4.7 $\mu$ F | 3.3 V      | 10 $\mu$ F   | $\pm$ 3.3  | 4.7 $\mu$ F |
| 5   | 4.7 $\mu$ F | 5V/6V      | 10 $\mu$ F   | $\pm$ 5V   | 4.7 $\mu$ F |
|     |             | 9 V        | 4.7 $\mu$ F  | $\pm$ 9V   | 2.2 $\mu$ F |
| 12  | 2.2 $\mu$ F | 12 V       | 2.2 $\mu$ F  | $\pm$ 12 V | 1 $\mu$ F   |
| 15  | 2.2 $\mu$ F | 15 V       | 1 $\mu$ F    | $\pm$ 15 V | 1 $\mu$ F   |
| 24  | 1 $\mu$ F   | 24V        | 0.47 $\mu$ F | $\pm$ 24 V | 1 $\mu$ F   |

- 1) Ensure output load of Min 10%, or specifications may not be met
- 2) Under normal operation, there is no protection for overload condition
- 3) Converter may exhibit start up delay if capacitive load exceeds recommended
- 4) Ceramic or electrolytic type capacitors are recommended, tantalum type may damage converter
- 5) Parallel connections, or hot swapping is not recommended

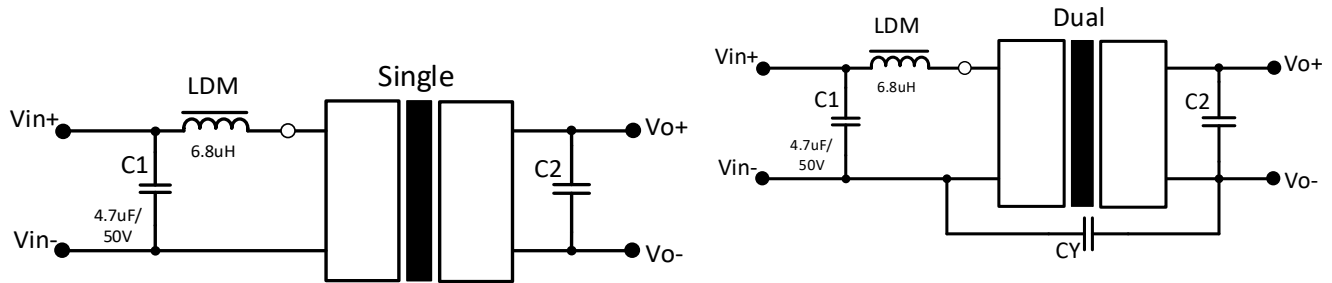


## EMI Recommended Circuit for 5V input models (Class B)



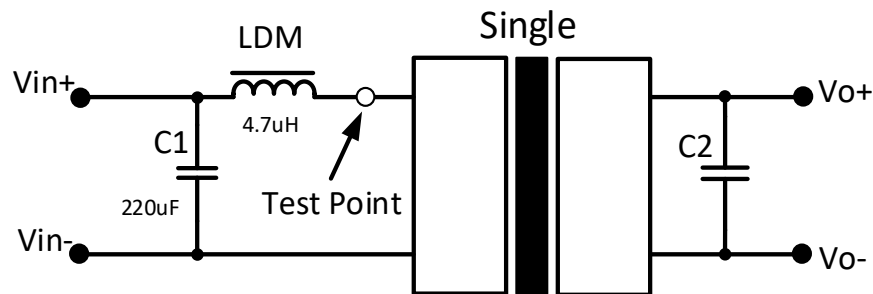
| Vout | CY                                      |
|------|-----------------------------------------|
| 3.3  | -                                       |
| 5    | 47pF/2KVDC for 1.5KVDC isolation models |
| 9    | 47p F/4KVDC for 3KVDC isolation models  |
| 12   | 1nF/2KVDC for 1.5KVDC isolation models  |
| 15   | 1nF/4KVDC for 3KVDC isolation models    |
| 24   |                                         |

### EMI Recommended Circuit for other input models (Class B)

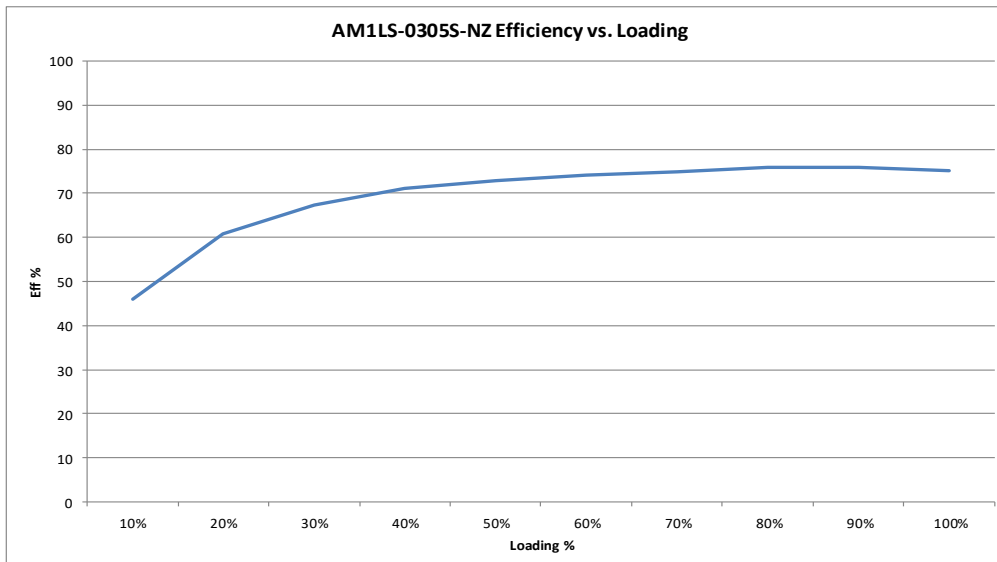


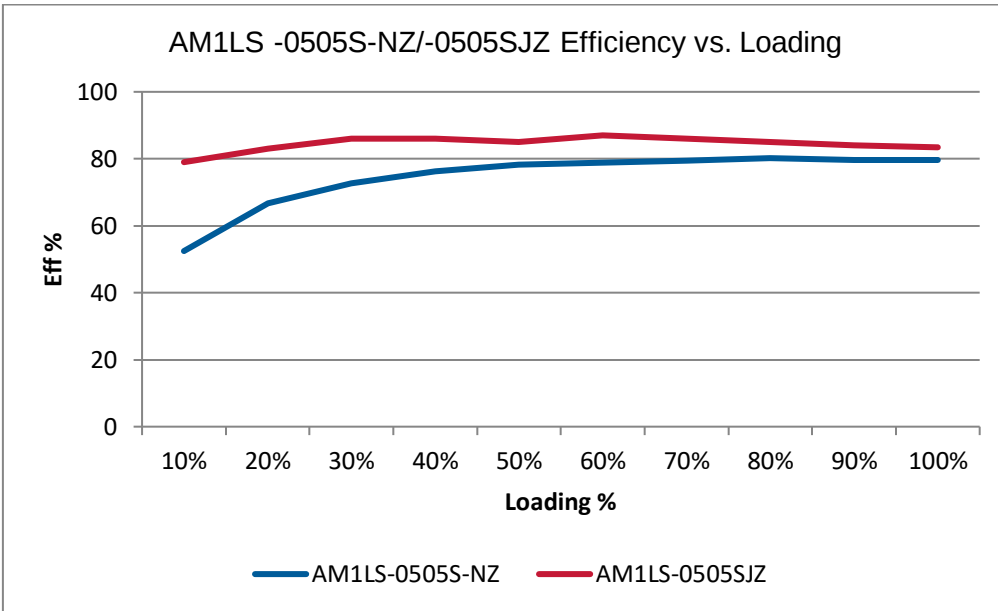
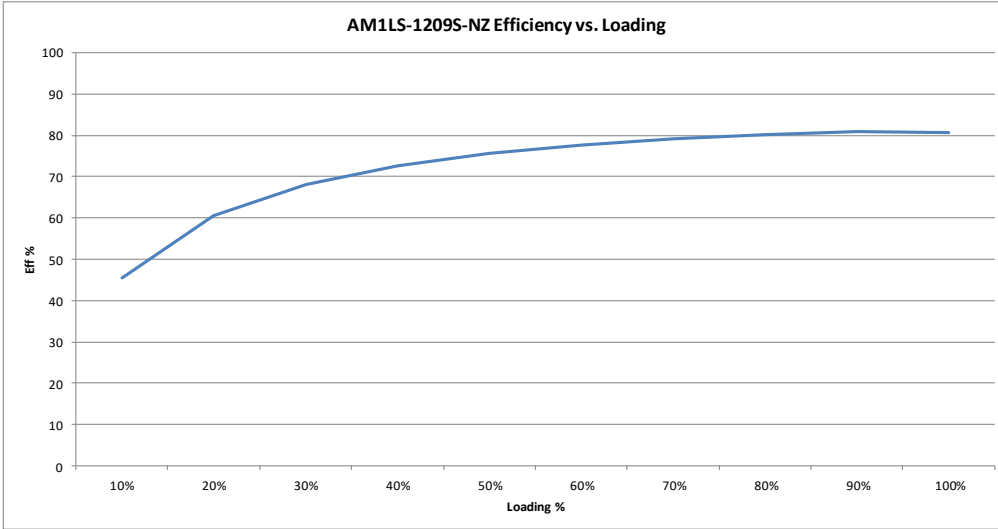
| Vin | CY                                     |
|-----|----------------------------------------|
| 3.3 | -                                      |
| 12  | -                                      |
| 15  | 1nF/2KVDC for 1.5KVDC isolation models |
| 24  | 1nF/3KVDC for 3KVDC isolation models   |

### Input Reflected Ripple Current Test Circuit



### Typical Efficiency vs. Loading





**NOTE:** 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to [www.aimtec.com](http://www.aimtec.com) for the most current product specifications. 2. Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. 3. Mechanical drawings and specifications are for reference only. 4. All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. 5. Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. 6. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at [www.aimtec.com](http://www.aimtec.com).