



### Features

- 2:1 wide input range
- Protections: Short circuit / Overload / Over voltage
- 1500VAC I/O isolation
- Built-in EMI filter, low ripple noise
- 100% full load burn-in test
- Fixed switching frequency at 83 KHz
- Low cost
- High reliability

| Model |                          | LY50-DD*-A   | LY50-DD*-B  | LY50-DD*-BC | LY50-DD*-C  | LY50-DD*-CD |
|-------|--------------------------|--------------|-------------|-------------|-------------|-------------|
| Input | <b>Voltage range</b>     | 9.2 – 18V DC | 19 – 36V DC | 25 – 45V DC | 36 – 72V DC | 60 – 90V DC |
|       | <b>Efficiency (typ.)</b> | 70 – 74%     | 73 – 80%    | TBD         | 76 – 83%    | TBD         |
|       | <b>DC current (typ.)</b> | 7A/12V       | 3A/24V      | TBD         | 1.5A/48V    | TBD         |

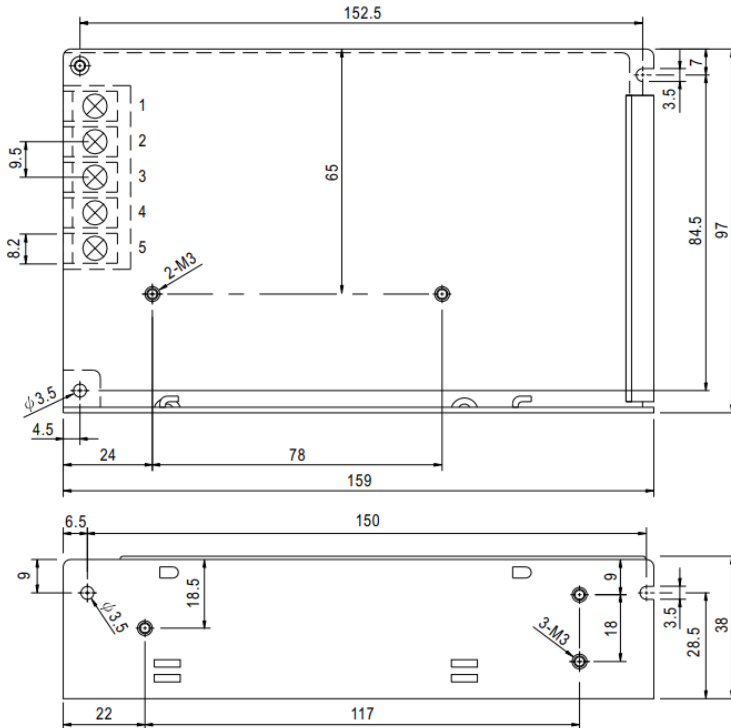
| Model                       |   | LY50-DD5-*  | LY50-DD12-*          | LY50-DD24-*          | LY50-DD48-*          |
|-----------------------------|---|---|----------------------|----------------------|----------------------|
| Output                      | <b>DC voltage</b>                       | 5V  | 12V                  | 24V                  | 48V                  |
|                             | <b>Rated current</b>                    | 10A   | 4.2A                 | 2.1A                 | 1.1A                 |
|                             | <b>Current range</b>                    | 0 - 10A   | 0 - 4.2A             | 0 - 2.1A             | 0 - 1.1A             |
|                             | <b>Rated power</b>                      | 50W   | 50.4W                | 50.4W                | 52.8W                |
|                             | <b>Ripple + noise max. <sup>1</sup></b> | 100mV <sub>p-p</sub>  | 120mV <sub>p-p</sub> | 150mV <sub>p-p</sub> | 150mV <sub>p-p</sub> |
|                             | <b>Voltage adj. Range</b>               | 4.5-5.5V DC   | 11-16VDC             | 23 - 30VDC           | 47-57VDC             |
|                             | <b>Voltage tolerance <sup>2</sup></b>   | ±2.0%   | ±1.0%                | ±1.0%                | ±1.0%                |
|                             | <b>Line regulation</b>                  | ±0.5%   | ±0.3%                | ±0.2%                | ±0.2%                |
|                             | <b>Load regulation</b>                  | ±0.5%   | ±0.3%                | ±0.2%                | ±0.2%                |
|                             | <b>Setup, rise, hold up time</b>        | 2.5s, 50ms at full load   |                      |                      |                      |
| Protection                  | <b>Overload</b>                         | 105 - 150% rated output power<br>Protection type: Hiccup mode, recovers automatically after fault condition is removed. |                      |                      |                      |
|                             | <b>Over voltage</b>                     | 5.75 - 6.75V/10%load  | 16.8 - 20V/10%load   | 31.5 - 37.5V/10%load | 53 - 65V/10%load     |
|                             |   | Protection type: Hiccup mode, recovers automatically after fault condition is removed.                                  |                      |                      |                      |
| Environment                 | <b>Working temp.</b>                    | -10 - +60°C (refer to "derating curve")   |                      |                      |                      |
|                             | <b>Working humidity</b>                 | 20-90% RH non-condensing  |                      |                      |                      |
|                             | <b>Storage temp. Humidity</b>           | -20 - +85°C 10-95% RH   |                      |                      |                      |
|                             | <b>Temp. Coefficient</b>                | ±0.03% / °C (0 - 50°C)  |                      |                      |                      |
|                             | <b>Vibration</b>                        | 10-500Hz, 2G 10 min./1 cycle, 60 min. each along X, Y, Z axes   |                      |                      |                      |
| Safety and EMC <sup>3</sup> | <b>Safety standards</b>                 | Design refer to LVD   |                      |                      |                      |
|                             | <b>Withstand voltage</b>                | I/P-O/P: 1.5KVAC  |                      | I/P-FG: 2KVAC        | O/P-FG: 0.5KVAC      |
|                             | <b>Isolation resistance</b>             | I/P-O/P, I/P-FG, O/P-FG: 100MΩ / 500VDC / 25°C / 70% RH   |                      |                      |                      |
|                             | <b>EMC emission</b>                     | Compliance to EN55022 (CISPR22) Class B   |                      |                      |                      |
|                             | <b>EMC immunity</b>                     | Compliance to EN61000-4-2,3,4,6,8, EN55024, heavy industry level, criteria A  |                      |                      |                      |
| Others                      | <b>Dimension</b>                        | 159*97*38mm (L*W*H)   |                      |                      |                      |
|                             | <b>Weight</b>                           | 0.48kg  |                      |                      |                      |
|                             | <b>Packing</b>                          | 24pcs/12.7kg/0.75CUFT   |                      |                      |                      |

All parameters NOT specially mentioned are measured at 24, 48, 96VDC input, rated load and 25°C of ambient temperature.

1. Ripple and noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF and 47uF parallel capacitor.
2. Tolerance: includes set up tolerance, line regulation and load regulation.
3. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies"

## Mechanical Specification

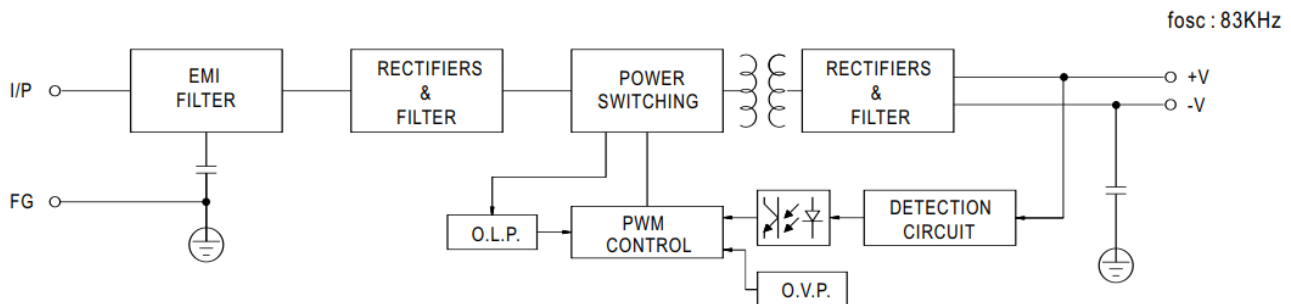
Unit: mm



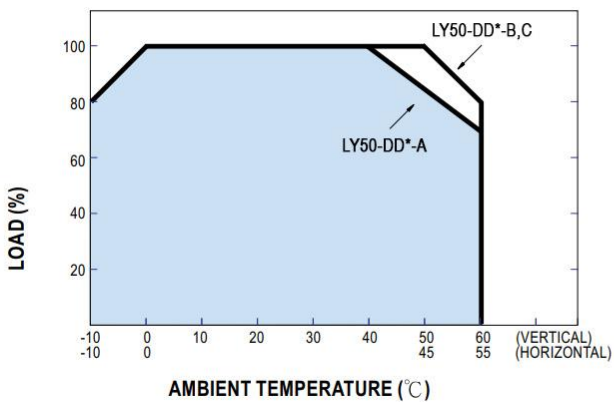
Terminal Pin No. Assignment

| Pin no. | Assignment  | Pin no. | Assignment   |
|---------|-------------|---------|--------------|
| 1       | DC INPUT V+ | 4       | DC OUTPUT -V |
| 2       | DC INPUT V  | 5       | DC OUTPUT +V |
| 3       | PE ⊕        |         |              |

## Block Diagram



## Derating Curve



## Static Characteristics (LY50-DD24-C)

