



## 200W Single Output DC-DC Converter

## SD-200 series



## ■ Features :

- 2:1 wide input range
- Protections: Short circuit/Over load/Over voltage/Over temperature
- 1500VDC I/O isolation
- Cooling by free air convection
- 100% full load burn-in test
- 24V and 48V input voltage design refer to LVD
- 2 years warranty

CB (for D type only) CE

## SPECIFICATION

| MODEL                 |  | SD-200B  |            |              |            | SD-200C       |            |              |            |  |
|-----------------------|--|--|------------|--------------|------------|---------------|------------|--------------|------------|--|
| OUTPUT                | DC VOLTAGE   | 5V   | 12V        | 24V          | 48V        | 5V            | 12V        | 24V          | 48V        |  |
|                       | RATED CURRENT  | 34A  | 16.7A      | 8.4A         | 4.2A       | 40A           | 16.7A      | 8.4A         | 4.2A       |  |
|                       | CURRENT RANGE  | 0 ~ 34A  | 0 ~ 16.7A  | 0 ~ 8.4A     | 0 ~ 4.2A   | 0 ~ 40A       | 0 ~ 16.7A  | 0 ~ 8.4A     | 0 ~ 4.2A   |  |
|                       | RATED POWER  | 170W   | 200.4W     | 201.6W       | 201.6W     | 200W          | 200.4W     | 201.6W       | 201.6W     |  |
|                       | RIPPLE & NOISE (max.) Note.2   | 100mVp-p   | 120mVp-p   | 150mVp-p     | 200mVp-p   | 100mVp-p      | 120mVp-p   | 150mVp-p     | 200mVp-p   |  |
|                       | VOLTAGE ADJ. RANGE   | 4.5 ~ 5.5VDC   | 11 ~ 16VDC | 23 ~ 30VDC   | 43 ~ 53VDC | 4.5 ~ 5.5VDC  | 11 ~ 16VDC | 23 ~ 30VDC   | 43 ~ 53VDC |  |
|                       | VOLTAGE TOLERANCE Note.3   | ±2.0%  | ±1.0%      | ±1.0%        | ±1.0%      | ±2.0%         | ±1.0%      | ±1.0%        | ±1.0%      |  |
|                       | LINE REGULATION  | ±0.5%  | ±0.5%      | ±0.5%        | ±0.5%      | ±0.5%         | ±0.5%      | ±0.5%        | ±0.5%      |  |
|                       | LOAD REGULATION  | ±1.0%  | ±1.0%      | ±1.0%        | ±1.0%      | ±1.0%         | ±1.0%      | ±1.0%        | ±1.0%      |  |
| SETUP, RISE TIME      | 300ms, 50ms at full load   |  |            |              |            |               |            |              |            |  |
| INPUT                 | VOLTAGE RANGE  | B:19 ~ 36VDC   |            | C:36 ~ 72VDC |            | D:72 ~ 144VDC |            |              |            |  |
|                       | EFFICIENCY (Typ.)  | 79%  | 82%        | 85%          | 86%        | 81%           | 84%        | 86%          | 86%        |  |
|                       | DC CURRENT (Typ.)  | 10.8A/24V  | 10.6A/24V  | 10.4A/24V    | 10.4A/24V  | 5.4A/48V      | 5.2A/48V   | 5A/48V       | 5A/48V     |  |
|                       | INRUSH CURRENT (Typ.)  | C:45A/48VDC  |            | D:45A/96VDC  |            |               |            |              |            |  |
| PROTECTION            | OVER LOAD  | 105 ~ 135% rated output power<br>Protection type : Shut down o/p voltage, re-power on to recover   |            |              |            |               |            |              |            |  |
|                       | OVER VOLTAGE   | 5.75 ~ 6.75V   | 16.8 ~ 20V | 31.5 ~ 37.5V | 53 ~ 65V   | 5.75 ~ 6.75V  | 16.8 ~ 20V | 31.5 ~ 37.5V | 53 ~ 65V   |  |
|                       | OVER TEMPERATURE   | 95°C ±5°C (100°C ±5°C for SD-200B-12 only) TSW1 Detect on main power transistor<br>Protection type : Shut down o/p voltage, recovers automatically after temperature goes down |            |              |            |               |            |              |            |  |
| ENVIRONMENT           | WORKING TEMP.  | -20 ~ +60°C (Refer to output load derating curve)  |            |              |            |               |            |              |            |  |
|                       | WORKING HUMIDITY   | 20 ~ 90% RH non-condensing   |            |              |            |               |            |              |            |  |
|                       | STORAGE TEMP., HUMIDITY  | -40 ~ +85°C, 10 ~ 95% RH   |            |              |            |               |            |              |            |  |
|                       | TEMP. COEFFICIENT  | ±0.03%/°C (0 ~ 50°C)   |            |              |            |               |            |              |            |  |
|                       | VIBRATION  | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes   |            |              |            |               |            |              |            |  |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS   | IEC60950-1 CB Approved by TUV (for D type only)  |            |              |            |               |            |              |            |  |
|                       | WITHSTAND VOLTAGE  | I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC  |            |              |            |               |            |              |            |  |
|                       | ISOLATION RESISTANCE   | I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC   |            |              |            |               |            |              |            |  |
|                       | EMI CONDUCTION & RADIATION   | Compliance to EN55022 (CISPR22) Class B  |            |              |            |               |            |              |            |  |
|                       | EMS IMMUNITY   | Compliance to EN61000-4-2,3,4,6,8; ENV50204 Light industry level, criteria A   |            |              |            |               |            |              |            |  |
| OTHERS                | MTBF   | 218.2K hrs min. MIL-HDBK-217F (25°C)   |            |              |            |               |            |              |            |  |
|                       | DIMENSION  | 215*115*50mm (L*W*H)   |            |              |            |               |            |              |            |  |
|                       | PACKING  | 1.1Kg; 12pcs/14.4Kg/0.92CUFT   |            |              |            |               |            |              |            |  |
| NOTE                  | <ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 24,48,96VDC input, rated load and 25°C of ambient temperature.</li> <li>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</li> <li>3. Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>4. 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.</li> </ol> |  |            |              |            |               |            |              |            |  |



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## ■ Features :

- 2:1 wide input range
- Protections: Short circuit/Over load/Over voltage/Over temperature
- 1500VDC I/O isolation
- Cooling by free air convection
- 100% full load burn-in test
- 24V and 48V input voltage design refer to LVD
- 2 years warranty

CB (for D type only) CE

## SPECIFICATION

| MODEL                 |  | SD-200D   |            |              |            |
|-----------------------|--|---|------------|--------------|------------|
| OUTPUT                | DC VOLTAGE   | 5V  | 12V        | 24V          | 48V        |
|                       | RATED CURRENT  | 40A   | 16.7A      | 8.4A         | 4.2A       |
|                       | CURRENT RANGE  | 0 ~ 40A   | 0 ~ 16.7A  | 0 ~ 8.4A     | 0 ~ 4.2A   |
|                       | RATED POWER  | 200W  | 200.4W     | 201.6W       | 201.6W     |
|                       | RIPPLE & NOISE (max.) Note.2   | 100mVp-p  | 120mVp-p   | 150mVp-p     | 200mVp-p   |
|                       | VOLTAGE ADJ. RANGE   | 4.5 ~ 5.5VDC  | 11 ~ 16VDC | 23 ~ 30VDC   | 43 ~ 53VDC |
|                       | VOLTAGE TOLERANCE Note.3   | ±2.0%   | ±1.0%      | ±1.0%        | ±1.0%      |
|                       | LINE REGULATION  | ±0.5%   | ±0.5%      | ±0.5%        | ±0.5%      |
|                       | LOAD REGULATION  | ±1.0%   | ±1.0%      | ±1.0%        | ±1.0%      |
| SETUP, RISE TIME      | 300ms, 50ms at full load   |   |            |              |            |
| INPUT                 | VOLTAGE RANGE  | B:19 ~ 36VDC C:36 ~ 72VDC D:72 ~ 144VDC   |            |              |            |
|                       | EFFICIENCY (Typ.)  | 82%   | 82%        | 84%          | 90%        |
|                       | DC CURRENT (Typ.)  | 3.5A/96V  | 3.5A/96V   | 3.5A/96V     | 3.5A/96V   |
|                       | INRUSH CURRENT (Typ.)  | C:45A/48VDC D:45A/96VDC   |            |              |            |
| PROTECTION            | OVER LOAD  | 105 ~ 135% rated output power<br>Protection type : Shut down o/p voltage, re-power on to recover  |            |              |            |
|                       | OVER VOLTAGE   | 5.75 ~ 6.75V  | 16.8 ~ 20V | 31.5 ~ 37.5V | 53 ~ 65V   |
|                       | OVER TEMPERATURE   | 85°C ±5°C (TSW1) Detect on main power transistor<br>Protection type : Shut down o/p voltage, recovers automatically after temperature goes down |            |              |            |
| ENVIRONMENT           | WORKING TEMP.  | -20 ~ +60°C (Refer to output load derating curve)   |            |              |            |
|                       | WORKING HUMIDITY   | 20 ~ 90% RH non-condensing  |            |              |            |
|                       | STORAGE TEMP., HUMIDITY  | -40 ~ +85°C, 10 ~ 95% RH  |            |              |            |
|                       | TEMP. COEFFICIENT  | ±0.03%/°C (0 ~ 50°C)  |            |              |            |
|                       | VIBRATION  | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes  |            |              |            |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS   | IEC60950-1 CB Approved by TUV (for D type only)   |            |              |            |
|                       | WITHSTAND VOLTAGE  | I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC   |            |              |            |
|                       | ISOLATION RESISTANCE   | I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC  |            |              |            |
|                       | EMI CONDUCTION & RADIATION   | Compliance to EN55022 (CISPR22) Class B   |            |              |            |
|                       | EMS IMMUNITY   | Compliance to EN61000-4-2,3,4,6,8; ENV50204 Light industry level, criteria A  |            |              |            |
| OTHERS                | MTBF   | 218.2K hrs min. MIL-HDBK-217F (25°C)  |            |              |            |
|                       | DIMENSION  | 215*115*50mm (L*W*H)  |            |              |            |
|                       | PACKING  | 1.1Kg; 12pcs/14.4Kg/0.92CUFT  |            |              |            |
| NOTE                  | <ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 24,48,96VDC input, rated load and 25°C of ambient temperature.</li> <li>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</li> <li>3. Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>4. 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.</li> </ol> |   |            |              |            |

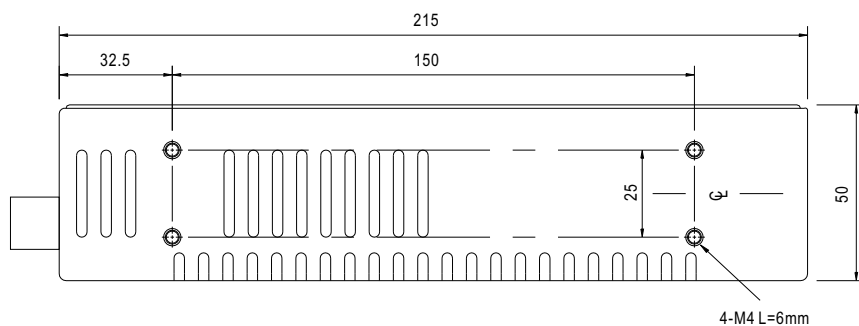
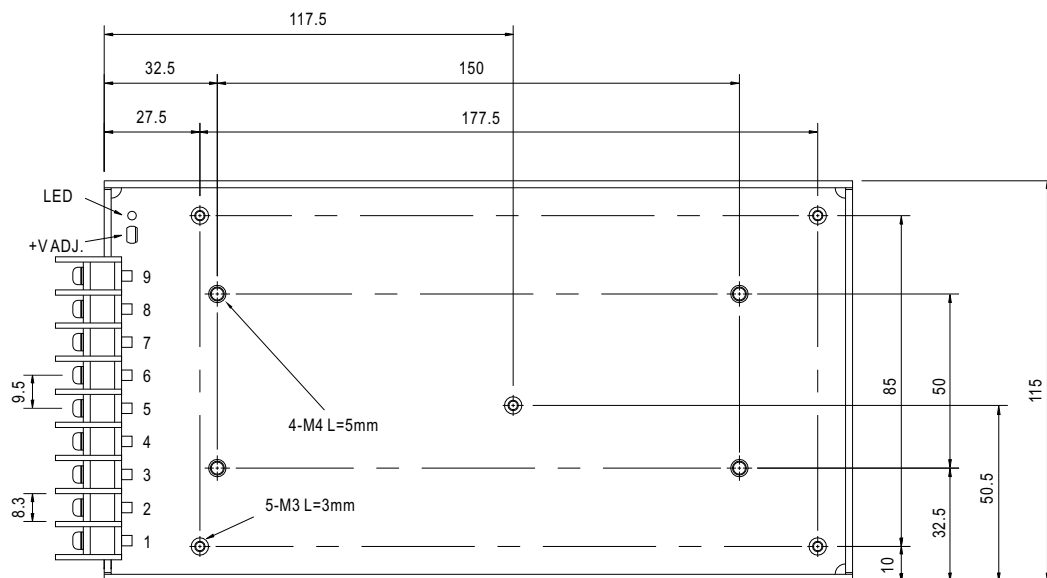


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SD-200 series

■ Mechanical Specification

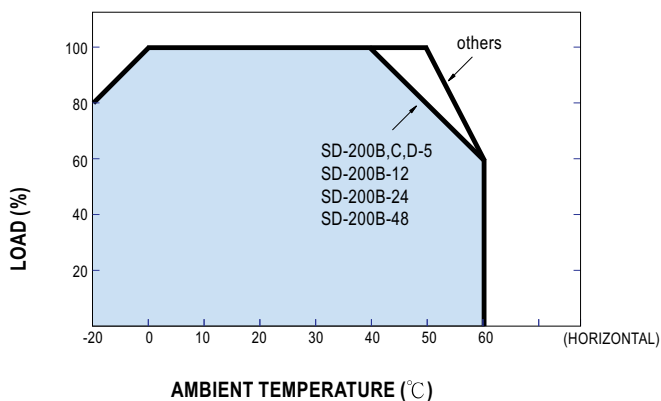
Case No. 912B Unit:mm



Terminal pin number assignment :

| Pin No. | Assignment  | Pin No. | Assignment   |
|---------|-------------|---------|--------------|
| 1       | DC INPUT V+ | 4,5,6   | DC OUTPUT V- |
| 2       | DC INPUT V- | 7,8,9   | DC OUTPUT V+ |
| 3       | FG $\perp$  |         |              |

■ Derating Curve



■ Static Characteristics

