## 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 83KHz
- Low cost
- High reliability
- 2 years warranty

### SPECIFICATION

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DC VOLTAGE</th>
<th>RATED CURRENT</th>
<th>CURRENT RANGE</th>
<th>RATED POWER</th>
<th>RIPPLE &amp; NOISE (max.)</th>
<th>VOLTAGE ADJ. RANGE</th>
<th>VOLTAGE TOLERANCE</th>
<th>LINE REGULATION</th>
<th>LOAD REGULATION</th>
<th>SETUP, RISE, HOLD UP TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD-50A-5</td>
<td>5V</td>
<td>10A</td>
<td>0 - 10A</td>
<td>50W</td>
<td>100mVp-p</td>
<td>4.5 ~ 5.5VDC</td>
<td>±2.0%</td>
<td>±0.5%</td>
<td>±0.5%</td>
<td>2.5s, 50ms, ----- at full load</td>
</tr>
<tr>
<td>SD-50B-5</td>
<td>12V</td>
<td>4.2A</td>
<td>0 - 4.2A</td>
<td>50.4W</td>
<td>120mVp-p</td>
<td>11 ~ 16VDC</td>
<td>±1.0%</td>
<td>±0.3%</td>
<td>±0.3%</td>
<td></td>
</tr>
<tr>
<td>SD-50C-5</td>
<td>24V</td>
<td>2.1A</td>
<td>0 - 2.1A</td>
<td>50.4W</td>
<td>150mVp-p</td>
<td>23 ~ 30VDC</td>
<td>±1.0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-50A-12</td>
<td>5V</td>
<td>70%</td>
<td>A:9.2 ~ 18VDC</td>
<td>7A/12V</td>
<td>0.5Kg; 24pcs/12.7Kg/0.75CUFT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-50B-12</td>
<td>12V</td>
<td>73%</td>
<td>B:19 ~ 36VDC</td>
<td>3A/24V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-50C-12</td>
<td>24V</td>
<td>76%</td>
<td>C:36 ~ 72VDC</td>
<td>1.5A/48V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-50A-24</td>
<td>5V</td>
<td>72%</td>
<td>A:36 ~ 72VDC</td>
<td>7A/12V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-50B-24</td>
<td>12V</td>
<td>75%</td>
<td>B:37 ~ 74VDC</td>
<td>3A/24V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-50C-24</td>
<td>24V</td>
<td>78%</td>
<td>C:37 ~ 84VDC</td>
<td>1.5A/48V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-50A-12</td>
<td>5V</td>
<td>70%</td>
<td>A:9.2 ~ 18VDC</td>
<td>7A/12V</td>
<td>0.5Kg; 24pcs/12.7Kg/0.75CUFT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-50B-12</td>
<td>12V</td>
<td>73%</td>
<td>B:19 ~ 36VDC</td>
<td>3A/24V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-50C-12</td>
<td>24V</td>
<td>76%</td>
<td>C:36 ~ 72VDC</td>
<td>1.5A/48V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-50A-24</td>
<td>5V</td>
<td>72%</td>
<td>A:36 ~ 72VDC</td>
<td>7A/12V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-50B-24</td>
<td>12V</td>
<td>75%</td>
<td>B:37 ~ 74VDC</td>
<td>3A/24V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD-50C-24</td>
<td>24V</td>
<td>78%</td>
<td>C:37 ~ 84VDC</td>
<td>1.5A/48V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### INPUT
- **VOLTAGE RANGE**: A:9.2 ~ 18VDC  B:19 ~ 36VDC  C:36 ~ 72VDC
- **EFFICIENCY (Typ.)**: 70% 73% 76% 72% 75% 78% 74% 80% 83%
- **DC CURRENT**: 7A/12V 3A/24V 1.5A/48V 7A/12V 3A/24V 1.5A/48V 7A/12V 3A/24V 1.5A/48V

### PROTECTION
- **OVERLOAD**: 105 ~ 150% rated output power
- **OVER VOLTAGE**: 5.75 ~ 6.75V/10% load
- **WORKING TEMP.**: -10 ~ +60°C (Refer to "Derating Curve")
- **WORKING HUMIDITY**: 90% RH non-condensing
- **STORAGE TEMP. HUMIDITY**: -20 ~ +85°C, 10 ~ 95% RH
- **VIBRATION**: 10 ~ 500Hz, 2G 10min./cycle, 60min. each along X, Y, Z axes

### ENVIRONMENT
- **TEMP. COEFFICIENT**: ±0.03%/°C (0 ~ 50°C )

### SAFETY & EMC
- **WITHSTAND VOLTAGE**: U/P-DIP:1.5KVAC  U/P-FG:1.5KVAC  O/P-DIP:0.5KVAC
- **ISOLATION RESISTANCE**: U/P-DIP, U/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH
- **EMC EMISSION**: Compliance to EN55022 (CISPR22) Class B
- **EMC IMMUNITY**: Compliance to EN61000-4-2,3,4,6,8, EN55024, heavy industry level, criteria A

### OTHERS
- **MTBF**: 365.6K hrs min. (SD-50A)  357.5K hrs min. (SD-50B)  368.5K Hrs min. (SD-50C)  MIL-HDBK-217F (25°C )
- **DIMENSION**: 159*97*38mm (L*W*H)
- **PACKING**: 0.48kg; 24pcs/12.7Kg/0.75CUFT

### NOTE
1. All parameters NOT especially mentioned are measured at 12,24,48VDC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
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. For Guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."

File Name: SD-50-SPEC  2012-09-12
50W Single Output DC-DC Converter

SD-50 series

■ Mechanical Specification

File Name:SD-50-SPEC  2012-09-12

Case No. 901  Unit:mm

AMBIENT TEMPERATURE (°C)

LOAD (%)

STATIC CHARACTERISTICS (SD-50C-24V)

Terminal Pin No. Assignment

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DC INPUT V+</td>
</tr>
<tr>
<td>2</td>
<td>DC INPUT V-</td>
</tr>
<tr>
<td>3</td>
<td>FG</td>
</tr>
</tbody>
</table>

■ Block Diagram

■ Derating Curve

■ Static Characteristics (SD-50C-24V)

File Name:SD-50-SPEC  2012-09-12