SUNPOWER TECHNOLOGY CORP.

SPECIFICATIONS OF SWITCHING POWER SUPPLY

MODEL NO.: SPQ-4200    REV.: 1.0
SPQ-4250
SPQ-4300
(UL/CSA/TUV/CE APPROVED)

<table>
<thead>
<tr>
<th>STAMP</th>
<th>APPROVED</th>
<th>CHECK</th>
<th>PREPARE</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>
1. AC INPUT :

1-1. VOLTAGE :
   115V : 90V (MIN.) - - - 132V (MAX.)
   230V : 180V (MIN.) - - - 264V (MAX.)
   *AC INPUT 115V/230V AUTO RANGE OR MANUAL SELECTABLE.

1-2. FREQUENCY :
   47--------63Hz.

1-3. CURRENT :

   **SPQ-4200:**
   4.2A MAX. AT 115V AC INPUT, FULL LOAD CONDITION.
   2.0A MAX. AT 230V AC INPUT, FULL LOAD CONDITION.

   **SPQ-4250:**
   5.2A MAX. AT 115V AC INPUT, FULL LOAD CONDITION.
   2.6A MAX. AT 230V AC INPUT, FULL LOAD CONDITION.

   **SPQ-4300:**
   7.0A MAX. AT 115V AC INPUT, FULL LOAD CONDITION.
   3.5A MAX. AT 230V AC INPUT, FULL LOAD CONDITION.
   *AT 115V AC INPUT. INCLUDED AC OUTLET 1A MAX.
   AT 230V AC INPUT. INCLUDED AC OUTLET 0.5A MAX.

1-4. INRUSH CURRENT:

   **SPQ-4200 & SPQ-4250:**
   45A MAX. AT 115V AC INPUT, FULL LOAD CONDITION.
   80A MAX. AT 230V AC INPUT, FULL LOAD CONDITION.

   **SPQ-4300:**
   60A MAX. AT 115V AC INPUT, FULL LOAD CONDITION.
   100A MAX. AT 230V AC INPUT, FULL LOAD CONDITION.
   *COLD START, AT 25℃ AMBIENT.

1-5. LEAKAGE CURRENT:

   1.5mA MAX. AT 264V AC INPUT.
2. DC OUTPUT:

### SPQ-4200:

<table>
<thead>
<tr>
<th>OUTPUT</th>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>V4</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLTAGE</td>
<td>+5V</td>
<td>+12V</td>
<td>-5V</td>
<td>-12V</td>
</tr>
<tr>
<td>MIN. LOAD</td>
<td>3 A</td>
<td>0.5 A</td>
<td>0 A</td>
<td>0 A</td>
</tr>
<tr>
<td><strong>MAX. LOAD</strong></td>
<td>20 A</td>
<td>8 A</td>
<td>0.5 A</td>
<td>0.5 A</td>
</tr>
<tr>
<td><em><strong>REGULATION</strong></em></td>
<td>±3%</td>
<td>±5%</td>
<td>±8%</td>
<td>±5%</td>
</tr>
<tr>
<td>RIPPLE &amp; NOISE (MAX.)</td>
<td>70mV</td>
<td>150mV</td>
<td>70mV</td>
<td>200mV</td>
</tr>
<tr>
<td>OVP</td>
<td>+5.8V~7.0V</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>EFFICIENCY (TYP.)</td>
<td>75%</td>
<td></td>
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<td>MIN. LOAD</td>
<td>3 A</td>
<td>0.5 A</td>
<td>0 A</td>
<td>0 A</td>
</tr>
<tr>
<td><strong>MAX. LOAD</strong></td>
<td>25 A</td>
<td>10 A</td>
<td>0.5 A</td>
<td>0.5 A</td>
</tr>
<tr>
<td><em><strong>REGULATION</strong></em></td>
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<td>-5V</td>
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<td>MIN. LOAD</td>
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<td>0.5 A</td>
<td>0 A</td>
<td>0 A</td>
</tr>
<tr>
<td><strong>MAX. LOAD</strong></td>
<td>30 A</td>
<td>12 A</td>
<td>0.5 A</td>
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** SPQ-4200: TOTAL OUTPUT MAXIMUM 200 WATTS.**

** SPQ-4250: TOTAL OUTPUT MAXIMUM 250 WATTS.**

** SPQ-4300: TOTAL OUTPUT MAXIMUM 300 WATTS.**

*** THE OUTPUT VOLTAGE LOAD REGULATION IS LESS THAN THE VALUES IN THE ABOVE TABLE BY CHANGING EACH OUTPUT LOAD ±40% FROM 60% RATED OF LOAD, AND KEEP THE OTHER OUTPUTS AT 60% OF RATED LOAD.***
3. ELECTRONIC CHARACTERISTICS:

3-1. RISE TIME:
   **20mS MAX.**

3-2. HOLD UP TIME:
   **20mS MIN.** TEST CONDITION AT 230V AC INPUT AND RATED LOAD, AC OFF POINT
   AT 0 DEGREE.

3-3. OVER LOAD PROTECTION:
   WHEN OUTPUT POWER OVER 105% TO 150% OF RATED LOAD, THE POWER SUPPLY
   WILL SHUTDOWN.

3-4. SHORT CIRCUIT PROTECTION:
   WHEN OUTPUT SHORT TO GROUND, THE POWER SUPPLY WILL SHUTDOWN.

3-5. POWER GOOD SIGNAL:
   POWER ON WITHIN 100----500ms, HIGH LEVEL TTL SIGNAL RELEASE.

4. MECHANICAL DATA:

   OUTLINE DIMENSION :  **W 150 ×D 140 ×H 86 mm** (PS/II FORM FACTOR)

5. COOLING:

   FORCED AIRFLOW COOLING WITH A 37 CFM (MIN.) DC FAN.

6. SAFETY:

   THIS PRODUCT IS DESIGN TO COMPLY WITH THE FOLLOWING STANDARDS:
   6-1. UL 1950 3rd EDITION APPROVED. (E 129733)
   6-2. CSA C22.2 NO.950 APPROVED. (LR 83386)
   6-5. EMKO-TSE (74-SEC) 207/94 STANDARD.

7. EMC:

   THIS PRODUCT IS DESIGN TO COMPLY WITH THE FOLLOWING STANDARDS:
   7-1. EMI
   (1) . FCC CFR 47 PART 15 SUBPART J , CLASS B LIMIT
   (2) . EN 50081-1:1997 EMISSION STANDARD
          EN 55022: 1997 CLASS B LIMIT
   (3) . CNS 13438 CLASS B.
7-2. EMS

(1) EN 50082-1 (1997) IMMUNITY STANDARD:

- EN 61000-4-2 : 1995 ELECTROSTATIC DISCHARGE STANDARD.
- EN 61000-4-3 : 1996 RADIATED RF STANDARD.
- EN 61000-4-4 : 1995 FAST TRANSIENT/BURST STANDARD.
- EN 61000-4-5 : 1995 LIGHTNING SURGE STANDARD.
- EN 61000-4-6 : 1996 CONDUCTED RF STANDARD.
- EN 61000-4-8 : 1993 POWER FREQ. MAG. FILELD STANDARD.
- EN 61000-4-11:1994 VOLTAGE DIP & INTERRUPT STANDARD.

8. PHYSICAL ENVIRONMENT (AMBIENT):

8-1. TEMPERATURE RANGE:

- OPERATING TEMPERATURE RANGE: 0 ~ 70°C
- DERATING FACTOR 50°C ~ 70°C : 2.5%/°C
- STORAGE -10 TO +75 °C

8-2. HUMIDITY:

- OPERATION 20% TO 85% RH (NON CONDENSING)
- STORAGE AND SHIPPING 10% TO 95% RH (NON CONDENSING)

9.M.T.B.F.:

280K HOURS APPROXIMATELY, ACCORDING TO MIL-HDBK-217F AT 25°C ENVIRONMENT.