<table>
<thead>
<tr>
<th>CUSTOMER</th>
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<td>CUSTOMER P/N</td>
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<tr>
<td>DESCRIPTION</td>
<td>12V/3A</td>
</tr>
<tr>
<td>EDAC MPN</td>
<td>EA1024PR(L17)</td>
</tr>
<tr>
<td>EDAC MODEL NO FOR SAFETY</td>
<td>EA1024PR</td>
</tr>
<tr>
<td>DATE</td>
<td>2019-02-27</td>
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<td>REVISION</td>
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<th>DESIGN</th>
<th>PREPARE</th>
<th>RoHS</th>
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<tr>
<td>葉慶兵</td>
<td>陳鳳榮</td>
<td>陳鳳榮</td>
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<td>CONCLUSION</td>
<td>APPROVED</td>
<td>CONDITION</td>
<td>CUSTOMER’S SIGNATURE:</td>
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<tr>
<td>判定結果</td>
<td>承認</td>
<td>APP’D</td>
<td>客戶簽章:</td>
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Tel: 0769-38859898  Fax: 0769-38859897
SUBJECT: SCOPE OF DOCUMENT

CONTAINS:

1-0 General Description

2-0. Input Requirements

3-0. Output Requirements

4-0. Reliability

5-0. Environment

6-0. Safety

7-0. Mechanical Characteristics
1-0. General Description
The purpose of the document is to specify a **Single phase AC input, single output** switching power supply. This specification is suitable for: **EA1024PR Series**
This product is AC to DC switching power transfer device, it can provide for a **12V/3.0A max & 36W max** DC output with constant voltage source.
This Specification defines the input, output, performance characteristics, environment, noise and safety requirement for a power supply.

2. Input Electrical Specification
2-1. AC Input Voltage
   - Maximum Voltage: 264Vac
   - Normal Voltage: 100~240Vac
   - Minimum Voltage: 90Vac

2-2. AC Input Frequency
   - Maximum Frequency: 63Hz
   - Normal Frequency: 50~60Hz
   - Minimum Frequency: 47Hz

2-3. Input Current
   - a. 1.0A (Max.) @ 115Vac input with full load.
   - b. 0.5A (Max.) @ 230Vac input with full load.

2-4. Energy saving standards:
   - Designed to meet the following standard
     - Energy Efficiency level VI
   - 2-4-1 Efficiency:
     - 87.4% minimum at 115Vac/60Hz & 230Vac/50Hz input voltage and 25%, 50%, 75% & 100% of max output current. Meet CEC Level VI

2-4-2 No Load Power Consumption:
   - No Load Watt < 0.1W at 115Vac/60Hz & 230Vac/50Hz input voltage.

2-5. Configuration
   - 2-wire AC input (Line, Neutral)

2-6. Input Fuse
   - The hot line side of the input shall have a fuse, rating (T2A/250V)
2-7. Inrush Current
- 30A at 115 Vac
- 60A at 230 Vac  At cold start, maximum load.

2-8. Line Regulation
This line regulation is less than ±1%, of rated output voltage @ full load.

2-9. Hold Up Time
- 8.3mSec., @115Vac/60Hz & 230Vac/50Hz input voltage., with full load.

2-10. Rise Time
- 50mSec., @ Rated AC input, with full load.
  From 10% to 90% of output voltage.

2-11. Turn-ON Time
The output voltage should rise to 90% of rated output voltage
in less than 3 SEC. from AC apply to 100Vac from start up.

3-0. Output Requirements
3-1. Output Voltage and Current

<table>
<thead>
<tr>
<th>Output Voltage (Vdc)</th>
<th>Current Min.(A)</th>
<th>Current Max.(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>+12V</td>
<td>0</td>
<td>3.0A</td>
</tr>
</tbody>
</table>

3-2. Load Regulation

<table>
<thead>
<tr>
<th>Voltage (Vdc)</th>
<th>Tolerance (%)</th>
<th>Regulation (Vdc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>+12V</td>
<td>±5, -5</td>
<td>11.40V~12.60V</td>
</tr>
</tbody>
</table>

3-3. Dynamic Load Regulation
±5% excursion for 50% - 100% or 100% - 50% load change of DC output at any frequency up to 1KHz(duty 50%)
3-4. Ripple & Noise
The power supply shall not exceed the following limits on the indicated voltage for 60Hz or 50Hz ripple, Switching frequency ripple and noise and dynamic load variations measured with a 20MHz bandwidth

<table>
<thead>
<tr>
<th>Output</th>
<th>Ripple/Noise</th>
</tr>
</thead>
<tbody>
<tr>
<td>+12V</td>
<td>1.5% max. of rated output voltage</td>
</tr>
</tbody>
</table>

Ripple / Noise: 60Hz ripple + switching ripple and noise
Ripple & Noise are measured at the end of output cable which are added a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor.

3-5. Over Voltage Protection
150% Max. of rated voltage
(Output clamped with zener diode, do not test with external DC source.)

3-6. Short-Circuit Protection
The adapter can withstand continuous short at DC output and no damage.
It will enter into normal condition if the fault condition is removed.

3-7. Stability
2% Max. at constant load with constant input (after **30 minutes** of operation).

3-8. Temperature Rise
Less than 45℃ on top/bottom case at normal AC input & 80% load of DC output at environment temperature 25℃.

3-9. Drop-out (Power Line Disturbance)
Output voltage shall remain within the specified regulation range, through the absence of a line input during 1/2 cycle, at full load at 115Vac/50Hz & 230Vac/50Hz input voltage.

3-10. Voltage Isolation
The DC ground will be isolated from the AC neutral and AC line.
4-0. Reliability
4-1. MTBF (MIL-HDBK-217F)
   The power supply shall be designed and produced to have a mean time between failure (MTBF) of 100,000 hours at 25 degrees C

5-0. Environment
5-1 Temperature
   a. Operating: 0 to 40 °C
   b. Storage: -20 to 85 °C

5-2 Humidity
   a. Operating: 10 to 90 %
   b. Storage: 5 to 90 %

5-3 Altitude
   From sea level to 5,000 Meter (operation) and 5,000 Meter (non-operation)

6-0. Safety
6-1. Hi-Pot Test
   4242Vdc 3mA 2Sec. between primary and secondary circuit

6-2. Insulation Test
   500Vdc, 3 Sec. between primary and secondary circuit
   IR should ≧ 50 MΩ.

6-3. Leakage Current
   ≧ 250uA, at 240Vac/50 Hz

6-4. Safety
   UL, CUL, TUV, CB, CE, FCC, CCC, RCM, PSE, CU, BSMI
6-5. EMS

<table>
<thead>
<tr>
<th>Items</th>
<th>Specification</th>
<th>Reference</th>
</tr>
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<tbody>
<tr>
<td>ESD</td>
<td>Contact: ± 4KV</td>
<td>IEC 61000-4-2</td>
</tr>
<tr>
<td></td>
<td>Air: ± 8KV</td>
<td></td>
</tr>
<tr>
<td>RS</td>
<td>Frequency: 80~1000MHz</td>
<td>IEC 61000-4-3</td>
</tr>
<tr>
<td></td>
<td>Field Strength: 3V/M, 80% AM(1KHz)</td>
<td></td>
</tr>
<tr>
<td>EFT</td>
<td>1.0 KV on input AC power ports.</td>
<td>IEC 61000-4-4</td>
</tr>
<tr>
<td>SURGE</td>
<td>Line to Line: ± 1KV (peak)</td>
<td>IEC 61000-4-5</td>
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6-6. EMI

<table>
<thead>
<tr>
<th>Comply with Standards</th>
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<tbody>
<tr>
<td>CISPR 32, EN 55032 Class B</td>
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<tr>
<td>FCC PART 15 Class B</td>
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</table>

7-0. Mechanical Characteristics
7-1. Physical Size: 73.6 mm (L) * 42.8 mm (W) * 32.5 mm (H)

7-2. Enclosure material: 94V-0 minimum

7-3. Output Cable (Reference): UL1185 #16

7-4. Vibration Test
The vibration frequencies are set at 20Hz, with total amplitude of 1.5mm along the 3 directions namely X-Y-Z. The each direction should be vibrated for 60 minutes, after testing no abnormal electrical or mechanical should occur.

7-5. Drop Test (Referencing to CSA C22.2 No.950/UL1950/UL1310/EN60950)
Products shall be dropped from a height of 900 mm onto a horizontal surface consists of hardwood at 13mm thick, mounted on two layers of plywood each 19mm to 20mm thick, all supported on a concrete or equivalent non-resilient floor. Upon conclusion of test, the equipment need not be operational.

7-6. Net Weight (Reference): 200g
AC ADAPTER  电源适配器  電源供應器
MODEL  型号  型號: EA1024PR
AC INPUT  输入输入: 100-240V~1.0A, 50-60Hz
DC OUTPUT  输出输出: 12V --- 3A
CAUTION  注意
FOR INDOOR USE ONLY  室内产品使用
I.T.E. USE ONLY  室内产品使用

P/N.: 31210240065
Background: Black color
Character: Silver color
Unit: mm