



MA Electronics

Charger & Open Frame Power Supply Product

Battery Charger & Open Frame Switching Power Supply

~~~~~We Offer Our Product As~~~~~

**\* Low Cost \*High Efficiency \*Flexibility  
\*Competitive Quotation Model \*Preventive Programs**



**MA Electronics Pte Ltd**

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## **Company profile**

MA Electronics Pte Ltd designs and manufactures switching power adapters, OEM/ODM power supplies and AC adapters, industrial and medical SMPS, battery chargers and power supplies and LED lighting systems for IT companies.

We are ISO 9001:2000 , ISO 14001:2004 and OHSAS 18001-2007-certified for production facilities and subcontractors located in Singapore and China.

## **What we offer our product as :**

### **Low Cost**

- Leverage high volume procurement
- Reduce inventory costs (local hub...etc.) and handling expenses (transportation.. etc.)

### **High Efficiency**

- Global logistics
- Efficient material management system
- Well-Trained and productive employees
- Flexible and efficient high-volume manufacturing
- Most advanced manufacturing facilities

### **Competitive Quotation Model**

- Transparency of material cost, labour cost, overhead..etc.

### **Flexibility**

- Component can be purchased either by MA Electronics or consigned by the customer
- Two ways feedback to ensure the lowest cost of total ownership.

### **Preventive Programs**

- Preventive quality control
- Efficient corrective action program

## **Our Partner Policy**

Develop mutually beneficial relationships

Provide our partners with products that meet their requirements of:

- Qualit
- Features
- Price
- Performance
- Fast Time-to-market

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# Battery Charger Series

## For 24V Lead-Acid Battery Charger

### FEATURES

- High Efficiency
- RoHS Compliance
- 2 Step Fast Charge Capability
- 2 LED Charge Status Indication
- Over Voltage Protection Installation
- Short-circuit Protective Installation
- Battery Polarity Reverse Protection
- Battery Low Voltage Protection
- 100% Burn-In
- 100% Hi-Pot Tested



- EA1065 Charger Series

| Model  | Charge Current | Fast Charge Voltage | Floating Charge Voltage |
|--------|----------------|---------------------|-------------------------|
| EA1065 | 2.0A           | 29.4V               | 24V                     |

- AC Inlet: C14
- Input Range: 100 to 240VAC
- Frequency: 50 to 60Hz
- Input Current:  $\leq 1.8A$
- Inrush Current:  $\leq 80A$
- Efficiency: 80% Typical
- Hold Up Time:  $\geq 8.3mS$
- Turn On Time:  $\leq 3s$
- MTBF: >30,000 Hours
- Over Voltage protection: Auto Recovery
- Short Circuit Protection: Auto Recovery
- Operating Temperature 0~40°C
- Storage Temperature: -20~85°C
- Storage Humidity: 5%~95%
- Safety: UL/CUL UL 1012
- Case Dimensions: L153.5xW68.8xH40.5(mm)
- Weight: 380g (reference)

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# Battery Charger Series

## For 24V Lead-Acid Battery Charger

### FEATURES

- Constant Power Charging Mode
- RoHS Compliance
- 2 LED Charge Status Indication
- Short-circuit Protective Installation
- Over Voltage Protection Installation
- Battery Polarity Reverse Protection
- 2 Step Fast Charge Capability
- 100% Burn-In
- 100% Hi-Pot Tested



- EA1089 Charger Series

| Model   | Charge Current | Fast Charge Voltage | Floating Charge Voltage |
|---------|----------------|---------------------|-------------------------|
| EA1089D | 3.0A           | 29.4V               | 27.5V                   |
| EA1089C | 3.5A           | 29.4V               | 27.5V                   |

- AC Inlet: C14
- Input Range: 100 to 240VAC
- Frequency: 50 to 60Hz
- Input Current: 2.0A Max. for EA1089D  
2.5A Max. for EA1089C
- Inrush Current:  $\leq 80A$
- Efficiency: 83% Min.
- Hold Up Time:  $\geq 8.3mS$
- Turn On Time:  $\leq 3s$
- MTBF: >30,000 Hours
- Over Voltage protection: Auto Recovery
- Short Circuit Protection: Auto Recovery
- Operating Temperature 0~35°C
- Storage Temperature: -20~85°C
- Storage Humidity: 5%~95%
- Safety: UL/CUL UL 1012, C-Tick, CE EN55014, TUV EN/IEC 60335, CB EN/IEC 60335
- Case Dimensions: L144xW80xH55(mm)
- Weight: 560g (reference)

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# Battery Charger Series

## For 24V Lead-Acid Battery Charger

### FEATURES

- Constant Power Charging Mode
- RoHS Compliance
- 2 LED Charge Status Indication
- Short-circuit Protective Installation
- Over Voltage Protection Installation
- Battery Polarity Reverse Protection
- 2 Step Fast Charge Capability
- 100% Burn-In
- 100% Hi-Pot Tested



- EA1118 Charger Series

| Model   | Charge Current | Fast Charge Voltage | Floating Charge Voltage |
|---------|----------------|---------------------|-------------------------|
| EA1118D | 4.0A           | 29.4V               | 27.5V                   |
| EA1118C | 4.5A           | 29.4V               | 27.5V                   |

- AC Inlet: C14
- Input Range: 100 to 240VAC
- Frequency: 50 to 60Hz
- Input Current: 3.0A Max. for EA1118D  
3.5A Max. for EA1118C
- Inrush Current:  $\leq 90A$
- Efficiency: 83% Min.
- Hold Up Time:  $\geq 8.3mS$
- Turn On Time:  $\leq 3s$
- MTBF: >30,000 Hours
- Over Voltage protection: Auto Recovery
- Short Circuit Protection: Auto Recovery
- Operating Temperature 0~35°C
- Storage Temperature: -20~85°C
- Storage Humidity: 5%~95%
- Safety: UL/CUL UL 1012, C-Tick, CE EN55014, TUV EN/IEC 60335, CB EN/IEC 60335
- Case Dimensions: L144xW80xH55(mm)
- Weight: 560g (reference)

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# Battery Charger Series

## For 24V Lead-Acid Battery Charger

### FEATURES

- Constant Power Charging Mode
- RoHS Compliance
- 2 LED Charge Status Indication
- Short-circuit Protective Installation
- Over Voltage Protection Installation
- Battery Polarity Reverse Protection
- 2 Step Fast Charge Capability
- 100% Burn-In
- 100% Hi-Pot Tested



- EA1089 Charger Series

| Model   | Charge Current | Fast Charge Voltage | Floating Charge Voltage |
|---------|----------------|---------------------|-------------------------|
| EA1148D | 5.0A           | 29.4V               | 27.5V                   |
| EA1148C | 5.5A           | 29.4V               | 27.5V                   |

- AC Inlet: C14
- Input Range: 100 to 240VAC
- Frequency: 50 to 60Hz
- Input Current: 3.5A Max. for EA1148D  
4.0A Max. for EA1148C
- Inrush Current:  $\leq 80A$
- Efficiency: 83% Min.
- Hold Up Time:  $\geq 8.3mS$
- Turn On Time:  $\leq 3s$
- MTBF: >30,000 Hours
- Over Voltage protection: Auto Recovery
- Short Circuit Protection: Auto Recovery
- Operating Temperature 0~35°C
- Storage Temperature: -20~85°C
- Storage Humidity: 5%~95%
- Safety: UL/CUL UL 1012, C-Tick, CE EN55014, TUV EN/IEC 60335, CB EN/IEC 60335
- Case Dimensions: L144xW80xH55(mm)
- Weight: 560g (reference)

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# Open Frame Type Switching Power Supply

## 25Watts Series

### FEATURES

- Set-Top Box Standard Size
- Remote-Control Function
- Stand-by Output Provide
- 90~264VAC Universal Input
- CISPR'B' & CNS'B' Compliance
- Over Voltage Protection Installation
- Short-Circuit Protection Installation
- Modified and Custom Designs Available
- 1 Year Warranty



| Vo       | Load |       |       | Regulation |       | Tolerance | Ripple & Noise |
|----------|------|-------|-------|------------|-------|-----------|----------------|
|          | Min. | Rated | Surge | Line       | Load  |           |                |
| Vo1 +5V  | 0.5A | 2.0A  | ---   | 1.0%       | 5.0%  | +/-5.0%   | 50mV           |
| Vo2 +12V | 0.0A | 0.5A  | ---   | 1.0%       | 7.0%  | +/-7.0%   | 240mV          |
| Vo3 -12V | 0.0A | 0.1A  | ---   | 1.0%       | 10.0% | +/-10.0%  | 240mV          |
| Vo4 5sb  | 0.1A | 0.5A  | ---   | 1.0%       | 5.0%  | +/-5.0%   | 50mV           |
| Vo5 3.3V | 0.0A | 2.5   | ---   | 1.0%       | 5.0%  | +/-5.0%   | 50mV           |
| Vo1 +5V  | 0.5A | 3.5A  | ---   | 1.0%       | 5.0%  | +/-5.0%   | 50mV           |
| Vo2 +12V | 0.0A | 0.5A  | ---   | 1.0%       | 7.0%  | +/-7.0%   | 240mV          |
| Vo3 -12V | 0.0A | 0.1A  | ---   | 1.0%       | 10.0% | +/-10.0%  | 240mV          |
| Vo4 5sb  | 0.1A | 0.5A  | ---   | 1.0%       | 5.0%  | +/-5.0%   | 50mV           |
| Vo1 +5V  | 0.5A | 3.5A  | ---   | 1.0%       | 5.0%  | +/-5.0%   | 50mV           |
| Vo2 +12V | 0.0A | 0.5A  | ---   | 1.0%       | 7.0%  | +/-7.0%   | 240mV          |
| Vo3 -12V | 0.0A | 0.1A  | ---   | 1.0%       | 10.0% | +/-10.0%  | 240mV          |

- Input Voltage: AC90~264V
- Input Frequency: 47~63Hz
- Safety Approvals: UL/CUL/TUV
- Efficiency: 63~71% Typical
- Operating Temperature 0~50°C
- Storage Temperature: -20~85°C
- Cooling: Natural Convection Cooling
- Dimensions: L165xW47xH28(mm)
- Weight: 200g (reference)

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# Open Frame Type Switching Power Supply

## 8.6Watts Series

### FEATURES

- Low Cost
- 90~264VAC Universal Input
- CISPR'B' & CNS'B' Compliance
- 100% Burn-In Test
- Over Voltage Protection Installation
- Short-Circuit Protection Installation
- Protection Type: Auto-Recovery
- Modified and Custom Designs Available
- 1 Year Warranty



| Vo       | Load  |       |       | Regulation |       | Tolerance | Ripple & Noise |
|----------|-------|-------|-------|------------|-------|-----------|----------------|
|          | Min.  | Rated | Surge | Line       | Load  |           |                |
| Vo1 +5V  | 0.1A  | 1.0A  | ---   | 1.0%       | 3.0%  | +/-4.0%   | 50mV           |
| Vo2 +12V | 0.04A | 0.2A  | ---   | 1.0%       | 5.0%  | +/-5.0%   | 120mV          |
| Vo3 -12V | 0.0A  | 0.1A  | ---   | 1.0%       | 10.0% | +/-10.0%  | 120mV          |

- Input Voltage: AC90~264V
- Input Frequency: 47~63Hz
- Safety Approvals: UL/CUL/TUV
- Efficiency: 70% Typical
- Operating Temperature 0~50°C
- Storage Temperatuer: -20~85°C
- Cooling: Natural Convection Cooling
- Dimensions: L105xW70xH23(mm)
- Weight: 96g (reference)

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# Open Frame Type Switching Power Supply

## 7~15Watts Series

### FEATURES

- Economic: 90~132VAC Input
- Standard: 90~264VAC Universal Input
- CISPR'B' & CNS'B' Compliance
- 100% Burn-In Test
- Over Voltage Protection Installation
- Short-Circuit Protection Installation
- Protection Type: Auto-Recovery
- Modified and Custom Designs Available
- 1 Year Warranty



| Vo    | Load |       |       | Regulation |      | Tolerance | Ripple & Noise |
|-------|------|-------|-------|------------|------|-----------|----------------|
|       | Min. | Rated | Surge | Line       | Load |           |                |
| +5V   | 0.0A | 2.0A  | ---   | 1.0%       | 3.0% | +/-5.0%   | 50mV           |
| +5V   | 0.0A | 3.2A  | ---   | 1.0%       | 3.0% | +/-5.0%   | 50mV           |
| +3.3V | 0.0A | 2.0A  | ---   | 1.0%       | 3.0% | +/-5.0%   | 50mV           |

- Input Voltage: AC90~264V
- Input Frequency: 47~63Hz
- Safety Approvals: Designed to meet
- Efficiency: 70% Typical
- Operating Temperature 0~50°C
- Storage Temperatuer: -20~85°C
- Cooling: Natural Convection Cooling
- Dimensions: L75xW37xH17(mm)
- Weight: 248~56g (reference)

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