



date 04/18/2013

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## SERIES: EPS 6W | DESCRIPTION: AC-DC POWER SUPPLY

### FEATURES

- up to 6 W power
- compact size
- single output from 3~24 V
- over voltage and short circuit protections
- custom designs available



| MODEL     | output voltage<br>(Vdc) | output current max<br>(A) | output power max<br>(W) | ripple and noise <sup>1</sup> max<br>(mVp-p) | efficiency level |
|-----------|-------------------------|---------------------------|-------------------------|----------------------------------------------|------------------|
| EPS030100 | 3                       | 1                         | 3                       | 100                                          | IV               |
| EPS033100 | 3.3                     | 1                         | 3.3                     | 100                                          | IV               |
| EPS045100 | 4.5                     | 1                         | 4.5                     | 100                                          | V                |
| EPS050100 | 5                       | 1                         | 5                       | 100                                          | V                |
| EPS060100 | 6                       | 1                         | 6                       | 100                                          | V                |
| EPS075080 | 7.5                     | 0.8                       | 6                       | 100                                          | IV               |
| EPS090066 | 9                       | 0.66                      | 6                       | 100                                          | V                |
| EPS120050 | 12                      | 0.5                       | 6                       | 120                                          | V                |
| EPS150040 | 15                      | 0.4                       | 6                       | 150                                          | V                |
| EPS180033 | 18                      | 0.33                      | 6                       | 180                                          | V                |
| EPS240025 | 24                      | 0.25                      | 6                       | 240                                          | IV               |

Notes: 1. At full load, 100 ~ 132 Vac input, 20 MHz bandwidth oscilloscope, each output terminated with 10  $\mu$ F aluminum electrolytic and 0.1  $\mu$ F ceramic capacitors.

### PART NUMBER KEY

**EPS030100 - PXXXX - CXX**

Base Number  
example of 3 Vdc, 1 A

DC Plug Type

Reserved for Custom  
Configurations

## INPUT

| parameter                   | conditions/description | min        | typ | max  | units |
|-----------------------------|------------------------|------------|-----|------|-------|
| voltage                     |                        | 100        |     | 132  | Vac   |
| frequency                   |                        | 47         |     | 63   | Hz    |
| current                     |                        |            |     | 0.15 | A     |
| inrush current <sup>1</sup> | 15V, 18V and 24V model | at 100 Vac |     | 15   | A     |
|                             |                        | at 132 Vac |     | 30   | A     |
|                             | all other models       | at 132 Vac |     | 40   | A     |
| no load power consumption   | level IV models        |            |     | 0.5  | W     |
|                             | level V models         |            |     | 0.3  | W     |

Notes: 1. inrush lasts no longer than 0.5 ms before settling to steady state current

## OUTPUT

| parameter               | conditions/description                            | min | typ   | max | units |
|-------------------------|---------------------------------------------------|-----|-------|-----|-------|
| line regulation         | all other models                                  |     | ±1    |     | %     |
|                         | 7.5V model                                        |     | ±2    |     | %     |
| load regulation         |                                                   |     | ±5    |     | %     |
| temperature coefficient | 0 ~ 40°C, full load, after initial 1 hour warm-up |     | ±0.02 |     | %/°C  |
| start-up                | time needed to reach regulation                   |     |       | 3   | s     |
| hold-up                 | at 115 Vac, full load                             | 10  |       |     | ms    |

## PROTECTIONS

| parameter                | conditions/description                          | min | typ | max | units |
|--------------------------|-------------------------------------------------|-----|-----|-----|-------|
| over voltage protection  | clamped by internal protection zener            |     |     |     |       |
| short circuit protection | continuous, auto-recovery upon removal of short |     |     |     |       |

## SAFETY & COMPLIANCE

| parameter            | conditions/description                | min | typ | max   | units |
|----------------------|---------------------------------------|-----|-----|-------|-------|
| isolation voltage    | input to output at 10 mA for 1 minute |     |     | 3,000 | Vdc   |
|                      |                                       |     |     | 4,242 | Vdc   |
| isolation resistance | input to output at 500 Vdc            | 100 |     |       | MΩ    |
| safety approvals     | UL 1310                               |     |     |       |       |
| safety               | class II                              |     |     |       |       |
| EMI/EMC              | FCC Part 15 Class B                   |     |     |       |       |
| leakage current      |                                       |     |     | 0.25  | mA    |
| RoHS compliant       | yes                                   |     |     |       |       |

## ENVIRONMENTAL

| parameter             | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature |                        | 0   |     | 40  | °C    |
| storage temperature   |                        | -10 |     | 70  | °C    |
| operating humidity    |                        | 20  |     | 80  | %     |
| storage humidity      |                        | 10  |     | 90  | %     |

## MECHANICAL

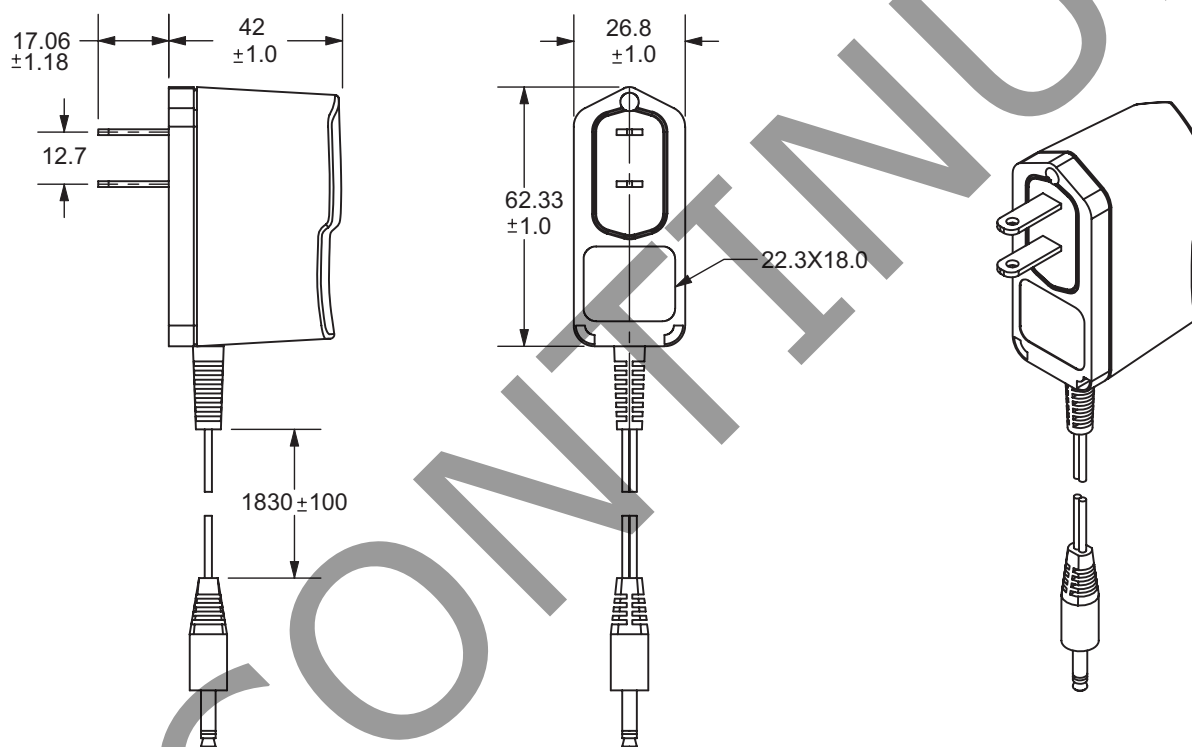
| parameter  | conditions/description                         | min | typ | max | units |
|------------|------------------------------------------------|-----|-----|-----|-------|
| dimensions | 62.33 x 26.8 x 42 (2.454 x 1.055 x 1.654 inch) |     |     |     | mm    |
| input plug | fixed US                                       |     |     |     |       |

## MECHANICAL DRAWING

units: mm

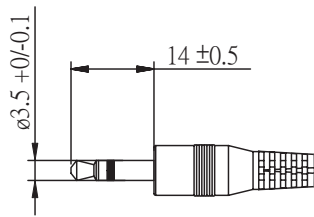
tolerance: X.X  $\pm 0.5$

X.XX  $\pm 0.03$

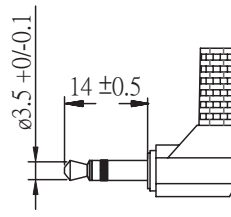


## OUTPUT PLUG OPTIONS

### 3.5 mm Phono Plug

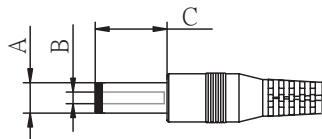


P1

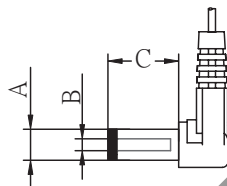


P1R

### Standard DC Plug



Standard PX

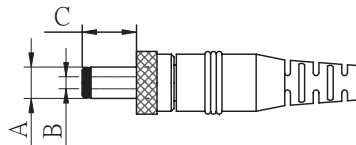


Right Angle PXR

|        | A   | B    | C               | Unit |
|--------|-----|------|-----------------|------|
| P5/P5R | 5.5 | 2.1  | 12 <sup>1</sup> | mm   |
| P6/P6R | 5.5 | 2.5  | 12              | mm   |
| P7/P7R | 3.5 | 1.35 | 9.5             | mm   |
| P8/P8R | 3.8 | 1.35 | 9.5             | mm   |
| P9/P9R | 3.8 | 1.05 | 9.5             | mm   |

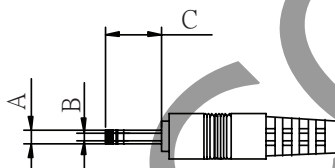
Notes: 1. EPS050100-P5P has a 9.5mm dc plug length

### Locking DC Plug

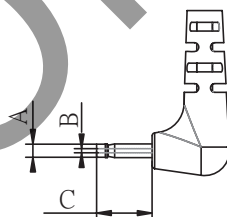


|     | A   | B   | C   | Unit |
|-----|-----|-----|-----|------|
| P10 | 5.5 | 2.1 | 9.5 | mm   |
| P11 | 5.5 | 2.5 | 9.5 | mm   |

### EIAJ Plugs

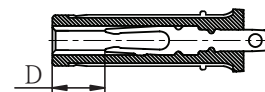


Standard PXX

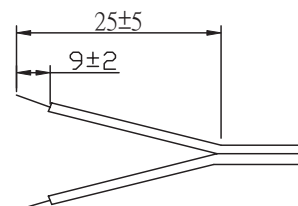


Right Angle PXXR

|          | EIAJ   | A    | B   | C   | D   | Unit |
|----------|--------|------|-----|-----|-----|------|
| P12/P12R | EIAJ-1 | 2.35 | 0.7 | 9.5 | NA  | mm   |
| P13/P13R | EIAJ-2 | 4.0  | 1.7 | 9.5 | 5.0 | mm   |
| P14/P14R | EIAJ-3 | 4.75 | 1.7 | 9.5 | 5.0 | mm   |



### Stripped and Tinned



### DC PLUG TYPE

ST

stripped and tinned

PXX X X

Plug type

Plug angle:  
"blank" = standard  
R = right angle

Plug polarity:  
"blank" = N/A  
P = center positive

N = center negative



## REVISION HISTORY

| rev. | description                                                  | date       |
|------|--------------------------------------------------------------|------------|
| 1.0  | initial release                                              | 06/29/2006 |
| 1.01 | applied new spec template                                    | 12/28/2010 |
| 1.02 | removed multiple models, applied new spec template           | 05/26/2011 |
| 1.03 | updated P7/P7R B dimension                                   | 04/13/2012 |
| 1.04 | V-Infinity branding removed, safety and EMI/EMC data updated | 08/16/2012 |
| 1.05 | added 7.5V model                                             | 09/24/2012 |
| 1.06 | updated P5 & P6 plug lengths                                 | 04/18/2013 |

The revision history provided is for informational purposes only and is believed to be accurate.



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This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

CUI offers a one (1) year limited warranty. Complete warranty information is listed on our website.

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