


**SERIES:** EPSA 6W | **DESCRIPTION:** AC-DC POWER SUPPLY

**FEATURES**

- up to 6 W power
- universal input (90~264 Vac)
- single regulated output from 3.3~24 V
- over voltage, over current, and short circuit protections
- UL/cUL safety approvals
- level V efficiency
- custom designs available



| MODEL       | output voltage | output current max | output power max | ripple and noise <sup>1</sup> max | efficiency level |
|-------------|----------------|--------------------|------------------|-----------------------------------|------------------|
|             | (Vdc)          | (A)                | (W)              | (mVp-p)                           |                  |
| EPSA033180U | 3.3            | 1.8                | 6                | 150                               | V                |
| EPSA050120U | 5              | 1.2                | 6                | 150                               | V                |
| EPSA060100U | 6              | 1                  | 6                | 150                               | V                |
| EPSA090067U | 9              | 0.67               | 6                | 150                               | V                |
| EPSA120050U | 12             | 0.5                | 6                | 150                               | V                |
| EPSA150040U | 15             | 0.4                | 6                | 200                               | V                |
| EPSA180033U | 18             | 0.33               | 6                | 200                               | V                |
| EPSA240025U | 24             | 0.25               | 6                | 200                               | V                |

Note: 1. At full load, 100 ~ 240 Vac input, 20 MHz bandwidth oscilloscope, output terminated with 0.1  $\mu$ F and 47  $\mu$ F capacitors.

**PART NUMBER KEY**

**EPSA033180UX - XX - SZ - CXX**

Base Number  
example of 3.3 Vdc, 1.8 A

Case/Cord Color  
"blank" = black  
W = white

DC Plug Type

Factory Designation

Reserved for Custom Configurations

**INPUT**

| parameter                 | conditions/description | min | typ | max | units |
|---------------------------|------------------------|-----|-----|-----|-------|
| voltage                   |                        | 90  |     | 264 | Vac   |
| frequency                 |                        | 47  |     | 63  | Hz    |
| current                   |                        |     |     | 0.3 | A RMS |
| leakage current           |                        |     |     | 0.1 | mA    |
| no load power consumption |                        |     |     | 0.3 | W     |

**OUTPUT**

| parameter       | conditions/description           | min | typ       | max | units  |
|-----------------|----------------------------------|-----|-----------|-----|--------|
| line regulation |                                  |     | ±3        |     | %      |
| load regulation | 3.3 V output<br>all other models |     | ±10<br>±5 |     | %<br>% |

**PROTECTIONS**

| parameter                | conditions/description               | min | typ | max | units |
|--------------------------|--------------------------------------|-----|-----|-----|-------|
| over voltage protection  | protected through primary circuit IC |     |     |     |       |
| short circuit protection | output shut down and auto restart    |     |     |     |       |

**SAFETY & COMPLIANCE**

| parameter            | conditions/description                | min | typ | max            | units      |
|----------------------|---------------------------------------|-----|-----|----------------|------------|
| isolation voltage    | input to output at 10 mA for 1 minute |     |     | 3,000<br>4,242 | Vac<br>Vdc |
| isolation resistance | input to output at 500 Vdc            | 100 |     |                | MΩ         |
| safety approvals     | UL/cUL, PSE, LPS                      |     |     |                |            |
| EMI/EMC              | FCC                                   |     |     |                |            |
| RoHS compliant       | yes                                   |     |     |                |            |

**ENVIRONMENTAL**

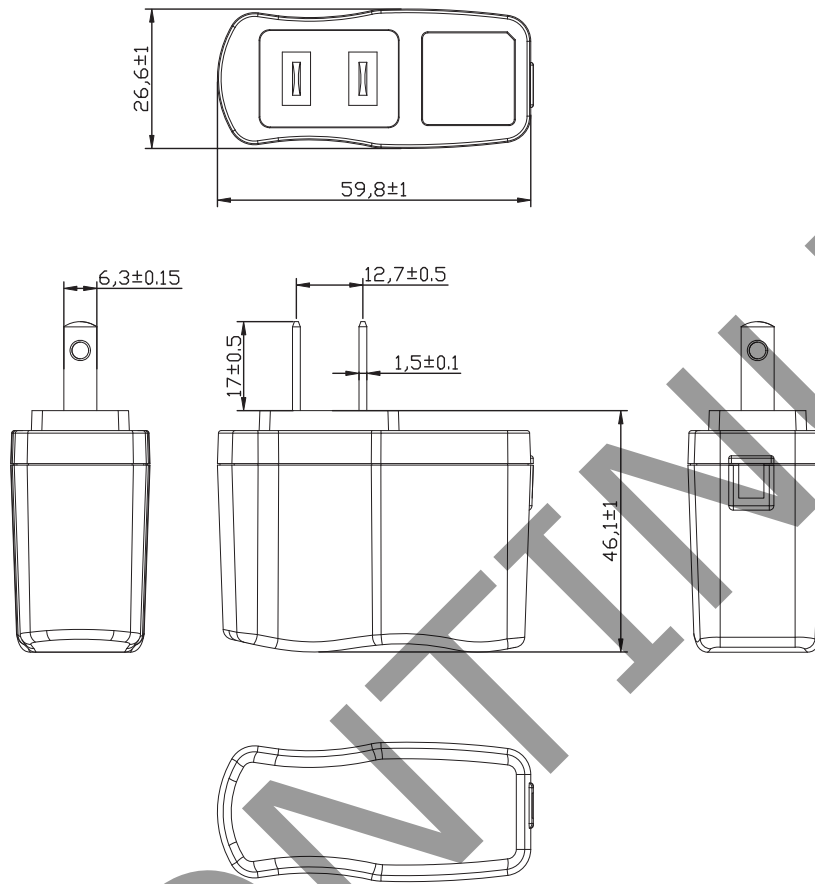
| parameter             | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature |                        | 0   |     | 40  | °C    |
| storage temperature   |                        | -10 |     | 70  | °C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

**MECHANICAL**

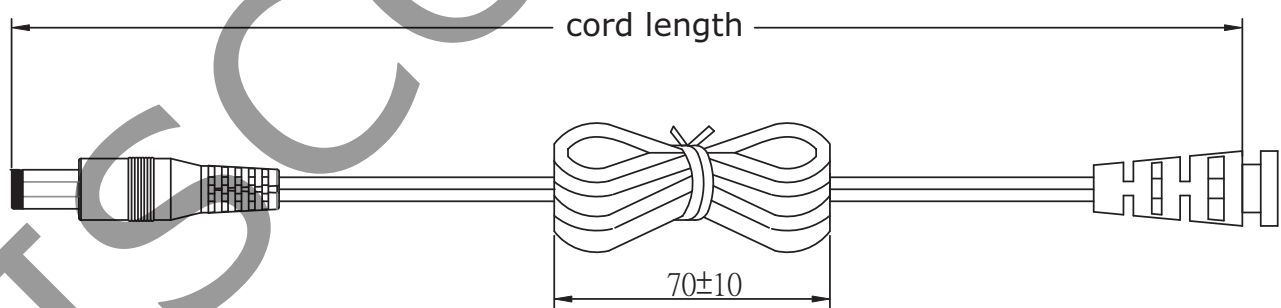
| parameter       | conditions/description                          | min | typ | max | units |
|-----------------|---|-----|-----|-----|-------|
| dimensions      | 59.8 x 46.1 x 26.6 (2.354 x 1.815 x 1.047 inch) |     |     |     | mm    |
| weight          |   |     |     | 63  | g     |
| input plug      | fixed US  |     |     |     |       |
| case/cord color | black or white                                  |     |     |     |       |

## MECHANICAL DRAWING

units: mm



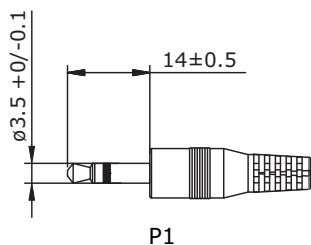
## DC CORD



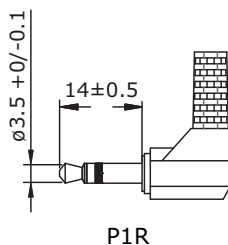
| MODEL NO.   | CABLE GAUGE | CORD LENGTH   |
|-------------|-------------|---------------|
| EPSA033180U | 20 AWG      | 1,000 mm ±100 |
| EPSA050120U | 22 AWG      | 1,530 mm ±100 |
| EPSA060100U | 22 AWG      | 1,530 mm ±100 |
| EPSA090067U | 22 AWG      | 1,530 mm ±100 |
| EPSA120050U | 24 AWG      | 1,530 mm ±100 |
| EPSA150040U | 24 AWG      | 1,530 mm ±100 |
| EPSA180033U | 24 AWG      | 1,530 mm ±100 |
| EPSA240025U | 24 AWG      | 1,530 mm ±100 |

## OUTPUT PLUG OPTIONS

### 3.5 mm Phono Plug



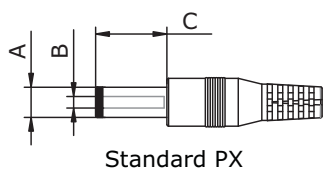
P1



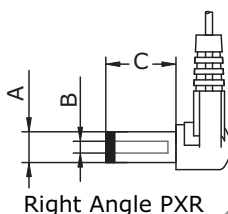
P1R

\*Tip positive

### Standard DC Plug



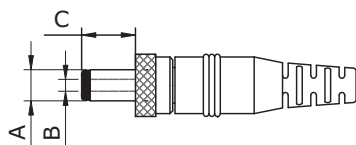
Standard PX



Right Angle PXR

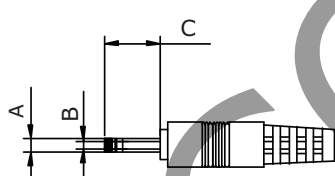
|        | A   | B    | C   | Unit |
|--------|-----|------|-----|------|
| P5/P5R | 5.5 | 2.1  | 9.5 | mm   |
| P6/P6R | 5.5 | 2.5  | 9.5 | mm   |
| P7/P7R | 3.5 | 1.35 | 9.5 | mm   |
| P8/P8R | 3.8 | 1.35 | 9.5 | mm   |
| P9/P9R | 3.8 | 1.05 | 9.5 | mm   |

### Locking DC Plug

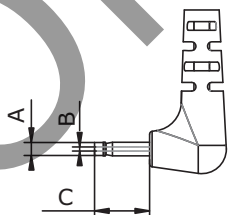


|     | A   | B   | C   | Unit |
|-----|-----|-----|-----|------|
| P10 | 5.5 | 2.1 | 9.5 | mm   |
| P11 | 5.5 | 2.5 | 9.5 | mm   |

### EIAJ Plugs

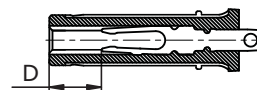


Standard PXX

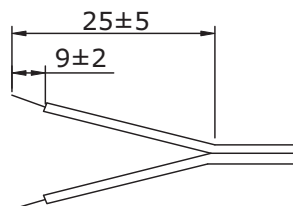


Right Angle PXXR

|          | 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

**PXXXX**

Plug Type: P  
Plug Angle: "Blank" = Standard, R = Right Angle  
Plug Polarity: "Blank" = N/A, P = Center Positive, N = Center Negative

\*Contact CUI for additional output plug options.

## REVISION HISTORY

| rev. | description              | date       |
|------|--------------------------|------------|
| 1.0  | initial release          | 10/24/2012 |
| 1.01 | added black color option | 05/28/2013 |

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

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.

CUI reserves the right to make changes to the product at any time without notice. Information provided by CUI is believed to be accurate and reliable. However, no responsibility is assumed by CUI for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

CUI products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.



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