



SERIES: SDI12-UD | **DESCRIPTION:** AC-DC POWER SUPPLY

FEATURES

- up to 12 W continuous power
- DoE Level VI, CoC Tier 2 efficiency
- no load power consumption < 0.075 W
- compact size
- universal input voltage range
- over voltage, over current, and short circuit protections
- UL/cUL, GS, CE, PSE safety approvals



| MODEL | output voltage (Vdc) | output current max (A) | output power max (W) | ripple and noise ¹ max (mVp-p) | efficiency level ² |
|--------------|-------------------------|------------------------------|----------------------------|---|-------------------------------|
| SDI12-5-UD | 5 | 2 | 10 | 100 | VI |
| SDI12-5.9-UD | 5.9 | 2 | 11.8 | 100 | VI |
| SDI12-9-UD | 9 | 1.33 | 12 | 100 | VI |
| SDI12-12-UD | 12 | 1 | 12 | 120 | VI |
| SDI12-15-UD | 15 | 0.8 | 12 | 150 | VI |
| SDI12-18-UD | 18 | 0.67 | 12 | 180 | VI |
| SDI12-24-UD | 24 | 0.5 | 12 | 240 | VI |

Notes: 1. At full load, nominal input, 20 MHz bandwidth oscilloscope, each output terminated with 0.1 µF multilayer ceramic and 47 µF low ESR electrolytic capacitors.
2. CoC Tier 2 compliant

PART NUMBER KEY



INPUT

| parameter | conditions/description | min | typ | max | units |
|---------------------------|---|-----|-----|-------|-------|
| voltage | | 90 | | 264 | Vac |
| frequency | | 47 | | 63 | Hz |
| current | at full load | | | 0.31 | A |
| inrush current | at 240 Vac, full load, 25°C, cold start | | | 60 | A |
| leakage current | | | | 0.25 | mA |
| no load power consumption | at 115/230 Vac | | | 0.1 | W |
| | Level VI CoC Tier 2 | | | 0.075 | W |

OUTPUT

| parameter | conditions/description | min | typ | max | units |
|--------------|------------------------|-----|-----|-----|-------|
| regulation | | | ±5 | | % |
| hold-up time | at full load | 10 | | | ms |

PROTECTIONS

| parameter | conditions/description | min | typ | max | units |
|--------------------------|---------------------------------|-----|-----|------|-------|
| over voltage protection | output shut down | | | | |
| | 5 Vdc output model | | | 9 | Vdc |
| | 5.9 Vdc output model | | | 10.6 | Vdc |
| | 9 Vdc output model | | | 16.2 | Vdc |
| | 12 Vdc output model | | | 21.6 | Vdc |
| | 15 Vdc output model | | | 27 | Vdc |
| | 18 Vdc output model | | | 32.4 | Vdc |
| over current protection | 24 Vdc output model | | | 45 | Vdc |
| | output shut down, auto recovery | | | | |
| | 5 Vdc output model | | | 5 | A |
| | 5.9 Vdc output model | | | 5 | A |
| | 9 Vdc output model | | | 3 | A |
| | 12 Vdc output model | | | 2.5 | A |
| | 15 Vdc output model | | | 2 | A |
| short circuit protection | 18 Vdc output model | | | 2 | A |
| | 24 Vdc output model | | | 1.5 | A |
| | output shut down, auto recovery | | | | |

SAFETY & COMPLIANCE

| parameter | conditions/description | min | typ | max | units |
|----------------------|---------------------------------------|---------|-------|-----|-------|
| isolation voltage | input to output at 10 mA for 1 minute | | 3,000 | | Vac |
| isolation resistance | input to output at 500 Vdc | 10 | | | MΩ |
| safety approvals | UL/cUL, LPS, PSE | | | | |
| EMI/EMC | FCC Part 15B Class B, CE | | | | |
| MTBF | as per Telcordia SR-332, 25°C | 300,000 | | | hours |
| RoHS | 2011/65/EU | | | | |

ENVIRONMENTAL

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

MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|------------|------------------------|-----|-----|-----|-------|
| dimensions | 75 x 48 x 30 | | | | mm |
| inlet plug | IEC320/C8 | | | | |
| weight | without ac cord | | 126 | | g |

MECHANICAL DRAWING

units: mm
tolerance: ±0.5 mm



DC CORD

units: mm



Table 1

| MODEL NO. | CABLE | CORD LENGTH |
|--------------|----------------|--------------|
| SDI12-5-UD | UL2468, 20 AWG | 1,500 mm ±30 |
| SDI12-5.9-UD | UL2468, 20 AWG | 1,500 mm ±30 |
| SDI12-9-UD | UL2468, 20 AWG | 1,500 mm ±30 |
| SDI12-12-UD | UL2468, 22 AWG | 1,500 mm ±30 |
| SDI12-15-UD | UL2468, 22 AWG | 1,500 mm ±30 |
| SDI12-18-UD | UL2468, 22 AWG | 1,500 mm ±30 |
| SDI12-24-UD | UL2468, 22 AWG | 1,500 mm ±30 |

AC CORD

units: mm



NORTH AMERICA



EUROPE



UNITED KINGDOM



AUSTRALIA



CHINA



SOUTH KOREA



BRAZIL



SOUTH AFRICA



JAPAN

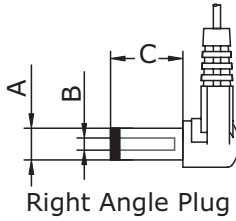


Table 2

| AC INPUT | CORD LENGTH |
|----------------|--------------|
| North America | 1,830 mm ±50 |
| Europe | 1,830 mm ±50 |
| United Kingdom | 1,830 mm ±30 |
| Australia | 1,830 mm ±30 |
| China | 1,830 mm ±30 |
| South Korea | 1,830 mm ±50 |
| Brazil | 1,830 mm ±30 |
| South Africa | 1,830 mm ±50 |
| Japan | 1,830 mm ±50 |

OUTPUT PLUG OPTIONS

Standard DC Plug



| Size | A | B | C | Unit |
|------|-----|------|-----|------|
| 5 | 5.5 | 2.1 | 9.5 | mm |
| 6 | 5.5 | 2.5 | 9.5 | mm |
| 7 | 3.5 | 1.35 | 9.5 | mm |
| 8 | 3.8 | 1.35 | 9.5 | mm |
| 9 | 3.8 | 1.05 | 9.5 | mm |

Locking DC Plug



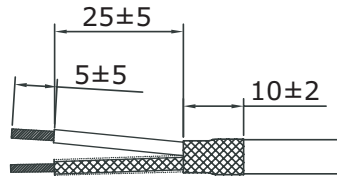
| Size | A | B | C | Unit |
|------|-----|-----|-----|------|
| 10 | 5.5 | 2.1 | 9.5 | mm |
| 11 | 5.5 | 2.5 | 9.5 | mm |

EIAJ DC Plug



| Size | EIAJ | A | B | C | Unit |
|------|--------|------|-----|-----|------|
| 12 | EIAJ-1 | 2.35 | 0.7 | 9.5 | mm |
| 13 | EIAJ-2 | 4.0 | 1.7 | 9.5 | mm |
| 14 | EIAJ-3 | 4.75 | 1.7 | 9.5 | mm |

Stripped and Tinned



DC Plug Type



*Contact CUI for additional plug options

REVISION HISTORY

| rev. | description | date |
|------|---------------------------------|------------|
| 1.0 | initial release | 08/21/2015 |
| 1.01 | updated datasheet | 05/18/2016 |
| 1.02 | updated datasheet | 09/15/2016 |
| 1.03 | removed GS mark as of 5/31/2019 | 04/10/2019 |

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



CUI INC[®]

Headquarters
20050 SW 112th Ave.
Tualatin, OR 97062
800.275.4899

Fax 503.612.2383
cui.com
techsupport@cui.com

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- (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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Наши контакты:

Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург,
Промышленная ул, дом № 19, литера Н,
помещение 100-Н Офис 331