



SERIES: SDI18-U | **DESCRIPTION:** AC-DC POWER SUPPLY

FEATURES

- up to 18 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
- certified to 60950-1 and 62368-1 standards



| MODEL | output voltage | output current | output power | ripple and noise ¹ | efficiency level ² |
|-------------|----------------|----------------|--------------|-------------------------------|-------------------------------|
| | (Vdc) | max (A) | max (W) | max (mVp-p) | |
| SDI18-5-U | 5 | 3 | 15 | 100 | VI |
| SDI18-5.9-U | 5.9 | 3 | 17.7 | 100 | VI |
| SDI18-9-U | 9 | 2.2 | 19.8 | 100 | VI |
| SDI18-12-U | 12 | 1.6 | 19.2 | 120 | VI |
| SDI18-15-U | 15 | 1.3 | 19.5 | 150 | VI |
| SDI18-24-U | 24 | 0.8 | 19.2 | 240 | VI |

Notes: 1. At full load, nominal input, 20 MHz bandwidth oscilloscope, each output terminated with 0.1 µF multilayer ceramic and 10 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 | | | 0.48 | A |
| inrush current | at 100 Vac, full load, 25°C, cold start | | | 50 | A |
| | at 230 Vac, full load, 25°C, cold start | | | 60 | A |
| leakage current | | | | 3.5 | mA |
| no load power consumption | at 230 Vac | | | 0.075 | W |

OUTPUT

| parameter | conditions/description | min | typ | max | units |
|--------------|------------------------|-----|-----|-----|-------|
| regulation | 5 Vdc output model | | ±6 | | % |
| | all other models | | ±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 | | | 12 | Vdc |
| | 5.9 Vdc output model | | | 12 | Vdc |
| | 9 Vdc output model | | | 16 | Vdc |
| | 12 Vdc output model | | | 22 | Vdc |
| | 15 Vdc output model | | | 32 | Vdc |
| over current protection | 24 Vdc output model | | | 45 | Vdc |
| | output shut down, auto recovery | | | | |
| | 5 Vdc output model | | | 7 | A |
| | 5.9 Vdc output model | | | 6 | A |
| | 9 Vdc output model | | | 5 | A |
| | 12 Vdc output model | | | 5 | A |
| short circuit protection | 15 Vdc output model | | | 4 | A |
| | 24 Vdc output model | | | 2.5 | A |
| | output shut down, auto recovery | | | | |
| | 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 |
| | input to frame ground at 10 mA for 1 minute | | 1,500 | | Vac |
| isolation resistance | input to output at 500 Vdc | 10 | | | MΩ |
| | input to frame ground at 500 Vdc | 10 | | | MΩ |
| safety approvals | UL/cUL (60950-1, 62368-1), GS, PSE | | | | |
| EMI/EMC | FCC Part 15B Class B, CE | | | | |
| MTBF | as per Telcordia SR-332, 25°C | 300,000 | | | hours |
| RoHS | yes | | | | |

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 | 100 x 50 x 33 | | | | mm |
| inlet plug | IEC320/C14 | | | | |
| weight | without ac cord | | 170 | | g |

MECHANICAL DRAWING

units: mm
tolerance: ±1.0 mm



DC CORD

units: mm



Table 1

| MODEL NO. | CABLE | CORD LENGTH |
|-------------|----------------|--------------|
| SDI18-5-U | UL2468, 16 AWG | 1,500 mm ±30 |
| SDI18-5.9-U | UL2468, 16 AWG | 1,200 mm ±30 |
| SDI18-9-U | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI18-12-U | UL2468, 20 AWG | 1,500 mm ±30 |
| SDI18-15-U | UL2468, 22 AWG | 1,500 mm ±30 |
| SDI18-24-U | UL2468, 22 AWG | 1,500 mm ±30 |

AC CORD

units: mm



Table 2

| AC INPUT | CORD LENGTH |
|----------------|--------------|
| North America | 1,830 mm ±30 |
| Europe | 1,830 mm ±30 |
| 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 ±30 |

DC PLUG TYPE PART NUMBER KEY



| Plug Polarity | | Code | | Dimensions (mm) | | | Plug Angle | |
|---------------|-------------|--------|-------------------|-----------------|------|-----|------------|-------|
| Center Pos. | Center Neg. | Option | Type | A | B | C | Straight | Right |
| • | • | 5 | Standard | 5.5 | 2.1 | 9.5 | • | • |
| • | • | 6 | Standard | 5.5 | 2.5 | 9.5 | • | • |
| • | • | 7 | Standard | 3.5 | 1.35 | 9.5 | • | • |
| • | • | 8 | Standard | 3.8 | 1.35 | 9.5 | • | • |
| • | • | 9 | Standard | 3.8 | 1.05 | 9.5 | • | • |
| • | • | 10 | Locking | 5.5 | 2.1 | 9.5 | • | N/A |
| • | • | 11 | Locking | 5.5 | 2.5 | 9.5 | • | N/A |
| • | • | 12 | EIAJ-1 | 2.35 | 0.7 | 9.5 | • | • |
| • | • | 13 | EIAJ-2 | 4.0 | 1.7 | 9.5 | • | • |
| • | • | 14 | EIAJ-3 | 4.75 | 1.7 | 9.5 | • | • |
| N/A | N/A | ST | Stripped & Tinned | | | N/A | N/A | |

Note: 1. Contact CUI for additional plug options

Standard



EIAJ



Locking



Stripped & Tinned



REVISION HISTORY

| rev. | description | date |
|------|---|------------|
| 1.0 | initial release | 08/07/2015 |
| 1.01 | updated datasheet | 03/16/2016 |
| 1.02 | changed wire gauge on 5 Vdc & 5.9 Vdc models, updated datasheet | 09/15/2016 |
| 1.03 | added 62368-1 standard | 08/31/2018 |

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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- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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