

SERIES: SDI50-UD | **DESCRIPTION:** AC-DC POWER SUPPLY

FEATURES

- DoE Level VI, CoC Tier 2 efficiency
- 50 W power
- universal input (90~264 Vac)
- compact size
- single regulated output from 9~48 Vdc
- over voltage and short circuit protections
- UL/cUL and PSE safety approvals
- custom designs available
- certified to 60950-1 and 62368-1 standards



| MODEL | output voltage (Vdc) | output current max (A) | output power max (W) | ripple and noise ¹ max (mVp-p) | efficiency level ² |
|-------------|-------------------------|------------------------------|----------------------------|---|-------------------------------|
| SDI50-9-UD | 9 | 5 | 45 | 100 | VI |
| SDI50-12-UD | 12 | 4.2 | 50 | 120 | VI |
| SDI50-15-UD | 15 | 3.34 | 50 | 150 | VI |
| SDI50-18-UD | 18 | 2.78 | 50 | 180 | VI |
| SDI50-19-UD | 19 | 2.64 | 50 | 190 | VI |
| SDI50-24-UD | 24 | 2.1 | 50 | 240 | VI |
| SDI50-48-UD | 48 | 1.05 | 50 | 480 | 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 | | | | 1.2 | A |
| inrush current | at 230 Vac, full load, 25°C, cold start | | | 70 | A |
| leakage current | | | | 0.25 | mA |
| no load power consumption | at 230 Vac 9 Vdc model all other models | | | 0.10 0.15 | W W |

OUTPUT

| parameter | conditions/description | min | typ | max | units |
|------------|------------------------|-----|-----|-----|-------|
| regulation | | | ±5 | | % |

PROTECTIONS

| parameter | conditions/description | min | typ | max | units |
|--------------------------|---------------------------------|-----|-----|-----|-------|
| over voltage protection | output latch off | | | 180 | % |
| over current protection | output shut down, auto recovery | | | 180 | % |
| short circuit protection | 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 (60950-1, 62368-1), PSE, LPS | | | | |
| 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 | 115 x 53 x 38 | | | | mm |
| inlet plug | IEC320/C8 | | | | |
| weight | without ac cord | | 310 | | g |

MECHANICAL DRAWING

units: mm
tolerance: ±1.0 mm



DC CORD

units: mm



Table 1

| MODEL NO. | CABLE | CORD LENGTH |
|-------------|----------------|--------------|
| SDI50-9-UD | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-12-UD | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-15-UD | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-18-UD | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-19-UD | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-24-UD | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-48-UD | UL2468, 20 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 |

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 | 05/13/2015 |
| 1.01 | updated datasheet | 09/15/2016 |
| 1.02 | added 62368-1 standard | 08/31/2018 |
| 1.03 | removed GS safety approval | 03/02/2020 |

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



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