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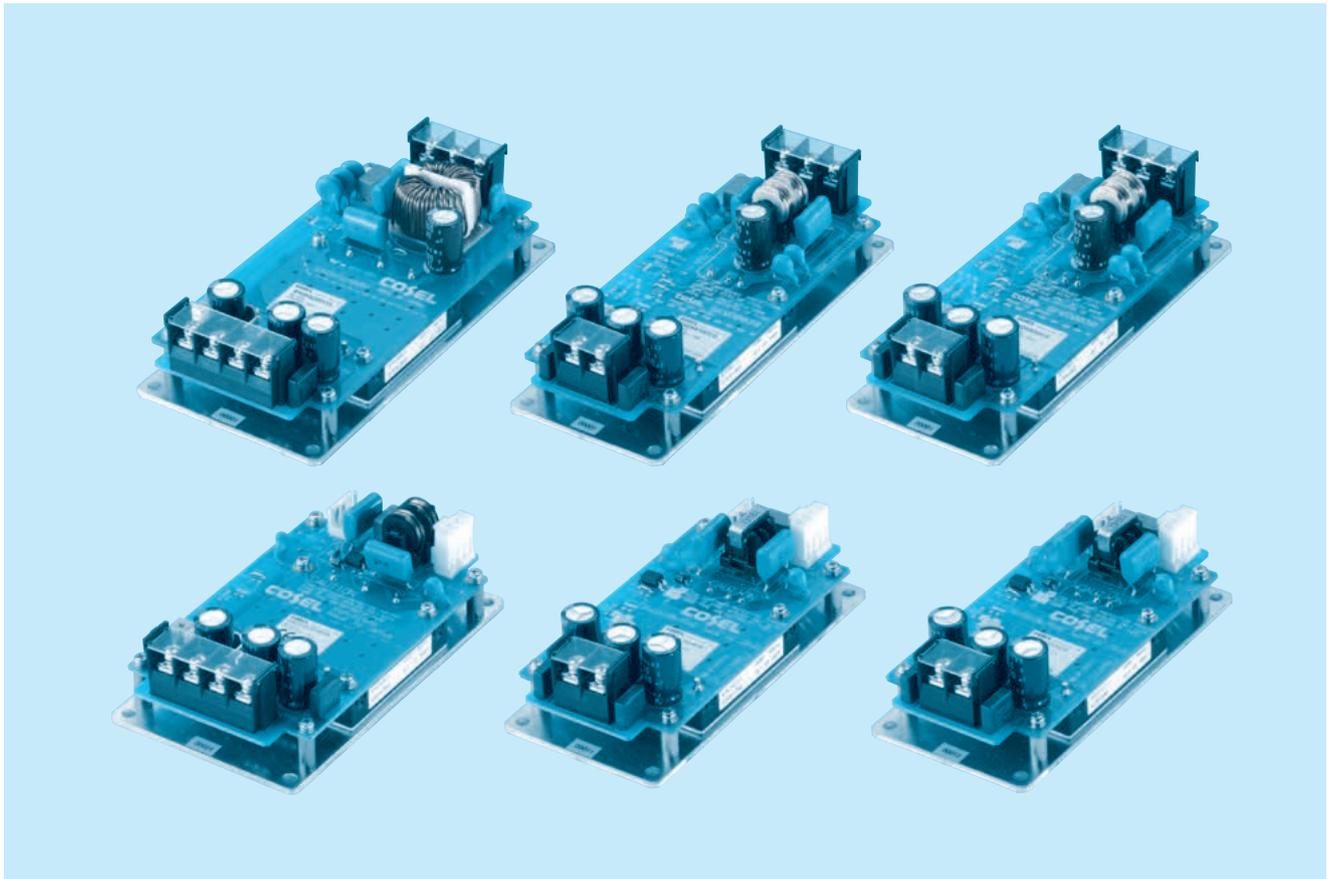
OCP



OVP

Remote
ON/OFF

SNDHS-series



■ Features

- Compact DC-DC Converter, SNDHS series includes DHS series
- High efficiency
- Built-in overcurrent, overvoltage and thermal protection circuits
- Built-in remote ON/OFF (secondary is an optional)
- Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)
- AC-DC Converter can be constituted in combination with SNDPG series (only SNDHS50B/SNDHS100B/SNDHS250B)

■ 3-year warranty

■ CE marking

- Low Voltage Directive
- RoHS Directive

■ UKCA marking

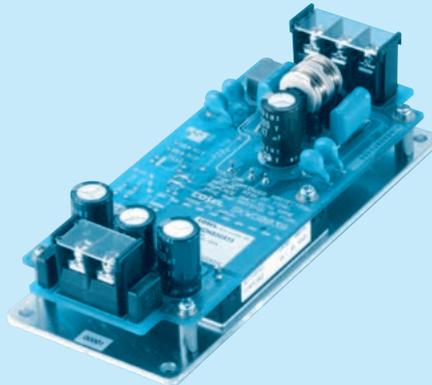
- Electrical Equipment Safety Regulations
- RoHS Regulations

■ Safety agency approvals

- UL60950-1, C-UL and EN62368-1

SNDHS50A

① **SNDH** ② **S** ③ **50** ④ **A** ⑤ **05** ⑥ **-□**



- ① Series name
- ② Single output
- ③ Output wattage
- ④ A : DC60-160V
- ⑤ Output voltage
- ⑥ Optional
C : with Coating
R : with Remote ON/OFF

Please refer to Instruction manual 7.

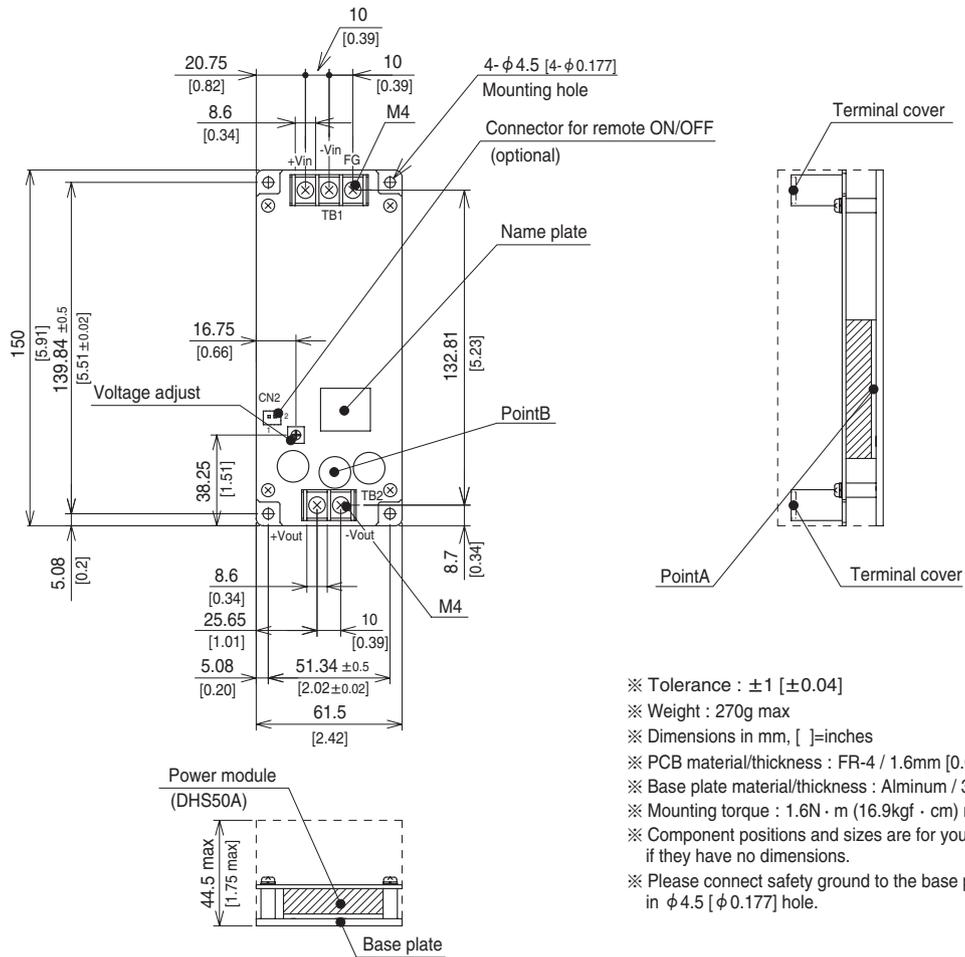
| MODEL | SNDHS50A05 | SNDHS50A12 | SNDHS50A15 | SNDHS50A24 |
|-----------------------|------------|------------|------------|------------|
| MAX OUTPUT WATTAGE[W] | 50.0 | 50.4 | 51.0 | 50.4 |
| DC OUTPUT | 5V 10A | 12V 4.2A | 15V 3.4A | 24V 2.1A |

SPECIFICATIONS

| | MODEL | SNDHS50A05 | SNDHS50A12 | SNDHS50A15 | SNDHS50A24 | |
|------------------------------------|--------------------------------------|---|---|---------------|---------------|--------|
| INPUT | VOLTAGE[V] | DC60 - 160 | | | | |
| | CURRENT[A] | *1 0.55typ | 0.55typ | 0.55typ | 0.55typ | |
| | EFFICIENCY[%] | *1 83.0typ | 85.0typ | 85.0typ | 85.0typ | |
| OUTPUT | VOLTAGE[V] | 5 | 12 | 15 | 24 | |
| | CURRENT[A] | 10 | 4.2 | 3.4 | 2.1 | |
| | LINE REGULATION[mV] | 10max | 24max | 30max | 48max | |
| | LOAD REGULATION[mV] | 150max | 100max | 100max | 100max | |
| | RIPPLE[mVp-p] | 0 to +95°C *2 | 80max | 120max | 120max | 120max |
| | | -20 to 0°C *2 | 120max | 150max | 150max | 150max |
| | | 0 to 15% Load *2 | 160max | 240max | 240max | 240max |
| | RIPPLE NOISE[mVp-p] | 0 to +95°C *2 | 160max | 200max | 200max | 200max |
| | | -20 to 0°C *2 | 250max | 280max | 280max | 280max |
| | | 0 to 15% Load *2 | 300max | 300max | 300max | 300max |
| | TEMPERATURE REGULATION[mV] | 0 to +50°C | 50max | 120max | 150max | 240max |
| | | -20 to +95°C | 100max | 240max | 300max | 480max |
| | DRIFT[mV] | *3 | 20max | 40max | 60max | 90max |
| START-UP TIME[ms] | 200max (DCIN 110V, Io=100%) | | | | | |
| OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | *4 | 4.50 - 5.50 | 10.80 - 13.20 | 13.50 - 16.50 | 21.60 - 26.40 | |
| OUTPUT VOLTAGE SETTING[V] | | 5.00 - 5.15 | 12.00 - 12.48 | 15.00 - 15.60 | 24.00 - 24.96 | |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | Works over 105% of rating and recovers automatically | | | | |
| | OVERVOLTAGE PROTECTION[V] | 6.30 - 7.60 | 13.90 - 17.55 | 17.25 - 21.75 | 27.60 - 34.80 | |
| | REMOTE SENSING | None | | | | |
| | REMOTE ON/OFF (RC) | Optional (Required external power source) | | | | |
| ISOLATION | INPUT-OUTPUT, RC | *5 | AC3,000V 1minute, Cutoff current = 15mA, DC500V 50MΩ min (20±15°C) | | | |
| | INPUT-FG | | AC2,000V 1minute, Cutoff current = 15mA, DC500V 50MΩ min (20±15°C) | | | |
| | OUTPUT, RC-FG | *5 | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C) | | | |
| | OUTPUT-RC | *5 | AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (20±15°C) | | | |
| ENVIRONMENT | OPERATING TEMP., HUMID. AND ALTITUDE | *6 | -20 to +95°C (Aluminum base plate of the power module), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max | | | |
| | STORAGE TEMP., HUMID. AND ALTITUDE | | -20 to +95°C, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max | | | |
| | VIBRATION | | 10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | |
| | IMPACT | | 196.1m/s ² (20G), 11ms, once each along X, Y and Z axis | | | |
| SAFETY | AGENCY APPROVALS | UL60950-1, C-UL, EN62368-1 | | | | |
| | CONDUCTED NOISE (at only DC input) | Complies with FCC-A, VCCI-A, CISPR22-A, EN55011-A, EN55022-A | | | | |
| OTHERS | CASE SIZE/WEIGHT | 61.5 X 44.5 X 150mm [2.42 X 1.75 X 5.91 inches] (W X H X D) / 270g max | | | | |
| | COOLING METHOD | Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink) | | | | |

*1 At rated input(DC110V) and rated load.
 *2 Ripple and ripple noise is measured by using measuring board with capacitor of 22 μF at 150mm [5.91 inches] from output terminal. Refer to the instruction manual 3.2.
 *3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
 *4 Refer to the instruction manual 4.6.
 *5 Applicable when remote control (optional) is added.
 *6 Refer to the instruction manual 6.2.

External view

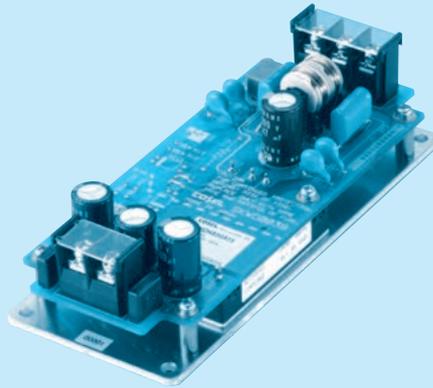


- ※ Tolerance : ±1 [±0.04]
- ※ Weight : 270g max
- ※ Dimensions in mm, []=inches
- ※ PCB material/thickness : FR-4 / 1.6mm [0.06]
- ※ Base plate material/thickness : Alminum / 3.0mm[0.12]
- ※ Mounting torque : 1.6N · m (16.9kgf · cm) max
- ※ Component positions and sizes are for your reference if they have no dimensions.
- ※ Please connect safety ground to the base plate in φ4.5 [φ0.177] hole.

SNDHS100A

SNDH S 100 A 05 -□

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output wattage
- ④ A : DC60-160V
- ⑤ Output voltage
- ⑥ Optional
- C : with Coating
- R : with Remote ON/OFF

Please refer to Instruction manual 7.

| MODEL | SNDHS100A05 | SNDHS100A12 | SNDHS100A15 | SNDHS100A24 |
|-----------------------|-------------|-------------|-------------|-------------|
| MAX OUTPUT WATTAGE[W] | 100.0 | 100.8 | 100.5 | 100.8 |
| DC OUTPUT | 5V 20A | 12V 8.4A | 15V 6.7A | 24V 4.2A |

SPECIFICATIONS

| | MODEL | SNDHS100A05 | SNDHS100A12 | SNDHS100A15 | SNDHS100A24 | |
|------------------------------------|--------------------------------------|--|---------------|---------------|---------------|--------|
| INPUT | VOLTAGE[V] | DC60 - 160 | | | | |
| | CURRENT[A] | *1 1.1typ | 1.1typ | 1.1typ | 1.1typ | |
| | EFFICIENCY[%] | *1 84.0typ | 87.0typ | 87.0typ | 87.0typ | |
| OUTPUT | VOLTAGE[V] | 5 | 12 | 15 | 24 | |
| | CURRENT[A] | 20 | 8.4 | 6.7 | 4.2 | |
| | LINE REGULATION[mV] | 10max | 24max | 30max | 48max | |
| | LOAD REGULATION[mV] | 150max | 100max | 100max | 100max | |
| | RIPPLE[mVp-p] | 0 to +95°C *2 | 80max | 120max | 120max | 120max |
| | | -20 to 0°C *2 | 120max | 150max | 150max | 150max |
| | | 0 to 15% Load *2 | 160max | 240max | 240max | 240max |
| | RIPPLE NOISE[mVp-p] | 0 to +95°C *2 | 160max | 200max | 200max | 200max |
| | | -20 to 0°C *2 | 250max | 280max | 280max | 280max |
| | | 0 to 15% Load *2 | 300max | 300max | 300max | 300max |
| | TEMPERATURE REGULATION[mV] | 0 to +50°C | 50max | 120max | 150max | 240max |
| | | -20 to +95°C | 100max | 240max | 300max | 480max |
| | DRIFT[mV] | *3 20max | 40max | 60max | 90max | |
| START-UP TIME[ms] | 200max (DCIN 110V, Io=100%) | | | | | |
| OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | *4 4.50 - 5.50 | 10.80 - 13.20 | 13.50 - 16.50 | 21.60 - 26.40 | | |
| OUTPUT VOLTAGE SETTING[V] | 5.00 - 5.15 | 12.00 - 12.48 | 15.00 - 15.60 | 24.00 - 24.96 | | |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | Works over 105% of rating and recovers automatically | | | | |
| | OVERVOLTAGE PROTECTION[V] | 6.30 - 7.60 | 13.90 - 17.55 | 17.25 - 21.75 | 27.60 - 34.80 | |
| | REMOTE SENSING | None | | | | |
| | REMOTE ON/OFF (RC) | Optional (Required external power source) | | | | |
| ISOLATION | INPUT-OUTPUT, RC | *5 AC3,000V 1minute, Cutoff current = 15mA, DC500V 50MΩ min (20±15°C) | | | | |
| | INPUT-FG | AC2,000V 1minute, Cutoff current = 15mA, DC500V 50MΩ min (20±15°C) | | | | |
| | OUTPUT, RC-FG | *5 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C) | | | | |
| | OUTPUT-RC | *5 AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (20±15°C) | | | | |
| ENVIRONMENT | OPERATING TEMP., HUMID. AND ALTITUDE | *6 -20 to +95°C (Aluminum base plate of the power module), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max | | | | |
| | STORAGE TEMP., HUMID. AND ALTITUDE | -20 to +95°C, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max | | | | |
| | VIBRATION | 10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | | |
| | IMPACT | 196.1m/s ² (20G), 11ms, once each along X, Y and Z axis | | | | |
| SAFETY | AGENCY APPROVALS | UL60950-1, C-UL, EN62368-1 | | | | |
| | CONDUCTED NOISE (at only DC input) | Complies with FCC-A, VCCI-A, CISPR22-A, EN55011-A, EN55022-A | | | | |
| OTHERS | CASE SIZE/WEIGHT | 61.5 X 44.5 X 150mm [2.42 X 1.75 X 5.91 inches] (W X H X D) / 270g max | | | | |
| | COOLING METHOD | Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink) | | | | |

*1 At rated input(DC110V) and rated load.

*2 Ripple and ripple noise is measured by using measuring board with capacitor of 22 μF at 150mm [5.91 inches] from output terminal. Refer to the instruction manual 3.2.

*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.

*4 Refer to the instruction manual 4.6.

*5 Applicable when remote control (optional) is added.

*6 Refer to the instruction manual 6.2.

SNDHS200A

SNDH S 200 A 05 -□

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output wattage
- ④ A : DC60-160V
- ⑤ Output voltage
- ⑥ Optional
- C : with Coating
- R : with Remote ON/OFF

Please refer to Instruction manual 7.

| MODEL | SNDHS200A05 | SNDHS200A12 | SNDHS200A15 | SNDHS200A24 |
|-----------------------|-------------|-------------|-------------|-------------|
| MAX OUTPUT WATTAGE[W] | 200.0 | 200.4 | 201.0 | 201.6 |
| DC OUTPUT | 5V 40A | 12V 16.7A | 15V 13.4A | 24V 8.4A |

SPECIFICATIONS

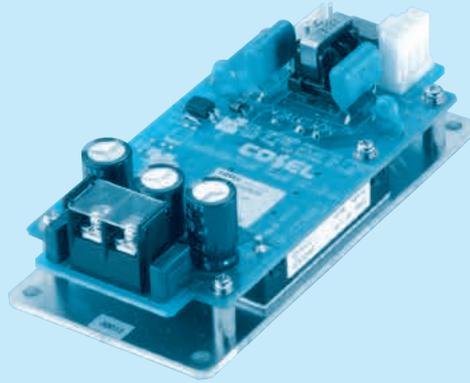
| | MODEL | SNDHS200A05 | SNDHS200A12 | SNDHS200A15 | SNDHS200A24 | |
|------------------------------------|--------------------------------------|---|---|---------------|---------------|--------|
| INPUT | VOLTAGE[V] | DC60 - 160 | | | | |
| | CURRENT[A] | 2.1typ | 2.1typ | 2.1typ | 2.1typ | |
| | EFFICIENCY[%] | 87.0typ | 87.0typ | 87.0typ | 87.0typ | |
| | | | | | | |
| OUTPUT | VOLTAGE[V] | 5 | 12 | 15 | 24 | |
| | CURRENT[A] | 40 | 16.7 | 13.4 | 8.4 | |
| | LINE REGULATION[mV] | 10max | 24max | 30max | 48max | |
| | LOAD REGULATION[mV] | 150max | 100max | 100max | 100max | |
| | RIPPLE[mVp-p] | 0 to +95°C *2 | 80max | 120max | 120max | 120max |
| | | -20 to 0°C *2 | 120max | 150max | 150max | 150max |
| | | 0 to 15% Load *2 | 160max | 240max | 240max | 240max |
| | RIPPLE NOISE[mVp-p] | 0 to +95°C *2 | 160max | 200max | 200max | 200max |
| | | -20 to 0°C *2 | 250max | 280max | 280max | 280max |
| | | 0 to 15% Load *2 | 300max | 300max | 300max | 300max |
| | TEMPERATURE REGULATION[mV] | 0 to +50°C | 50max | 120max | 150max | 240max |
| | | -20 to +95°C | 100max | 240max | 300max | 480max |
| | DRIFT[mV] | *3 | 20max | 40max | 60max | 90max |
| START-UP TIME[ms] | | 200max (DCIN 110V, Io=100%) | | | | |
| OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | *4 | 4.50 - 5.50 | 10.80 - 13.20 | 13.50 - 16.50 | 21.60 - 26.40 | |
| OUTPUT VOLTAGE SETTING[V] | | 5.00 - 5.15 | 12.00 - 12.48 | 15.00 - 15.60 | 24.00 - 24.96 | |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | Works over 105% of rating and recovers automatically | | | | |
| | OVERVOLTAGE PROTECTION[V] | 6.30 - 7.60 | 13.90 - 16.35 | 17.25 - 20.25 | 27.60 - 32.40 | |
| | REMOTE SENSING | Provided | | | | |
| | REMOTE ON/OFF (RC) | Optional (Required external power source) | | | | |
| ISOLATION | INPUT-OUTPUT, RC | *5 | AC3,000V 1minute, Cutoff current = 15mA, DC500V 50MΩ min (20±15°C) | | | |
| | INPUT-FG | | AC2,000V 1minute, Cutoff current = 15mA, DC500V 50MΩ min (20±15°C) | | | |
| | OUTPUT, RC-FG | *5 | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C) | | | |
| | OUTPUT-RC | *5 | AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (20±15°C) | | | |
| ENVIRONMENT | OPERATING TEMP., HUMID. AND ALTITUDE | *6 | -20 to +95°C (Aluminum base plate of the power module), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max | | | |
| | STORAGE TEMP., HUMID. AND ALTITUDE | | -20 to +95°C, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max | | | |
| | VIBRATION | | 10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | |
| | IMPACT | | 196.1m/s ² (20G), 11ms, once each along X, Y and Z axis | | | |
| SAFETY | AGENCY APPROVALS | UL60950-1, C-UL, EN62368-1 | | | | |
| | CONDUCTED NOISE (at only DC input) | Complies with FCC-A, VCCI-A, CISPR22-A, EN55011-A, EN55022-A | | | | |
| OTHERS | CASE SIZE/WEIGHT | 74.2 X 44.5 X 150mm [2.92 X 1.75 X 5.91 inches](W X H X D) / 390g max | | | | |
| | COOLING METHOD | Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink) | | | | |

*1 At rated input(DC110V) and rated load.
 *2 Ripple and ripple noise is measured by using measuring board with capacitor of 22 μF at 150mm [5.91 inches] from output terminal. Refer to the instruction manual 3.2.
 *3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
 *4 Refer to the instruction manual 4.6.
 *5 Applicable when remote control (optional) is added.
 *6 Refer to the instruction manual 6.2.

SNDHS50B

SNDH S 50 B 05 -□

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output wattage
- ④ B : DC200-400V
- ⑤ Output voltage
- ⑥ Optional
- C : with Coating
- R : with a function not to need external power source

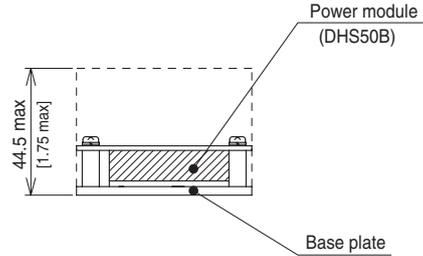
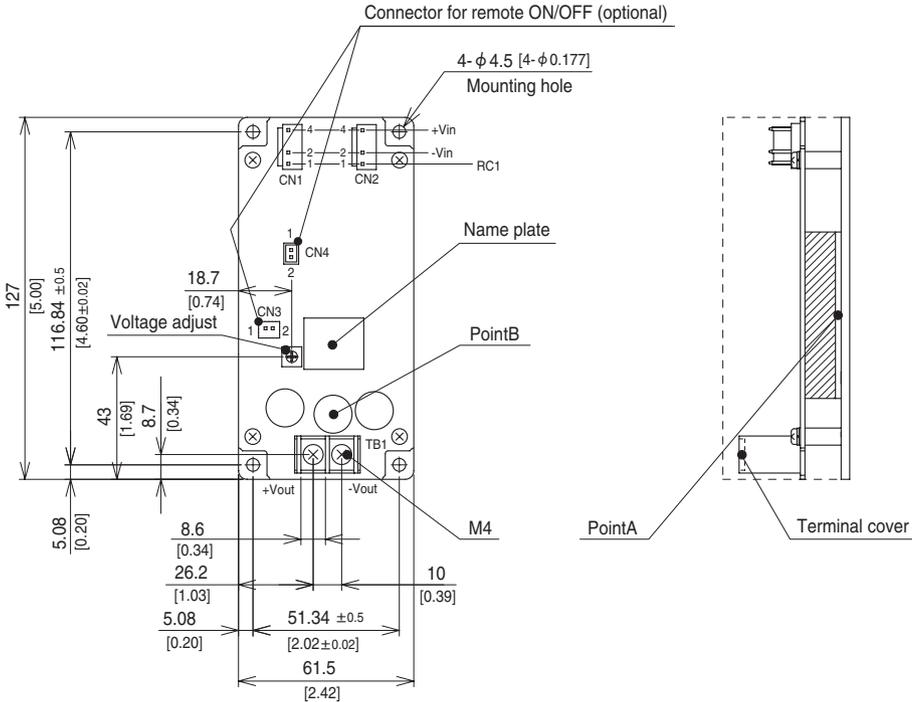
| MODEL | SNDHS50B03 | SNDHS50B05 | SNDHS50B12 | SNDHS50B15 | SNDHS50B24 | SNDHS50B28 |
|-----------------------|------------|------------|------------|------------|------------|------------|
| MAX OUTPUT WATTAGE[W] | 33.0 | 50.0 | 50.4 | 51.0 | 50.4 | 50.4 |
| DC OUTPUT | 3.3V 10A | 5V 10A | 12V 4.2A | 15V 3.4A | 24V 2.1A | 28V 1.8A |

SPECIFICATIONS

| | MODEL | SNDHS50B03 | SNDHS50B05 | SNDHS50B12 | SNDHS50B15 | SNDHS50B24 | SNDHS50B28 | |
|------------------------------------|------------------------------------|---|---|---------------|---------------|---------------|---------------|--------|
| INPUT | VOLTAGE[V] | DC200 - 400 (Prepare another power supply to the RC1 terminal *) | | | | | | |
| | CURRENT[A] | *1 0.15typ | 0.22typ | 0.22typ | 0.22typ | 0.22typ | 0.22typ | |
| | EFFICIENCY[%] | *1 76.0typ | 79.0typ | 82.0typ | 82.0typ | 82.0typ | 82.0typ | |
| | | | | | | | | |
| OUTPUT | VOLTAGE[V] | 3.3 | 5 | 12 | 15 | 24 | 28 | |
| | CURRENT[A] | 10 | 10 | 4.2 | 3.4 | 2.1 | 1.8 | |
| | LINE REGULATION[mV] | 10max | 10max | 24max | 30max | 48max | 56max | |
| | LOAD REGULATION[mV] | 150max | 150max | 100max | 100max | 100max | 100max | |
| | RIPPLE[mVp-p] | 0 to +95°C *2 | 80max | 80max | 120max | 120max | 120max | 120max |
| | | -20 to 0°C *2 | 120max | 120max | 150max | 150max | 150max | 150max |
| | | 0 to 15% Load *2 | 160max | 160max | 240max | 240max | 240max | 240max |
| | RIPPLE NOISE[mVp-p] | 0 to +95°C *2 | 160max | 160max | 200max | 200max | 200max | 200max |
| | | -20 to 0°C *2 | 250max | 250max | 280max | 280max | 280max | 280max |
| | | 0 to 15% Load *2 | 300max | 300max | 300max | 300max | 300max | 300max |
| | TEMPERATURE REGULATION[mV] | 0 to +50°C | 35max | 50max | 120max | 150max | 240max | 280max |
| | | -20 to +95°C | 66max | 100max | 240max | 300max | 480max | 560max |
| | DRIFT[mV] | *3 16max | 20max | 40max | 60max | 90max | 90max | |
| | START-UP TIME[ms] | 200max (DCIN 280V, Io=100%) | | | | | | |
| OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | *4 2.97 - 3.63 | 4.50 - 5.50 | 10.80 - 13.20 | 13.50 - 16.50 | 21.60 - 26.40 | 25.20 - 30.80 | | |
| OUTPUT VOLTAGE SETTING[V] | 3.30 - 3.40 | 5.00 - 5.15 | 12.00 - 12.48 | 15.00 - 15.60 | 24.00 - 24.96 | 28.00 - 29.12 | | |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | Works over 105% of rating and recovers automatically | | | | | | |
| | OVERVOLTAGE PROTECTION[V] | 4.20 - 5.70 | 6.30 - 7.60 | 13.90 - 17.55 | 17.25 - 21.75 | 27.60 - 34.80 | 32.20 - 40.60 | |
| | REMOTE SENSING | None | | | | | | |
| | REMOTE ON/OFF (RC1) | *6 | Provided (Logic H : ON, L :OFF) Required external power source | | | | | |
| ISOLATION | INPUT-OUTPUT, RC2 | *8 | AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C) | | | | | |
| | INPUT-FG | | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C) | | | | | |
| | OUTPUT, RC2-FG | *8 | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C) | | | | | |
| | OUTPUT-RC2 | *8 | AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (20±15°C) | | | | | |
| ENVIRONMENT | OPERATING TEMP.,HUMID.AND ALTITUDE | *7 | -20 to +95°C (Aluminum base plate of the power module), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max | | | | | |
| | STORAGE TEMP.,HUMID.AND ALTITUDE | | -20 to +95°C, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max | | | | | |
| | VIBRATION | | 10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | |
| | IMPACT | | 196.1m/s ² (20G), 11ms, once each along X, Y and Z axis | | | | | |
| SAFETY | AGENCY APPROVALS | UL60950-1, C-UL, EN62368-1 | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | 61.5×44.5×127mm [2.42×1.75×5.0 inches] (W×H×D) / 220g max | | | | | | |
| | COOLING METHOD | Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink) | | | | | | |

*1 At rated input(DC280V) and rated load. *6 Refer to the instruction manual 4.4
 *2 Ripple and ripple noise is measured by using measuring board with capacitor of 22 μF at 150mm [5.91 inches] from output terminal. *7 Refer to the instruction manual 6.2
 Refer to the instruction manual 3.2. *8 "RC2" is applicable to an option not to need external power source.
 *3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
 *4 Refer to the instruction manual 4.6.
 *5 Refer to the instruction manual 2, 4.4

External view

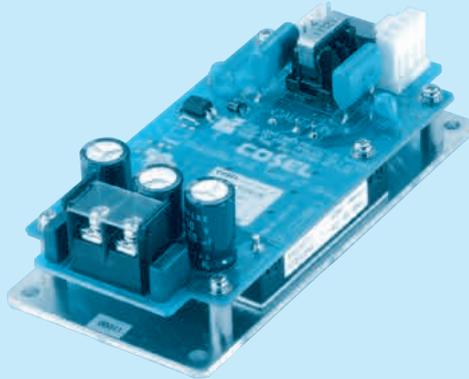


- ※ Tolerance : ± 1 [± 0.04]
- ※ Weight : 220g max
- ※ Dimensions in mm, []=inches
- ※ PCB material/thickness : FR-4 / 1.6mm [0.06]
- ※ Base plate material/thickness : Alumin / 3.0mm[0.12]
- ※ Screw tightening torque : 1.6N · m (16.9kgf · cm) max
- ※ Component positions and sizes are for your reference if they have no dimensions.
- ※ Please connect safety ground to the base plate in $\phi 4.5$ [$\phi 0.177$] hole.

SNDHS100B

SNDH S 100 B 05 -□

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output wattage
- ④ B : DC200-400V
- ⑤ Output voltage
- ⑥ Optional
- C : with Coating
- R : with a function not to need external power source

| MODEL | SNDHS100B03 | SNDHS100B05 | SNDHS100B12 | SNDHS100B15 | SNDHS100B24 | SNDHS100B28 |
|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| MAX OUTPUT WATTAGE[W] | 66.0 | 100.0 | 100.8 | 100.5 | 100.8 | 100.8 |
| DC OUTPUT | 3.3V 20A | 5V 20A | 12V 8.4A | 15V 6.7A | 24V 4.2A | 28V 3.6A |

SPECIFICATIONS

| | MODEL | SNDHS100B03 | SNDHS100B05 | SNDHS100B12 | SNDHS100B15 | SNDHS100B24 | SNDHS100B28 | |
|------------------------------------|--------------------------------------|---|---|---------------|---------------|---------------|---------------|--------|
| INPUT | VOLTAGE[V] | DC200 - 400 (Prepare another power supply to the RC1 terminal *) | | | | | | |
| | CURRENT[A] | *1 0.30typ | 0.44typ | 0.42typ | 0.42typ | 0.42typ | 0.42typ | |
| | EFFICIENCY[%] | *1 78.0typ | 81.0typ | 84.0typ | 85.0typ | 85.0typ | 85.0typ | |
| | | | | | | | | |
| OUTPUT | VOLTAGE[V] | 3.3 | 5 | 12 | 15 | 24 | 28 | |
| | CURRENT[A] | 20 | 20 | 8.4 | 6.7 | 4.2 | 3.6 | |
| | LINE REGULATION[mV] | 10max | 10max | 24max | 30max | 48max | 56max | |
| | LOAD REGULATION[mV] | 150max | 150max | 100max | 100max | 100max | 100max | |
| | RIPPLE[mVp-p] | 0 to +95°C *2 | 80max | 80max | 120max | 120max | 120max | 120max |
| | | -20 to 0°C *2 | 120max | 120max | 150max | 150max | 150max | 150max |
| | | 0 to 15% Load *2 | 160max | 160max | 240max | 240max | 240max | 240max |
| | RIPPLE NOISE[mVp-p] | 0 to +95°C *2 | 160max | 160max | 200max | 200max | 200max | 200max |
| | | -20 to 0°C *2 | 250max | 250max | 280max | 280max | 280max | 280max |
| | | 0 to 15% Load *2 | 300max | 300max | 300max | 300max | 300max | 300max |
| | TEMPERATURE REGULATION[mV] | 0 to +50°C | 35max | 50max | 120max | 150max | 240max | 280max |
| | | -20 to +95°C | 66max | 100max | 240max | 300max | 480max | 560max |
| | DRIFT[mV] | *3 | 16max | 20max | 40max | 60max | 90max | 90max |
| START-UP TIME[ms] | | 200max (DCIN 280V, Io=100%) | | | | | | |
| OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | *4 | 2.97 - 3.63 | 4.50 - 5.50 | 10.80 - 13.20 | 13.50 - 16.50 | 21.60 - 26.40 | 25.20 - 30.80 | |
| OUTPUT VOLTAGE SETTING[V] | | 3.30 - 3.40 | 5.00 - 5.15 | 12.00 - 12.48 | 15.00 - 15.60 | 24.00 - 24.96 | 28.00 - 29.12 | |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | Works over 105% of rating and recovers automatically | | | | | | |
| | OVERVOLTAGE PROTECTION[V] | 4.20 - 5.70 | 6.30 - 7.60 | 13.90 - 17.55 | 17.25 - 21.75 | 27.60 - 34.80 | 32.20 - 40.60 | |
| | REMOTE SENSING | None | | | | | | |
| | REMOTE ON/OFF (RC1) | *6 | Provided (Logic H : ON, L :OFF) Required external power source | | | | | |
| ISOLATION | INPUT-OUTPUT, RC2 | *8 | AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C) | | | | | |
| | INPUT-FG | | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C) | | | | | |
| | OUTPUT, RC2-FG | *8 | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C) | | | | | |
| | OUTPUT-RC2 | *8 | AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (20±15°C) | | | | | |
| ENVIRONMENT | OPERATING TEMP., HUMID. AND ALTITUDE | *7 | -20 to +95°C (Aluminum base plate of the power module), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max | | | | | |
| | STORAGE TEMP., HUMID. AND ALTITUDE | | -20 to +95°C, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max | | | | | |
| | VIBRATION | | 10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | |
| | IMPACT | | 196.1m/s ² (20G), 11ms, once each along X, Y and Z axis | | | | | |
| SAFETY | AGENCY APPROVALS | UL60950-1, C-UL, EN62368-1 | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | 61.5×44.5×127mm [2.42×1.75×5.0 inches] (W×H×D) / 220g max | | | | | | |
| | COOLING METHOD | Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink) | | | | | | |

*1 At rated input(DC280V) and rated load.
 *2 Ripple and ripple noise is measured by using measuring board with capacitor of 22μF at 150mm [5.91 inches] from output terminal.
 Refer to the instruction manual 3.2.
 *3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
 *4 Refer to the instruction manual 4.6.
 *5 Refer to the instruction manual 2, 4.4
 *6 Refer to the instruction manual 4.4
 *7 Refer to the instruction manual 6.2
 *8 "RC2" is applicable to an option not to need external power source.

SNDHS250B

① **SNDH** ② **S** ③ **250** ④ **B** ⑤ **05** ⑥ **-□**



- ① Series name
- ② Single output
- ③ Output wattage
- ④ B : DC200-400V
- ⑤ Output voltage
- ⑥ Optional
- C : with Coating
- R : with a function not to need external power source

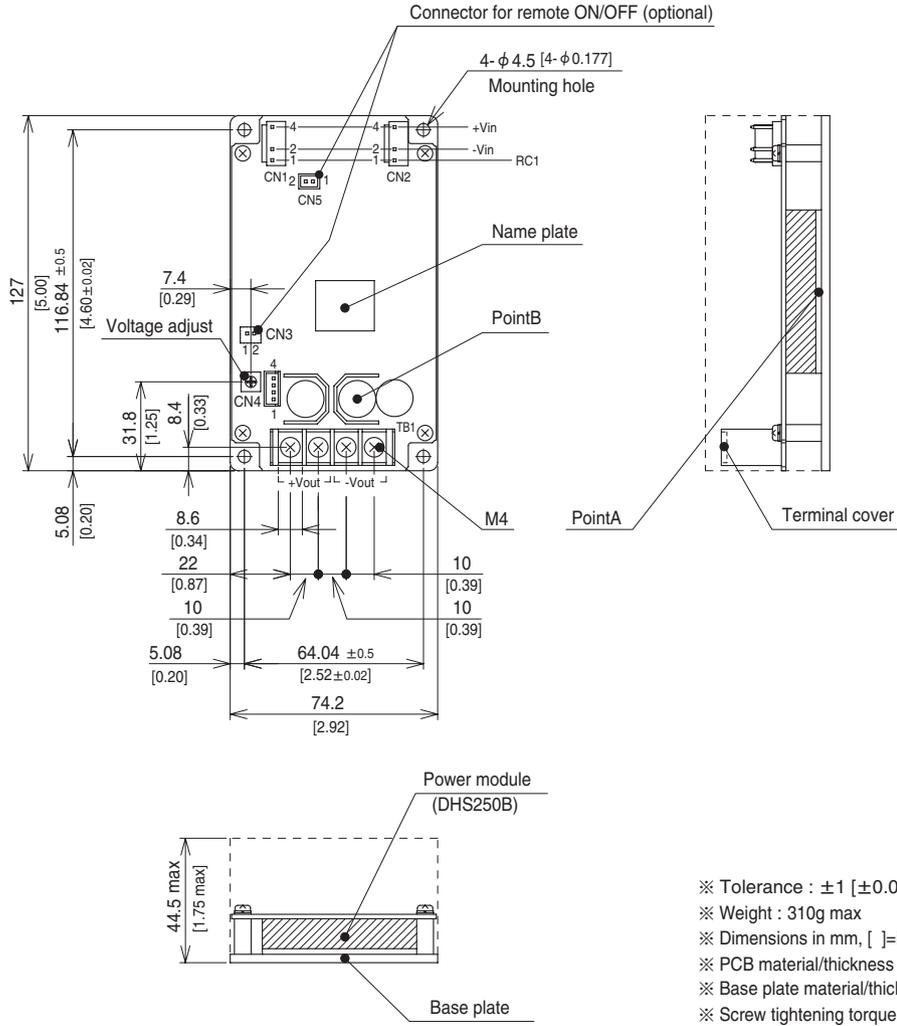
| MODEL | SNDHS250B03 | SNDHS250B05 | SNDHS250B07 | SNDHS250B12 | SNDHS250B15 | SNDHS250B24 | SNDHS250B28 | SNDHS250B48 |
|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| MAX OUTPUT WATTAGE[W] | 165.0 | 250.0 | 247.5 | 252.0 | 247.5 | 252.0 | 252.0 | 249.6 |
| DC OUTPUT | 3.3V 50A | 5V 50A | 7.5V 33A | 12V 21A | 15V 16.5A | 24V 10.5A | 28V 9.0A | 48V 5.2A |

SPECIFICATIONS

| | MODEL | SNDHS250B03 | SNDHS250B05 | SNDHS250B07 | SNDHS250B12 | SNDHS250B15 | SNDHS250B24 | SNDHS250B28 | SNDHS250B48 | |
|------------------------------------|--------------------------------------|---|---|--------------|---------------|---------------|---------------|---------------|---------------|--------|
| INPUT | VOLTAGE[V] | DC200 - 400 (Prepare another power supply to the RC1 terminal *) | | | | | | | | |
| | CURRENT[A] | *1 0.67typ | 1.0typ | 1.0typ | 1.0typ | 1.0typ | 1.0typ | 1.0typ | 1.0typ | |
| | EFFICIENCY[%] | *1 86.0typ | 88.0typ | 86.0typ | 86.0typ | 86.0typ | 86.0typ | 86.0typ | 87.0typ | |
| | | | | | | | | | | |
| OUTPUT | VOLTAGE[V] | 3.3 | 5 | 7.5 | 12 | 15 | 24 | 28 | 48 | |
| | CURRENT[A] | 50 | 50 | 33 | 21 | 16.5 | 10.5 | 9.0 | 5.2 | |
| | LINE REGULATION[mV] | 10max | 10max | 20max | 24max | 30max | 48max | 56max | 96max | |
| | LOAD REGULATION[mV] | 150max | 150max | 150max | 100max | 100max | 100max | 100max | 100max | |
| | RIPPLE[mVp-p] | 0 to +95°C *2 | 80max | 80max | 100max | 120max | 120max | 120max | 120max | 200max |
| | | -20 to 0°C *2 | 120max | 120max | 130max | 150max | 150max | 150max | 150max | 250max |
| | | 0 to 15% Load *2 | 160max | 160max | 200max | 240max | 240max | 240max | 240max | 400max |
| | RIPPLE NOISE[mVp-p] | 0 to +95°C *2 | 160max | 160max | 200max | 200max | 200max | 200max | 200max | 250max |
| | | -20 to 0°C *2 | 250max | 250max | 280max | 280max | 280max | 280max | 280max | 400max |
| | | 0 to 15% Load *2 | 300max | 300max | 300max | 300max | 300max | 300max | 300max | 500max |
| | TEMPERATURE REGULATION[mV] | 0 to +50°C | 35max | 50max | 70max | 120max | 150max | 240max | 280max | 480max |
| | | -20 to +95°C | 66max | 100max | 140max | 240max | 300max | 480max | 560max | 960max |
| | DRIFT[mV] | *3 | 16max | 20max | 30max | 40max | 60max | 90max | 90max | 180max |
| START-UP TIME[ms] | | 200max (DCIN 280V, Io=100%) | | | | | | | | |
| OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | *4 | 2.97 - 3.63 | 4.50 - 5.50 | 6.75 - 8.25 | 10.80 - 13.20 | 13.50 - 16.50 | 21.60 - 26.40 | 25.20 - 30.80 | 43.20 - 52.80 | |
| OUTPUT VOLTAGE SETTING[V] | | 3.30 - 3.40 | 5.00 - 5.15 | 7.50 - 7.80 | 12.00 - 12.48 | 15.00 - 15.60 | 24.00 - 24.96 | 28.00 - 29.12 | 48.00 - 49.92 | |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | Works over 105% of rating and recovers automatically | | | | | | | | |
| | OVERVOLTAGE PROTECTION[V] | 4.20 - 4.85 | 6.30 - 7.30 | 8.70 - 10.20 | 13.90 - 16.35 | 17.25 - 20.25 | 27.60 - 32.40 | 32.20 - 37.80 | 55.20 - 64.80 | |
| | REMOTE SENSING | Provided | | | | | | | | |
| | REMOTE ON/OFF (RC1) | *6 | Provided (Logic H : ON, L :OFF) Required external power source | | | | | | | |
| ISOLATION | INPUT-OUTPUT, RC2 | *8 | AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C) | | | | | | | |
| | INPUT-FG | | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C) | | | | | | | |
| | OUTPUT, RC2-FG | *8 | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C) | | | | | | | |
| | OUTPUT-RC2 | *8 | AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (20±15°C) | | | | | | | |
| ENVIRONMENT | OPERATING TEMP., HUMID. AND ALTITUDE | *7 | -20 to +95°C (Aluminum base plate of the power module), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max | | | | | | | |
| | STORAGE TEMP., HUMID. AND ALTITUDE | | -20 to +95°C, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max | | | | | | | |
| | VIBRATION | | 10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | | | |
| | IMPACT | | 196.1m/s ² (20G), 11ms, once each along X, Y and Z axis | | | | | | | |
| SAFETY | AGENCY APPROVALS | UL60950-1, C-UL, EN62368-1 | | | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | 74.2×44.5×127mm [2.92×1.75×5.0 inches](W×H×D) / 310g max | | | | | | | | |
| | COOLING METHOD | Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink) | | | | | | | | |

*1 At rated input(DC280V) and rated load. *6 Refer to the instruction manual 4.4
 *2 Ripple and ripple noise is measured by using measuring board with capacitor of 22μF at 150mm [5.91 inches] from output terminal. *7 Refer to the instruction manual 6.2
 Refer to the instruction manual 3.2. *8 "RC2" is applicable to an option not to need external power source.
 *3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
 *4 Refer to the instruction manual 4.6.
 *5 Refer to the instruction manual 2, 4.4

External view



- ※ Tolerance : ± 1 [± 0.04]
- ※ Weight : 310g max
- ※ Dimensions in mm, []=inches
- ※ PCB material/thickness : FR-4 / 1.6mm [0.06]
- ※ Base plate material/thickness : Alminum / 3.0mm[0.12]
- ※ Screw tightening torque : 1.6N · m (16.9kgf · cm) max
- ※ Component positions and sizes are for your reference if they have no dimensions.
- ※ Please connect safety ground to the base plate in $\phi 4.5$ [$\phi 0.177$] hole.

Basic Characteristics Data

| Model | Circuit method | Switching frequency [kHz] | Input current [A] | Rated input fuse | Inrush current protection circuit | PCB/Pattern | | | Series/Parallel operation availability | |
|-----------|-------------------|---------------------------|-------------------|------------------|-----------------------------------|-------------|--------------|--------------|--|--------------------|
| | | | | | | Material | Single sided | Double sided | Series operation | Parallel operation |
| SNDHS50A | Forward converter | 470 | *1 | 400V 3.15A | - | FR-4 | | Yes | Yes | *2 |
| SNDHS50B | Forward converter | 470 | *1 | 400V 1.6A | - | FR-4 | | Yes | Yes | *2 |
| SNDHS100A | Forward converter | 470 | *1 | 400V 3.15A | - | FR-4 | | Yes | Yes | *2 |
| SNDHS100B | Forward converter | 470 | *1 | 400V 1.6A | - | FR-4 | | Yes | Yes | *2 |
| SNDHS200A | Forward converter | 360 | *1 | 400V 5.0A | - | FR-4 | | Yes | Yes | *2 |
| SNDHS250B | Forward converter | 360 | *1 | 400V 3.15A | - | FR-4 | | Yes | Yes | *2 |

*1 Refer to Specification.

*2 Refer to Instruction Manual.