COSEL DC-DC Converters Power Module type

# DHS50A

**Ordering information**

| DH | S | 50 | A | 05 | -□ |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑧ |

*Providing heat sink as option



①Series name
②Single output
③Output wattage
④A : DC60-160V
⑤Output voltage
⑥Optional
T : with Mounting hole (φ3.4 thru)

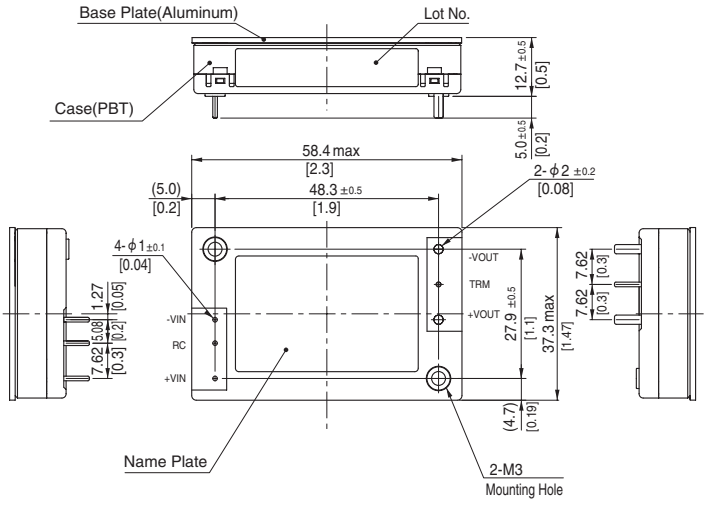
| MODEL | DHS50A05 | DHS50A12 | DHS50A15 | DHS50A24 |
|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | 50.0 | 50.4 | 51.0 | 50.4 |
| DC OUTPUT | 5V 10A | 12V 4.2A | 15V 3.4A | 24V 2.1A |

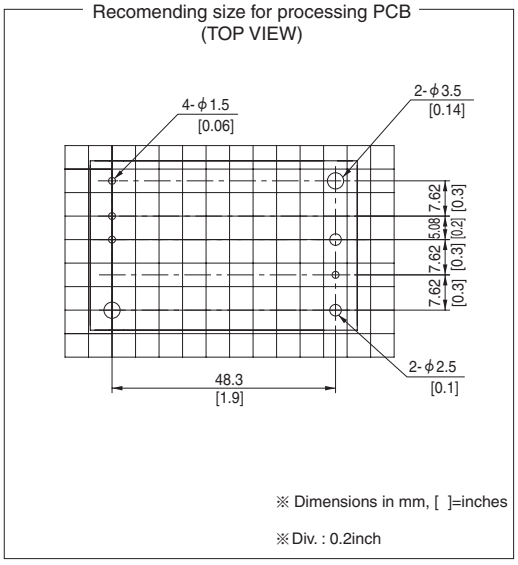
## SPECIFICATIONS

| | MODEL | | DHS50A05 | DHS50A12 | DHS50A15 | DHS50A24 |
|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC60 - 160 | | | |
| | CURRENT[A] | *1 | 0.55A | 0.55A | 0.55A | 0.55A |
| | EFFICIENCY[%] | *1 | 84.0typ | 86.0typ | 86.0typ | 86.0typ |
| 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] | | 10max | 24max | 30max | 48max |
| | RIPPLE[mVp-p] | 0 to +100℃ *2 | 80max | 120max | 120max | 120max |
| | | -40 to 0℃ *2 | 120max | 150max | 150max | 150max |
| | | 0 to 15% Load *2 | 160max | 240max | 240max | 240max |
| | RIPPLE NOISE[mVp-p] | 0 to +100℃ *2 | 120max | 150max | 150max | 150max |
| | | -40 to 0℃ *2 | 200max | 200max | 200max | 250max |
| | | 0 to 15% Load *2 | 240max | 300max | 300max | 300max |
| | TEMPERATURE REGULATION[mV] | 0 to +65℃ | 50max | 120max | 150max | 240max |
| | | -40 to +100℃ | 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 | Fixed (TRM pin open), adjustable by external VR or external voltage | | | |
| | | | 4.50 - 6.00 | 10.80 - 13.20 | 13.50 - 16.50 | 21.60 - 26.40 |
| | OUTPUT VOLTAGE SETTING[V] | | 4.97 - 5.13 | 11.91 - 12.29 | 14.76 - 15.24 | 23.62 - 24.38 |
| 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 | | nothing | | | |
| | REMOTE ON/OFF | | Provided (Negative Logic L : ON, H :OFF) | | | |
| ISOLATION | INPUT-OUTPUT | | AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | |
| | INPUT-FG | | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | |
| | OUTPUT-FG | | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃) | | | |
| ENVIRONMENT | OPERATING TEMP.,HUMID.AND ALTITUDE | | -40 to +100℃ (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max | | | |
| | STORAGE TEMP.,HUMID.AND ALTITUDE | | -40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max | | | |
| | VIBRATION | | 10 - 55Hz, 49.0m/s² (5G), 3minutes period, 60minutes each along X, Y and Z axis Complies with IEC61373 Category 1 Class B | | | |
| | IMPACT | | 196.1m/s² (20G), 11ms, once each along X, Y and Z axis Complies with IEC61373 Category 1 Class B | | | |
| SAFETY | AGENCY APPROVALS | | UL60950-1, C-UL (CSA60950-1), EN60950-1 | | | |
| OTHERS | CASE SIZE/WEIGHT | | 58.4×12.7×37.3mm [2.3×0.5×1.47 inches] (W×H×D) / 60g 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. Refer to the manual
*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.
*4 Refer to the manual for input range.

## External view




※ Tolerance : ±0.3 [±0.012]
※ Weight : 60g max
※ Dimensions in mm, [ ]=inches
※ Mounting hole screwing torque : 0.49N・m (5.0kgf・cm) max

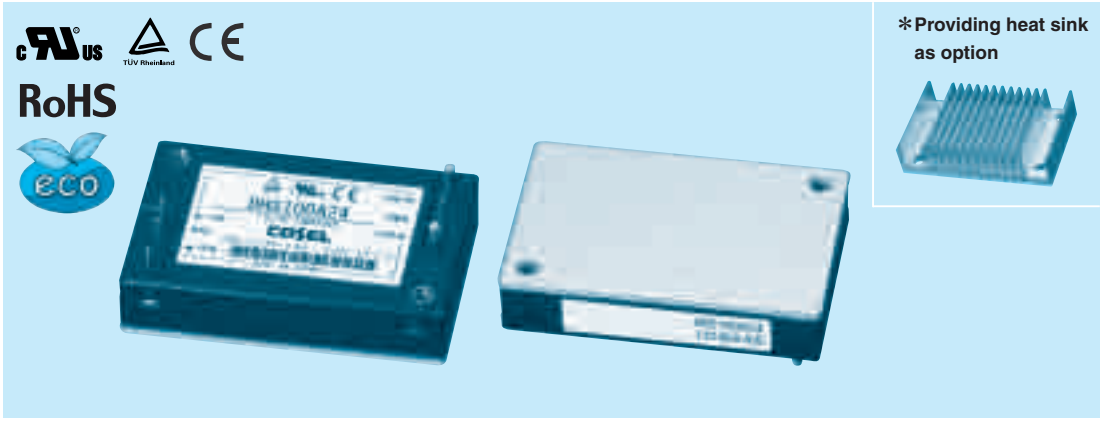
DHS

COSEL DC-DC Converters Power Module type

# DHS100A

**Ordering information**

| DH | S | 100 | A | 05 | -□ |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑥ |



*Providing heat sink as option



①Series name
②Single output
③Output wattage
④A : DC60-160V
⑤Output voltage
⑥Optional
T : with Mounting hole (φ3.4 thru)

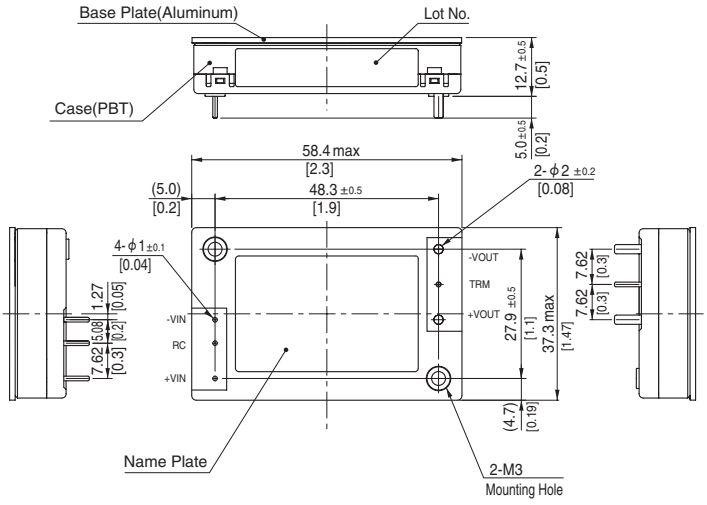
| MODEL | DHS100A05 | DHS100A12 | DHS100A15 | DHS100A24 |
|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | 100.0 | 100.8 | 100.5 | 100.8 |
| DC OUTPUT | 5V 20A | 12V 8.4A | 15V 6.7A | 24V 4.2A |

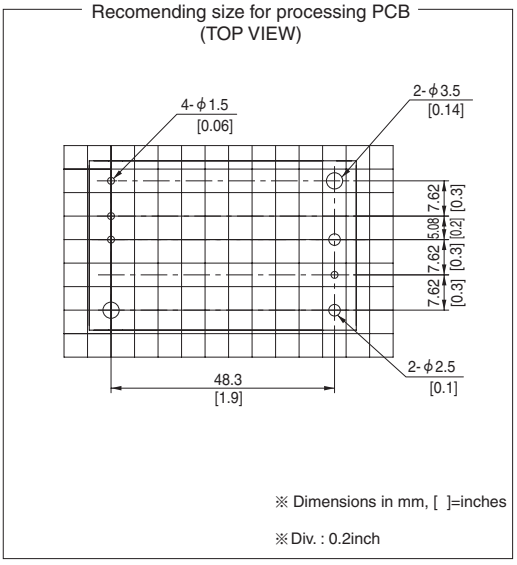
## SPECIFICATIONS

| | MODEL | | DHS100A05 | DHS100A12 | DHS100A15 | DHS100A24 |
|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC60 - 160 | | | |
| | CURRENT[A] | *1 | 1.1A | 1.1A | 1.1A | 1.1A |
| | EFFICIENCY[%] | *1 | 85.0typ | 88.0typ | 88.0typ | 88.0typ |
| 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] | | 10max | 24max | 30max | 48max |
| | RIPPLE[mVp-p] | 0 to +100℃ *2 | 80max | 120max | 120max | 120max |
| | | -40 to 0℃ *2 | 120max | 150max | 150max | 150max |
| | | 0 to 15% Load *2 | 160max | 240max | 240max | 240max |
| | RIPPLE NOISE[mVp-p] | 0 to +100℃ *2 | 120max | 150max | 150max | 150max |
| | | -40 to 0℃ *2 | 200max | 200max | 200max | 250max |
| | | 0 to 15% Load *2 | 240max | 300max | 300max | 300max |
| | TEMPERATURE REGULATION[mV] | 0 to +65℃ | 50max | 120max | 150max | 240max |
| | | -40 to +100℃ | 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 | Fixed (TRM pin open), adjustable by external VR or external voltage | | | |
| | | | 4.50 - 6.00 | 10.80 - 13.20 | 13.50 - 16.50 | 21.60 - 26.40 |
| | OUTPUT VOLTAGE SETTING[V] | | 4.97 - 5.13 | 11.91 - 12.29 | 14.76 - 15.24 | 23.62 - 24.38 |
| 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 | | nothing | | | |
| | REMOTE ON/OFF | | Provided (Negative Logic L : ON, H :OFF) | | | |
| ISOLATION | INPUT-OUTPUT | | AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | |
| | INPUT-FG | | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | |
| | OUTPUT-FG | | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃) | | | |
| ENVIRONMENT | OPERATING TEMP.,HUMID.AND ALTITUDE | | -40 to +100℃ (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max | | | |
| | STORAGE TEMP.,HUMID.AND ALTITUDE | | -40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max | | | |
| | VIBRATION | | 10 - 55Hz, 49.0m/s² (5G), 3minutes period, 60minutes each along X, Y and Z axis Complies with IEC61373 Category 1 Class B | | | |
| | IMPACT | | 196.1m/s² (20G), 11ms, once each along X, Y and Z axis Complies with IEC61373 Category 1 Class B | | | |
| SAFETY | AGENCY APPROVALS | | UL60950-1, C-UL (CSA60950-1), EN60950-1 | | | |
| OTHERS | CASE SIZE/WEIGHT | | 58.4×12.7×37.3mm [2.3×0.5×1.47 inches] (W×H×D) / 60g 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. Refer to the manual.
*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.
*4 Refer to the manual for input range.

## External view




※ Tolerance : ±0.3 [±0.012]
※ Weight : 60g max
※ Dimensions in mm, [ ]=inches
※ Mounting hole screwing torque : 0.49N・m (5.0kgf・cm) max

DHS

COSEL DC-DC Converters Power Module type

# DHS200A

**Ordering information**

| DH | S | 200 | A | 05 | -□ |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑧ |

*Providing heat sink as option



①Series name
②Single output
③Output wattage
④A : DC60-160V
⑤Output voltage
⑥Optional
T : with Mounting hole (φ3.4 thru)

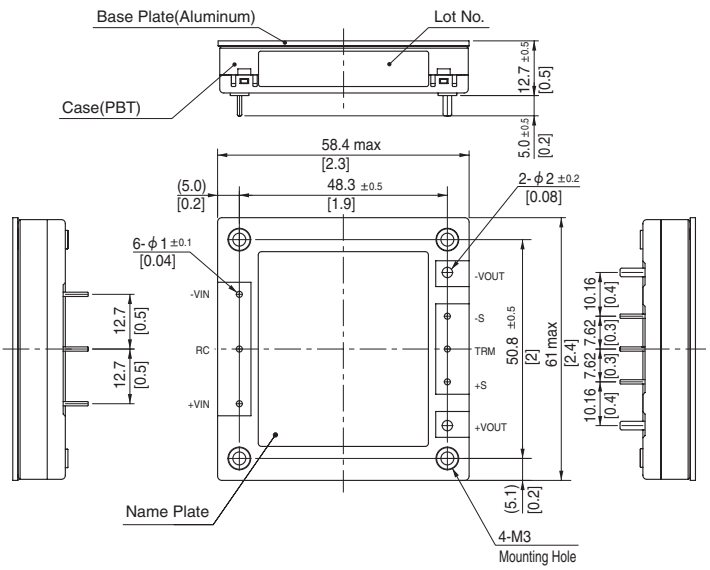
| MODEL | DHS200A05 | DHS200A12 | DHS200A15 | DHS200A24 |
|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | 200.0 | 200.4 | 201.0 | 201.6 |
| DC OUTPUT | 5V 40A | 12V 16.7A | 15V 13.4A | 24V 8.4A |

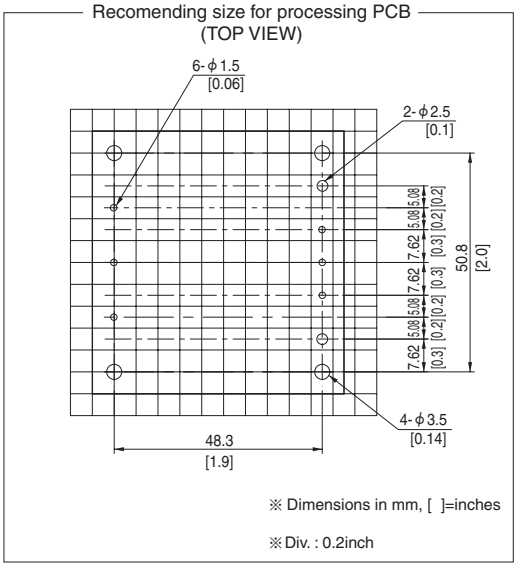
## SPECIFICATIONS

| | MODEL | | DHS200A05 | DHS200A12 | DHS200A15 | DHS200A24 |
|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC60 - 160 | | | |
| | CURRENT[A] | *1 | 2.1A | 2.1A | 2.1A | 2.1A |
| | EFFICIENCY[%] | *1 | 87.0typ | 88.0typ | 88.0typ | 88.0typ |
| 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] | | 10max | 24max | 30max | 48max |
| | RIPPLE[mVp-p] | 0 to +100℃ *2 | 80max | 120max | 120max | 120max |
| | | -40 to 0℃ *2 | 120max | 150max | 150max | 150max |
| | | 0 to 15% Load *2 | 160max | 240max | 240max | 240max |
| | RIPPLE NOISE[mVp-p] | 0 to +100℃ *2 | 120max | 150max | 150max | 150max |
| | | -40 to 0℃ *2 | 200max | 200max | 200max | 250max |
| | | 0 to 15% Load *2 | 240max | 300max | 300max | 300max |
| | TEMPERATURE REGULATION[mV] | 0 to +65℃ | 50max | 120max | 150max | 240max |
| | | -40 to +100℃ | 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 | Fixed (TRM pin open), adjustable by external VR or external voltage | | | |
| | | | 3.00 - 6.00 | 7.20 - 13.20 | 9.00 - 16.50 | 14.40 - 26.40 |
| | OUTPUT VOLTAGE SETTING[V] | | 4.97 - 5.13 | 11.91 - 12.29 | 14.76 - 15.24 | 23.62 - 24.38 |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | | Works over 105% of rating and recovers automatically | | | |
| | OVERVOLTAGE PROTECTION[V] | | 6.30 - 7.30 | 13.90 - 16.35 | 17.25 - 20.25 | 27.60 - 32.40 |
| | REMOTE SENSING | | Provided | | | |
| | REMOTE ON/OFF | | Provided (Neqative Logic L : ON, H :OFF) | | | |
| ISOLATION | INPUT-OUTPUT | | AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | |
| | INPUT-FG | | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | |
| | OUTPUT-FG | | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃) | | | |
| ENVIRONMENT | OPERATING TEMP.,HUMID.AND ALTITUDE | | -40 to +100℃ (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max | | | |
| | STORAGE TEMP.,HUMID.AND ALTITUDE | | -40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max | | | |
| | VIBRATION | | 10 - 55Hz, 49.0m/s² (5G), 3minutes period, 60minutes each along X, Y and Z axis Complies with IEC61373 Category 1 Class B | | | |
| | IMPACT | | 196.1m/s² (20G), 11ms, once each along X, Y and Z axis Complies with IEC61373 Category 1 Class B | | | |
| SAFETY | AGENCY APPROVALS | | UL60950-1, C-UL (CSA60950-1), EN60950-1 | | | |
| OTHERS | CASE SIZE/WEIGHT | | 58.4×12.7×61mm [2.3×0.5×2.4 inches] (W×H×D) / 100g 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. Refer to the manual.
*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.
*4 Refer to the manual for input range.

## External view




※ Tolerance : ±0.3 [±0.012]
※ Weight : 100g max
※ Dimensions in mm, [ ]=inches
※ Mounting hole screwing torque : 0.49N・m (5.0kgf・cm) max

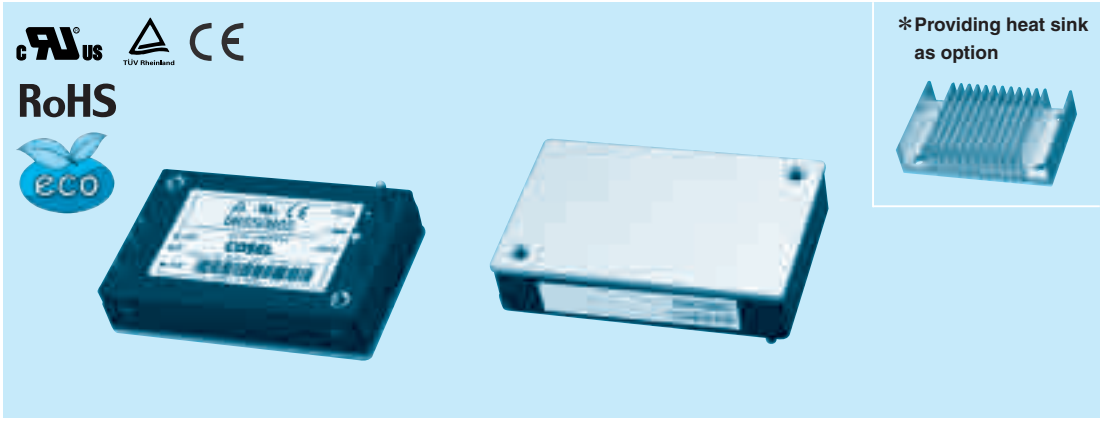
DHS

COSEL DC-DC Converters Power Module type

# DHS50B

**Ordering information**

| DH | S | 50 | B | 05 | -□ |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑥ |



*Providing heat sink as option



①Series name
②Single output
③Output wattage
④B : DC200-400V
⑤Output voltage
⑥Optional
T : with Mounting hole (φ3.4 thru)

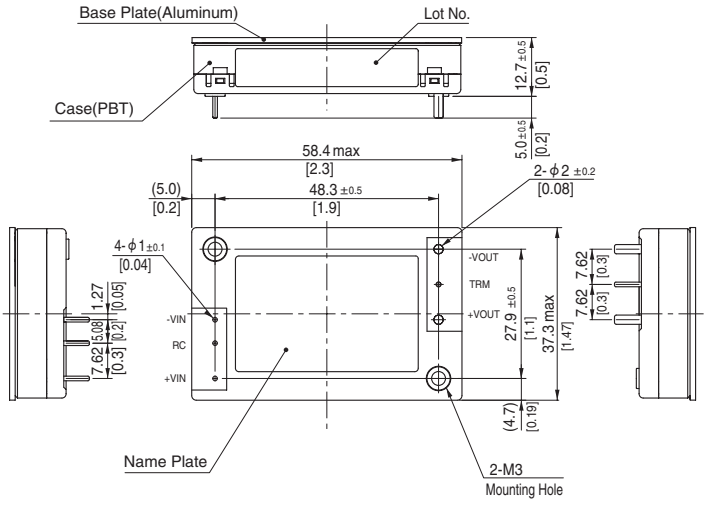
| MODEL | DHS50B03 | DHS50B05 | DHS50B12 | DHS50B15 | DHS50B24 | DHS50B28 |
|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | 33.0 | 50.0 | 50.4 | 51.0 | 50.4 | 50.4 |
| DC OUTPUT | 3.3V 10A | 5V 10A | 12V 4.2A | 15V 3.4A | 24V 2.1A | 28V 1.8A |

## SPECIFICATIONS

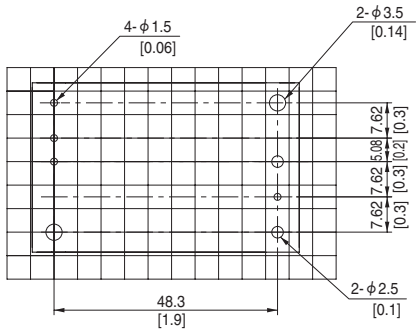
| | MODEL | | DHS50B03 | DHS50B05 | DHS50B12 | DHS50B15 | DHS50B24 | DHS50B28 |
|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC200 - 400 | | | | | |
| | CURRENT[A] | *1 | 0.15A | 0.22A | 0.22A | 0.22A | 0.22A | 0.22A |
| | EFFICIENCY[%] | *1 | 77.0typ | 80.0typ | 83.0typ | 83.0typ | 83.0typ | 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] | | 10max | 10max | 24max | 30max | 48max | 56max |
| | RIPPLE[mVp-p] | 0 to +100℃ *2 | 80max | 80max | 120max | 120max | 120max | 120max |
| | | -40 to 0℃ *2 | 120max | 120max | 150max | 150max | 150max | 150max |
| | | 0 to 15% Load *2 | 160max | 160max | 240max | 240max | 240max | 240max |
| | RIPPLE NOISE[mVp-p] | 0 to +100℃ *2 | 120max | 120max | 150max | 150max | 150max | 150max |
| | | -40 to 0℃ *2 | 200max | 200max | 200max | 200max | 250max | 250max |
| | | 0 to 15% Load *2 | 240max | 240max | 300max | 300max | 300max | 300max |
| | TEMPERATURE REGULATION[mV] | 0 to +65℃ | 35max | 50max | 120max | 150max | 240max | 280max |
| | | -40 to +100℃ | 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 | Fixed (TRM pin open), adjustable by external VR or external voltage | | | | | |
| | | | 2.97 - 3.96 | 4.50 - 6.00 | 10.80 - 13.20 | 13.50 - 16.50 | 21.60 - 26.40 | 25.20 - 30.80 |
| | OUTPUT VOLTAGE SETTING[V] | | 3.30 - 3.40 | 4.97 - 5.13 | 11.91 - 12.29 | 14.76 - 15.24 | 23.62 - 24.38 | 27.56 - 28.44 |
| 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 | | Provided (Negative Logic L : ON, H :OFF) | | | | | |
| ISOLATION | INPUT-OUTPUT | | AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | | | |
| | INPUT-FG | | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | | | |
| | OUTPUT-FG | | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃) | | | | | |
| ENVIRONMENT | OPERATING TEMP.,HUMID.AND ALTITUDE | | -40 to +100℃ (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max | | | | | |
| | STORAGE TEMP.,HUMID.AND ALTITUDE | | -40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max | | | | | |
| | VIBRATION | | 10 - 55Hz, 49.0m/s² (5G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | |
| | IMPACT | | 196.1m/s² (20G), 11ms, once each along X, Y and Z axis | | | | | |
| SAFETY | AGENCY APPROVALS | | UL60950-1, C-UL, EN60950-1 | | | | | |
| OTHERS | CASE SIZE/WEIGHT | | 58.4×12.7×37.3mm [2.3×0.5×1.47 inches] (W×H×D) / 60g 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. Refer to the manual
*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.
*4 Refer to the manual for input range.

## External view




Recomending size for processing PCB
(TOP VIEW)




※ Dimensions in mm, [ ]=inches

※ Div. : 0.2inch

※ Tolerance : ±0.3 [±0.012]
※ Weight : 60g max
※ Dimensions in mm, [ ]=inches
※ Mounting hole screwing torque : 0.49N・m (5.0kgf・cm) max

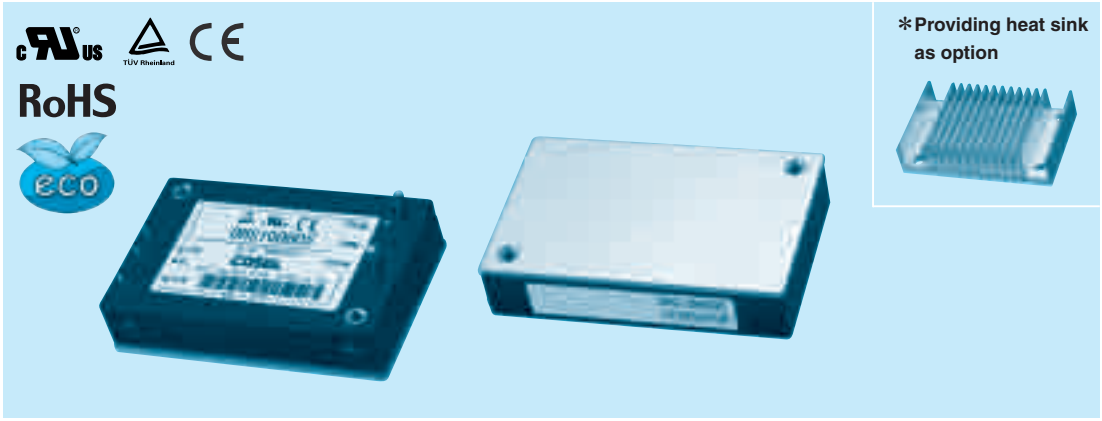
DHS

COSEL DC-DC Converters Power Module type

# DHS100B

**Ordering information**

| DH | S | 100 | B | 05 | -□ |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑧ |



*Providing heat sink as option



①Series name
②Single output
③Output wattage
④B : DC200-400V
⑤Output voltage
⑥Optional
T : with Mounting hole (φ3.4 thru)

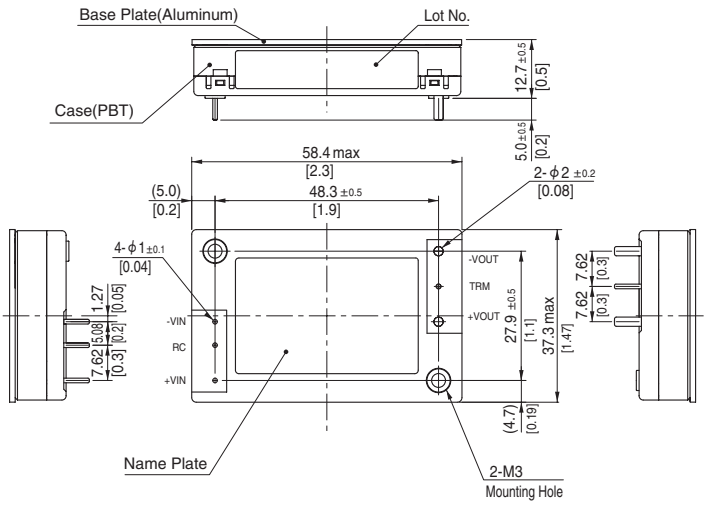
| MODEL | DHS100B03 | DHS100B05 | DHS100B12 | DHS100B15 | DHS100B24 | DHS100B28 |
|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | 66.0 | 100.0 | 100.8 | 100.5 | 100.8 | 100.8 |
| DC OUTPUT | 3.3V 20A | 5V 20A | 12V 8.4A | 15V 6.7A | 24V 4.2A | 28V 3.6A |

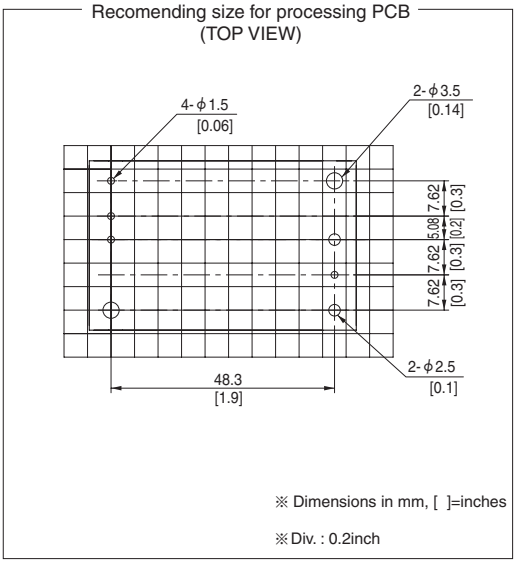
## SPECIFICATIONS

| | MODEL | | DHS100B03 | DHS100B05 | DHS100B12 | DHS100B15 | DHS100B24 | DHS100B28 |
|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC200 - 400 | | | | | |
| | CURRENT[A] | *1 | 0.30A | 0.44A | 0.42A | 0.42A | 0.42A | 0.42A |
| | EFFICIENCY[%] | *1 | 79.0typ | 82.0typ | 85.0typ | 86.0typ | 86.0typ | 86.0typ |
| 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] | | 10max | 10max | 24max | 30max | 48max | 56max |
| | RIPPLE[mVp-p] | 0 to +100℃ *2 | 80max | 80max | 120max | 120max | 120max | 120max |
| | | -40 to 0℃ *2 | 120max | 120max | 150max | 150max | 150max | 150max |
| | | 0 to 15% Load *2 | 160max | 160max | 240max | 240max | 240max | 240max |
| | RIPPLE NOISE[mVp-p] | 0 to +100℃ *2 | 120max | 120max | 150max | 150max | 150max | 150max |
| | | -40 to 0℃ *2 | 200max | 200max | 200max | 200max | 250max | 250max |
| | | 0 to 15% Load *2 | 240max | 240max | 300max | 300max | 300max | 300max |
| | TEMPERATURE REGULATION[mV] | 0 to +65℃ | 35max | 50max | 120max | 150max | 240max | 280max |
| | | -40 to +100℃ | 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 | Fixed (TRM pin open), adjustable by external VR or external voltage | | | | | |
| | | | 2.97 - 3.96 | 4.50 - 6.00 | 10.80 - 13.20 | 13.50 - 16.50 | 21.60 - 26.40 | 25.20 - 30.80 |
| | OUTPUT VOLTAGE SETTING[V] | | 3.30 - 3.40 | 4.97 - 5.13 | 11.91 - 12.29 | 14.76 - 15.24 | 23.62 - 24.38 | 27.56 - 28.44 |
| 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 | | Provided (Neqative Logic L : ON, H :OFF) | | | | | |
| ISOLATION | INPUT-OUTPUT | | AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | | | |
| | INPUT-FG | | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | | | |
| | OUTPUT-FG | | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃) | | | | | |
| ENVIRONMENT | OPERATING TEMP.,HUMID.AND ALTITUDE | | -40 to +100℃ (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max | | | | | |
| | STORAGE TEMP.,HUMID.AND ALTITUDE | | -40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max | | | | | |
| | VIBRATION | | 10 - 55Hz, 49.0m/s² (5G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | |
| | IMPACT | | 196.1m/s² (20G), 11ms, once each along X, Y and Z axis | | | | | |
| SAFETY | AGENCY APPROVALS | | UL60950-1, C-UL, EN60950-1 | | | | | |
| OTHERS | CASE SIZE/WEIGHT | | 58.4×12.7×37.3mm [2.3×0.5×1.47 inches] (W×H×D) / 60g 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. Refer to the manual.
*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.
*4 Refer to the manual for input range.

## External view




※ Tolerance : ±0.3 [±0.012]
※ Weight : 60g max
※ Dimensions in mm, [ ]=inches
※ Mounting hole screwing torque : 0.49N・m (5.0kgf・cm) max

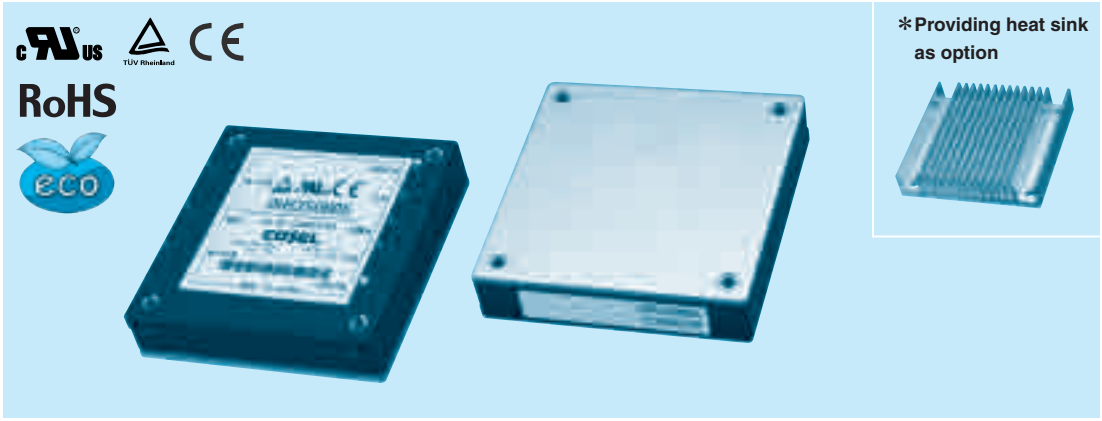
DHS

COSEL DC-DC Converters Power Module type

# DHS250B

**Ordering information**

| DH | S | 250 | B | 05 | -□ |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑧ |



*Providing heat sink as option



①Series name
②Single output
③Output wattage
④B : DC200-400V
⑤Output voltage
⑥Optional
T : with Mounting hole (φ3.4 thru)

| MODEL | DHS250B03 | DHS250B05 | DHS250B07 | DHS250B12 | DHS250B15 | DHS250B24 | DHS250B28 | DHS250B48 |
|---|---|---|---|---|---|---|---|---|
| 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 | | DHS250B03 | DHS250B05 | DHS250B07 | DHS250B12 | DHS250B15 | DHS250B24 | DHS250B28 | DHS250B48 |
|---|---|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE[V] | | DC200 - 400 | | | | | | | |
| | CURRENT[A] | *1 | 0.67A | 1.0A | 1.0A | 1.0A | 1.0A | 1.0A | 1.0A | 1.0A |
| | EFFICIENCY[%] | *1 | 88.0typ | 90.0typ | 88.0typ | 88.0typ | 88.0typ | 88.0typ | 88.0typ | 89.0typ |
| 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] | | 10max | 10max | 20max | 24max | 30max | 48max | 56max | 96max |
| | RIPPLE[mVp-p] | 0 to +100℃ *2 | 80max | 80max | 100max | 120max | 120max | 120max | 120max | 200max |
| | | -40 to 0℃ *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 +100℃ *2 | 120max | 120max | 130max | 150max | 150max | 150max | 150max | 250max |
| | | -40 to 0℃ *2 | 200max | 200max | 200max | 200max | 200max | 250max | 250max | 400max |
| | | 0 to 15% Load *2 | 240max | 240max | 260max | 300max | 300max | 300max | 300max | 500max |
| | TEMPERATURE REGULATION[mV] | 0 to +65℃ | 35max | 50max | 70max | 120max | 150max | 240max | 280max | 480max |
| | | -40 to +100℃ | 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 | Fixed (TRM pin open), adjustable by external VR or external voltage | | | | | | | |
| | | | 1.98 - 3.96 | 3.00 - 6.00 | 4.50 - 8.25 | 7.20 - 13.20 | 9.00 - 16.50 | 14.40 - 26.40 | 16.80 - 30.80 | 28.80 - 52.80 |
| | OUTPUT VOLTAGE SETTING[V] | | 3.30 - 3.40 | 4.97 - 5.13 | 7.43 - 7.67 | 11.91 - 12.29 | 14.76 - 15.24 | 23.62 - 24.38 | 27.56 - 28.44 | 47.24 - 48.76 |
| 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 | | Provided (Neqative Logic L : ON, H :OFF) | | | | | | | |
| ISOLATION | INPUT-OUTPUT | | AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | | | | | |
| | INPUT-FG | | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃) | | | | | | | |
| | OUTPUT-FG | | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃) | | | | | | | |
| ENVIRONMENT | OPERATING TEMP.,HUMID.AND ALTITUDE | | -40 to +100℃ (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max | | | | | | | |
| | STORAGE TEMP.,HUMID.AND ALTITUDE | | -40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max | | | | | | | |
| | VIBRATION | | 10 - 55Hz, 49.0m/s² (5G), 3minutes period, 60minutes each along X, Y and Z axis | | | | | | | |
| | IMPACT | | 196.1m/s² (20G), 11ms, once each along X, Y and Z axis | | | | | | | |
| SAFETY | AGENCY APPROVALS | | UL60950-1, C-UL, EN60950-1 | | | | | | | |
| OTHERS | CASE SIZE/WEIGHT | | 58.4×12.7×61mm [2.3×0.5×2.4 inches](W×H×D) / 100g 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.
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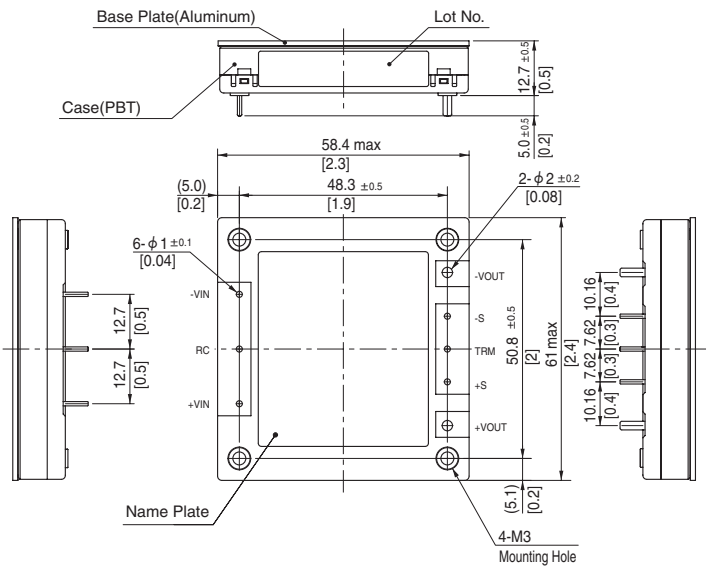
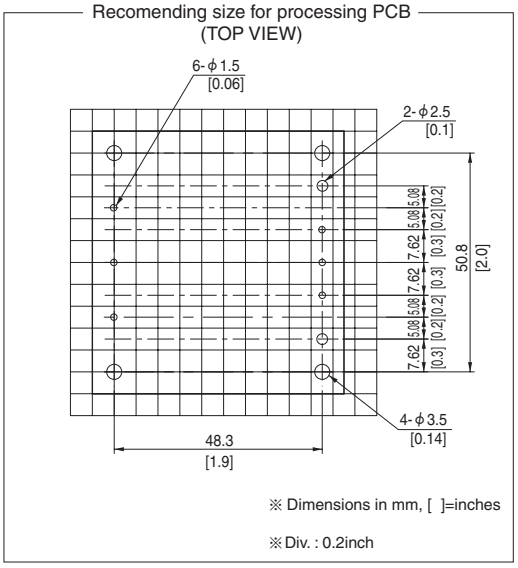
## External view




※ Tolerance : ±0.3 [±0.012]
※ Weight : 100g max
※ Dimensions in mm, [ ]=inches
※ Mounting hole screwing torque : 0.49N・m (5.0kgf・cm) max

DHS