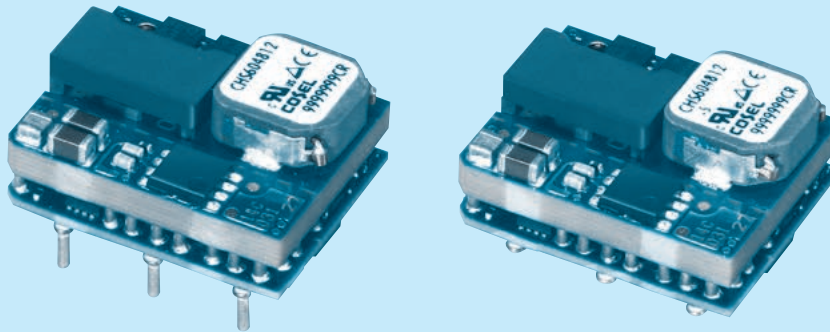
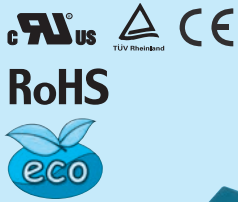


CHS60

CH S 60 48 3R3 -□

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output power
- ④ Input voltage
48:DC36 - 76V
- ⑤ Output voltage
3R3:3.3V
05:5.0V
12:12V
- ⑥ Optional
R :with Remote ON/OFF
Positive logic control
U :Shut down in protection
circuit working
S :SMD

MODEL	CHS60483R3	CHS604805	CHS604812
MAX OUTPUT WATTAGE[W]	59.4	60.0	72.0
DC OUTPUT	3.3V 18A	5V 12A	12V 6A

SPECIFICATIONS

	MODEL	CHS60483R3	CHS604805	CHS604812
INPUT	VOLTAGE[V]	DC36 - 76		
	CURRENT[A]	*1 1.36typ	1.34typ	1.63typ
	EFFICIENCY[%]	*1 91.5typ	93.0typ	92.5typ
OUTPUT	VOLTAGE[V]	3.3	5	12
	CURRENT[A]	18	12	6
	LINE REGULATION[mV]	10max		
	LOAD REGULATION[mV]	10max		
	RIPPLE	[mVrms] *2 30max	30max	50max
		[mVp-p] *2 80max	100max	150max
	RIPPLE NOISE[mVp-p]	*2 120max	150max	180max
	TEMPERATURE REGULATION[mV]	66max	100max	240max
	DRIFT[mV]	*3 16max	20max	40max
	START-UP TIME[ms]	50max (DCIN 48V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMENT RANGE *4	Fixed (TRM pin open), adjustable by external resistor		
		-10% / +15%	-10% / +20%	-20% / +10%
	OUTPUT VOLTAGE SETTING	±1.6%		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating (Auto restart)		
	OVERVOLTAGE PROTECTION	120% - 140% (Auto restart)	125% - 145% (Auto restart)	115% - 135% (Auto restart)
	REMOTE SENSING	Provided		
	REMOTE ON/OFF	Provided (Negative Logic L : ON, H : OFF)		
ISOLATION	INPUT-OUTPUT	DC2,250V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-40 to +85℃, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 5,000m (16,000 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/s ² (5G), 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 (CSA60950-1), EN60950-1		
OTHERS	CASE SIZE/WEIGHT	19.05 × 12.7 × 23.36mm [0.75 × 0.5 × 0.92 inches] (W × H × D) / 15g max		
	COOLING METHOD	Convection / Forced air		

*1 At rated input (DC48V) and rated load. Ta=25℃, 2m/s.

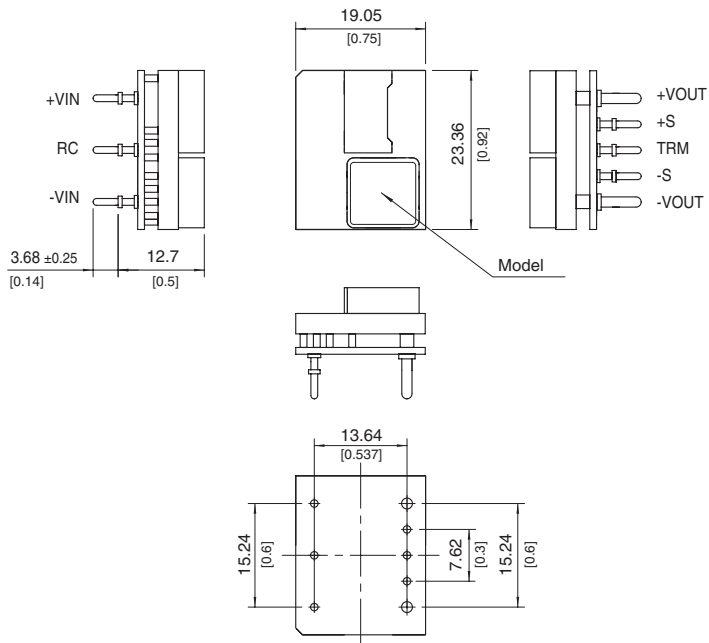
*2 Ripple and ripple noise is measured by using measuring board with ceramic capacitor 22μF.

*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 instruction manual for input voltage derating.

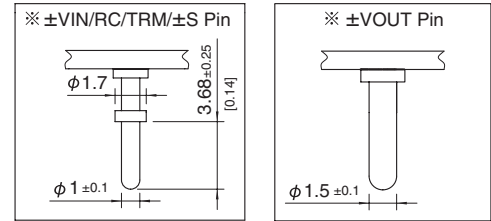
External view

1. DIP

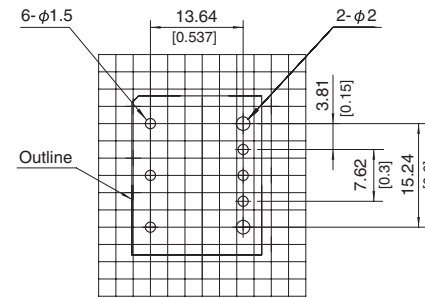


※ Tolerance: ±0.5 [±0.02]

※ Dimensions in mm, []=inches



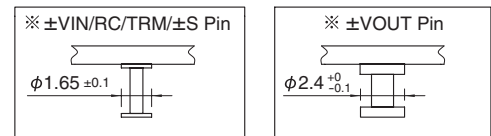
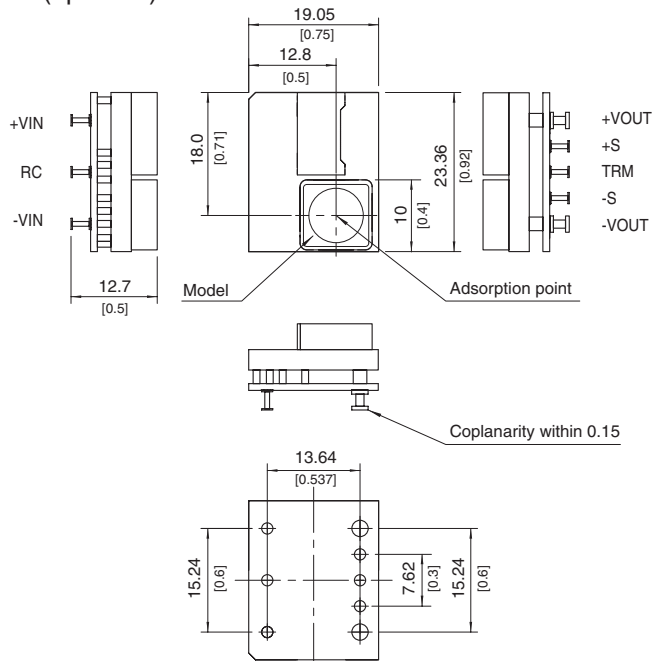
※ Recommended size for processing PCB (TOP VIEW)



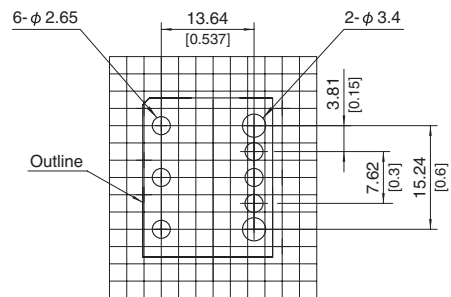
※ Dimensions in: $\frac{\text{mm}}{\text{[inch]}}$

※ Div.: 0.1inch

2. SMD (option S)



※ Recommended size for processing PCB (TOP VIEW)



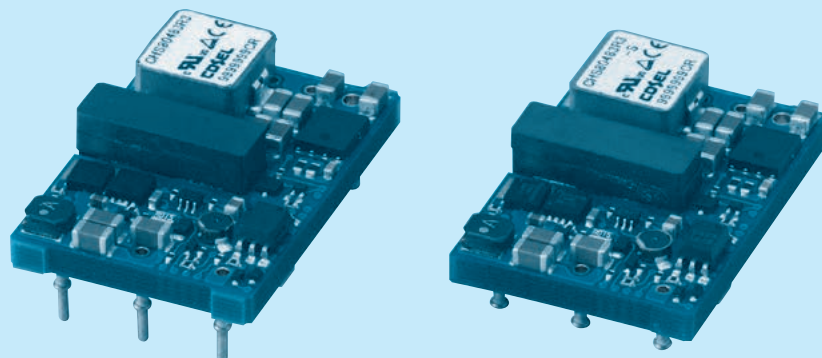
※ Dimensions in: $\frac{\text{mm}}{\text{[inch]}}$

※ Div.: 0.1inch

CHS80

CH S 80 48 05 -□

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output power
- ④ Input voltage
- 48:DC36-76V
- ⑤ Output voltage
- 3R3:3.3V
- 05:5.0V
- 12:12V
- ⑥ Optional
- R :with Remote ON/OFF
- Positive logic control
- U :Shut down in protection
- circuit working
- S :SMD

MODEL	CHS80483R3	CHS804805	CHS804812
MAX OUTPUT WATTAGE[W]	82.5	80.0	90.0
DC OUTPUT	3.3V 25A	5.0V 16A	12V 7.5A

SPECIFICATIONS

	MODEL	CHS80483R3	CHS804805	CHS804812
INPUT	VOLTAGE[V]	DC36 - 76		
	CURRENT[A]	*1 1.86typ	1.81typ	2.03typ
	EFFICIENCY[%]	*1 92typ	92typ	92typ
OUTPUT	VOLTAGE[V]	3.3	5	12
	CURRENT[A]	25	16	7.5
	LINE REGULATION[mV]	10max		
	LOAD REGULATION[mV]	10max		
	RIPPLE	[mVrms] *2 30max	30max	50max
		[mVp-p] *2 80max	100max	150max
	RIPPLE NOISE[mVp-p]	*2 120max	150max	180max
	TEMPERATURE REGULATION[mV]	66max	100max	240max
	DRIFT[mV]	*3 16max	20max	40max
	START-UP TIME[ms]	200max (DCIN 48V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMENT RANGE	*4 Fixed (TRM pin open), adjustable by external resistor		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating (Auto restart)		
	OVERVOLTAGE PROTECTION	120% - 140% (Auto restart)	125% - 145% (Auto restart)	115% - 135% (Auto restart)
	REMOTE SENSING	Provided		
	REMOTE ON/OFF	Provided (Negative logic L:ON, H:OFF)		
ISOLATION	INPUT-OUTPUT	DC2,250V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE	-40 to +85℃, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max		
	STORAGE TEMP.,HUMID.AND ALTITUDE	-40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max		
	VIBRATION	10 - 55Hz, 49.0m/s ² (5G), 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 (CSA60950-1), EN60950-1		
OTHERS	CASE SIZE/WEIGHT	33.0 × 10.5 × 22.76mm [1.3 × 0.41 × 0.9 inches] (W×H×D) / 21g max		
	COOLING METHOD	Convection / Forced air		

*1 At rated input(DC48V) and rated load. Ta=25℃, 2m/s.

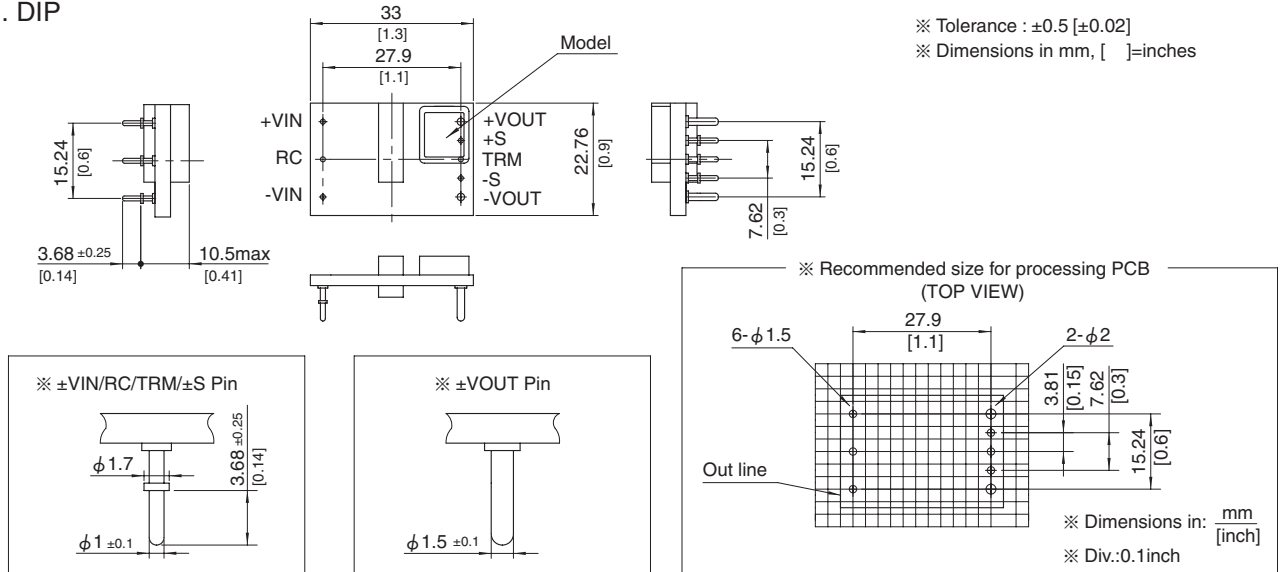
*2 Ripple and ripple noise is measured by using measuring board with ceramic capacitor 22μF.

*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.

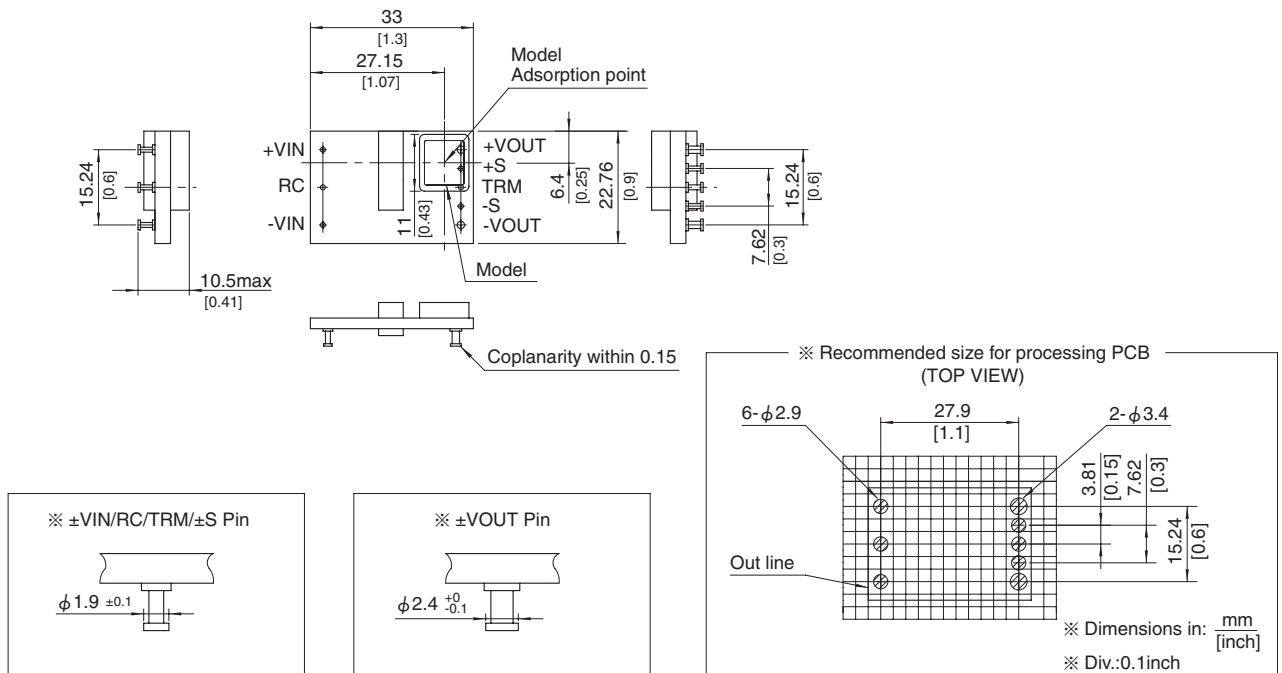
*4 Refer to the instruction manual for input voltage derating.

External view

1. DIP



2. SMD (optionS)



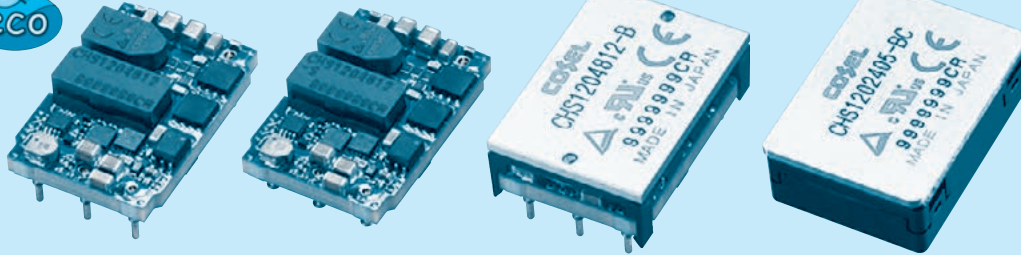
CHS120

CH S 120 48 05 -□

① ② ③ ④ ⑤ ⑥



RoHS



- ① Series name
- ② Single output
- ③ Output power
- ④ Input voltage
24:DC18 - 36V
48:DC36 - 76V
- ⑤ Output voltage
3R3:3.3V
05:5.0V
12:12V
15:15V
- ⑥ Optional
R :with Remote ON/OFF
Positive logic control
U :Shut down in protection
circuit working
S :SMD
B :BasePlate option
BC:Baseplate and case option
(only CHS12024)
L2:Pin length 5.3mm
L5:5pins option
(+S,-S,TRM less)

MODEL	CHS1202405	CHS1202412	CHS1202415
MAX OUTPUT WATTAGE[W]	120.0	120.0	120.0
DC OUTPUT	5V 24A	12V 10A	15V 8A

SPECIFICATIONS

	MODEL	CHS1202405	CHS1202412	CHS1202415
INPUT	VOLTAGE[V]	DC18 - 36		
	CURRENT[A]	*1 5.41typ	5.47typ	5.50typ
	EFFICIENCY[%]	*1 92.5typ	91.5typ	91typ
OUTPUT	VOLTAGE[V]	5	12	15
	CURRENT[A]	24	10	8
	LINE REGULATION[mV]	10max	24max	30max
	LOAD REGULATION[mV]	10max	24max	30max
	RIPPLE	[mVrms] *2 40max	50max	60max
		[mVp-p] *2 120max	150max	180max
	RIPPLE NOISE[mVp-p]	*2 150max	180max	210max
	TEMPERATURE REGULATION[mV]	100max	240max	300max
	DRIFT[mV]	*3 20max	40max	50max
	START-UP TIME[ms]	50max (DCIN 24V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMENT RANGE	*4 Fixed (TRM pin open), adjustable by external resistor -10% / +20%	-10% / +10%	-10% / +5%
	OUTPUT VOLTAGE SETTING	±1.6%		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating (Auto restart)		
	OVERVOLTAGE PROTECTION	125% - 150% (Auto restart)	115% - 135% (Auto restart)	110% - 130% (Auto restart)
	REMOTE SENSING	Provided		
	REMOTE ON/OFF	Provided (Negative logic L:ON, H:OFF)		

MODEL	CHS120483R3	CHS1204805	CHS1204812
MAX OUTPUT WATTAGE[W]	99.0	120.0	120.0
DC OUTPUT	3.3V 30A	5V 24A	12V 10A

SPECIFICATIONS

	MODEL	CHS120483R3	CHS1204805	CHS1204812
INPUT	VOLTAGE[V]	DC36 - 76		
	CURRENT[A]	*1 2.23typ	2.69typ	2.69typ
	EFFICIENCY[%]	*1 92.5typ	93typ	93typ
OUTPUT	VOLTAGE[V]	3.3	5	12
	CURRENT[A]	30	24	10
	LINE REGULATION[mV]	10max		
	LOAD REGULATION[mV]	10max		
	RIPPLE	[mVrms] *2 30max	30max	50max
		[mVp-p] *2 80max	100max	150max
	RIPPLE NOISE[mVp-p]	*2 120max	150max	180max
	TEMPERATURE REGULATION[mV]	66max	100max	240max
	DRIFT[mV]	*3 16max	20max	40max
	START-UP TIME[ms]	50max (DCIN 48V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMENT RANGE	*4 Fixed (TRM pin open), adjustable by external resistor -10% / +15%	-10% / +20%	-10% / +10%
	OUTPUT VOLTAGE SETTING	±1.6%		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating (Auto restart)		
	OVERVOLTAGE PROTECTION	120% - 140% (Auto restart)	125% - 145% (Auto restart)	115% - 135% (Auto restart)
	REMOTE SENSING	Provided		
	REMOTE ON/OFF	Provided (Negative logic L:ON, H:OFF)		

GENERAL SPECIFICATIONS

ISOLATION	INPUT-OUTPUT	DC2,250V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20 $\pm$ 15 $^{\circ}$ C)
	INPUT-BASEPLATE *5 *6	DC2,250V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20 $\pm$ 15 $^{\circ}$ C)
	OUTPUT-BASEPLATE *5 *6	AC500V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20 $\pm$ 15 $^{\circ}$ C)
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-40 to +85 $^{\circ}$ C, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 5,000m (16,000feet) max
	STORAGE TEMP., HUMID. AND ALTITUDE	-40 to +100 $^{\circ}$ C, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max
	VIBRATION	10 - 55Hz, 49.0m/s 2 (5G), 3minutes period, 60minutes each along X, Y and Z axis
SAFETY	IMPACT	196.1m/s 2 (20G), 11ms, once each along X, Y and Z axis
	AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950-1
OTHERS	CASE SIZE/WEIGHT	33.0 $\times$ 10.5 $\times$ 22.86mm [1.3 $\times$ 0.41 $\times$ 0.9 inches] (W $\times$ H $\times$ D) / 19g max
		33.5 $\times$ 12.7 $\times$ 23.36mm [1.32 $\times$ 0.5 $\times$ 0.92 inches] (W $\times$ H $\times$ D) / 28g max *5
		36.5 $\times$ 12.7 $\times$ 26.5mm [1.44 $\times$ 0.5 $\times$ 1.04 inches] (W $\times$ H $\times$ D) / 32g max *6
	COOLING METHOD	Convection/Forced air/Conduction

*1 At rated input (DC24V, DC48V) and rated load. Ta=25 $^{\circ}$ C, 2m/s.

*2 Ripple and ripple noise is measured by using measuring board with ceramic capacitor 22 μ F.

*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25 $^{\circ}$ C.

*4 Refer to the instruction manual for input voltage derating.

*5 BasePlate Option.

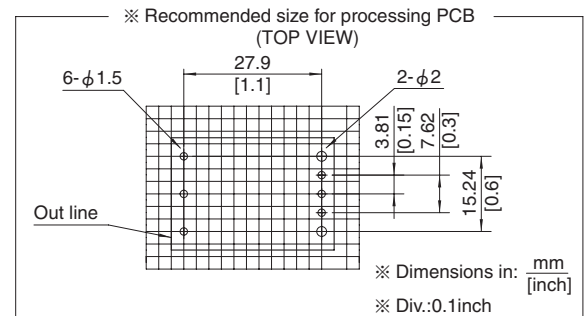
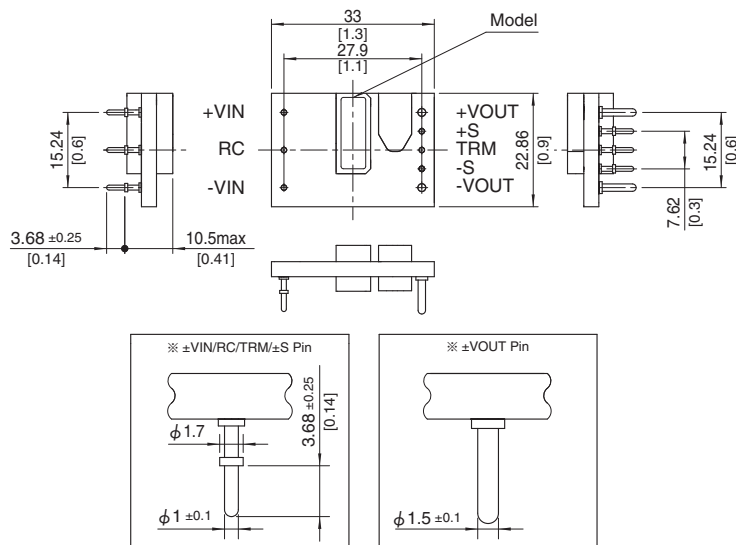
*6 Baseplate and case option.

External view

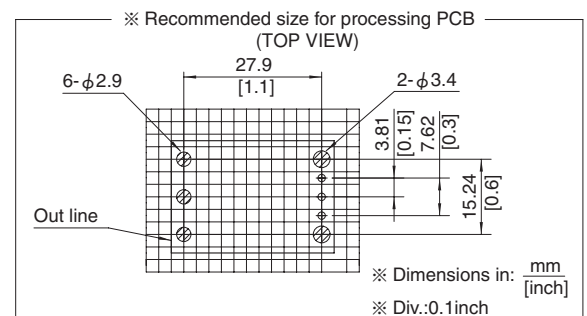
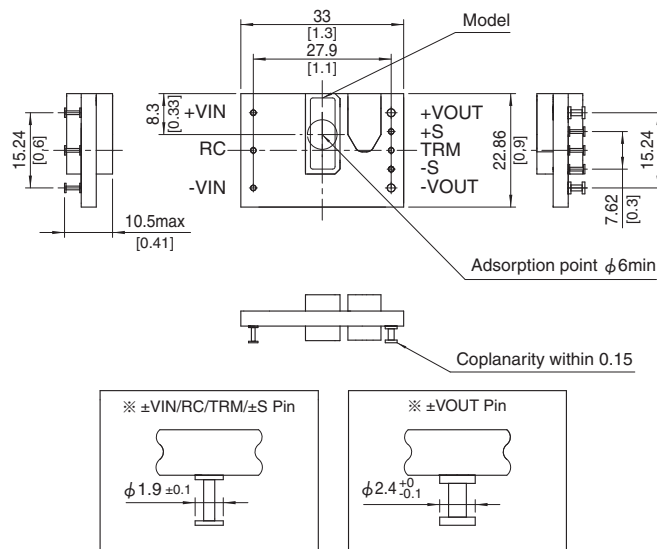
1. DIP

※ Tolerance : ± 0.5

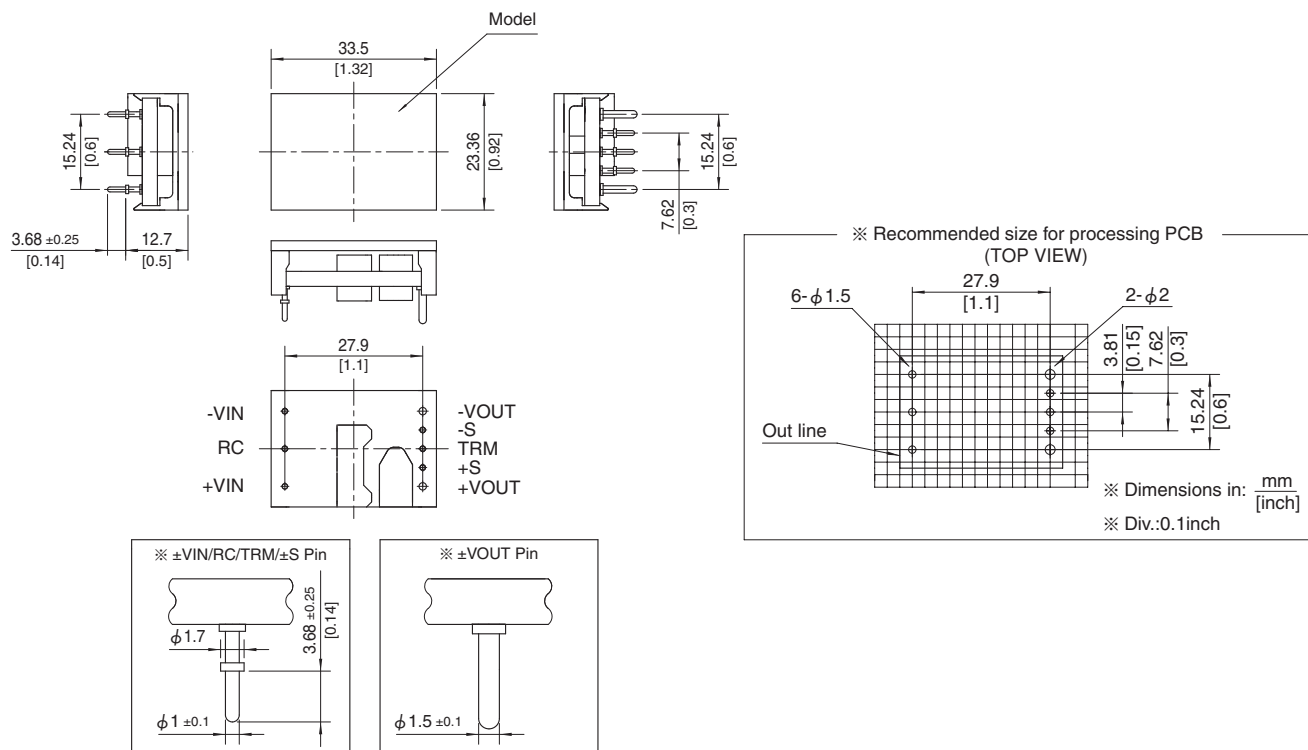
※ Dimensions in mm, []=inches



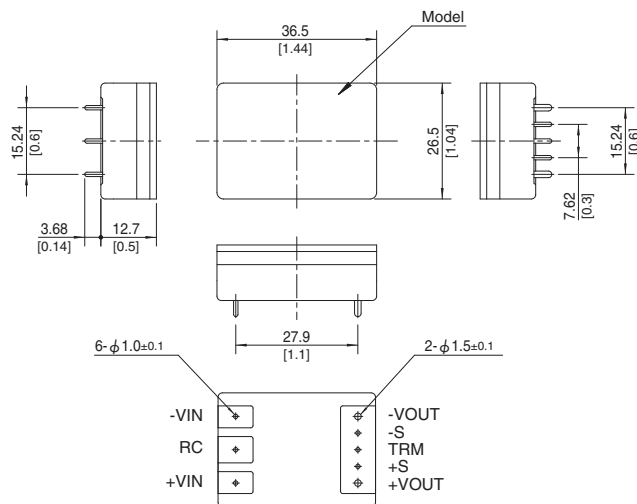
2. SMD (option S)



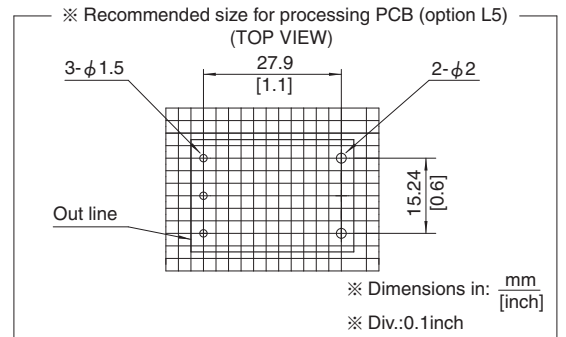
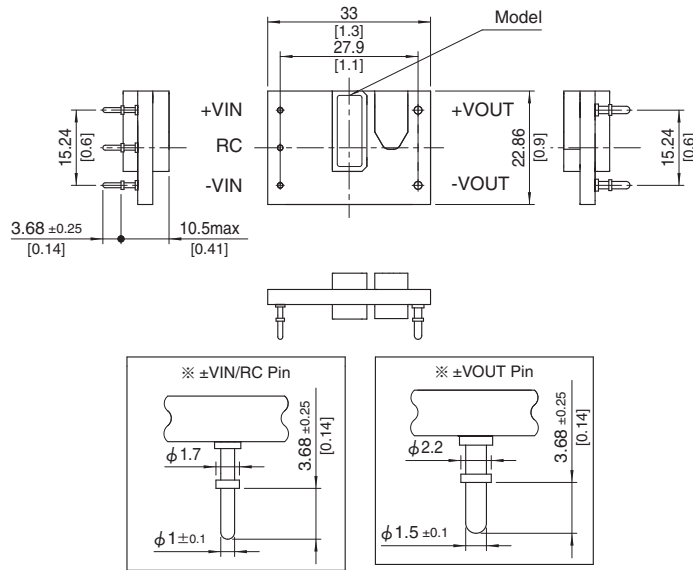
3. BasePlate (option B)



4. Baseplate and case (option BC)



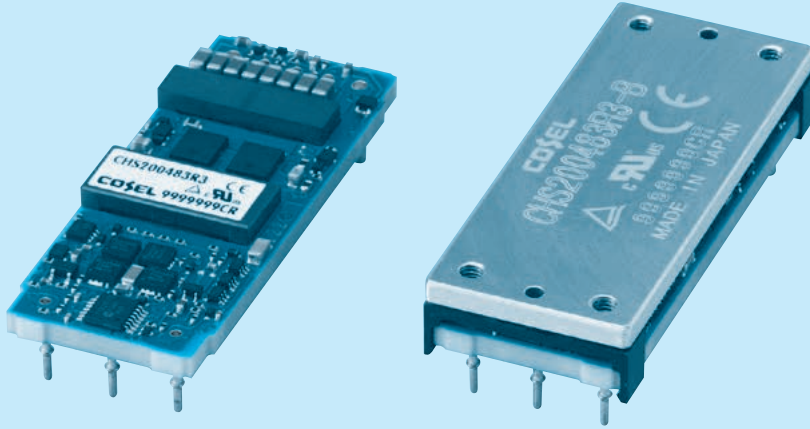
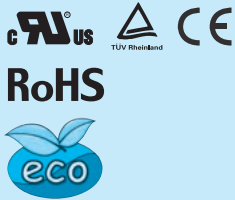
5. 5pins type (option L5)



CHS200

CH S 200 48 05 -□

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output power
- ④ Input voltage
48:DC36-76V
- ⑤ Output voltage
3R3:3.3V
05:5.0V
12:12V
- ⑥ Optional
R :with Remote ON/OFF
Positive logic control
U :Shut down in protection
circuit working
B :BasePlate option with
Mounting hole M3
L2:Pin length 5.3mm
L5:5pins option
(+S,-S,TRM less)

MODEL	CHS200483R3	CHS2004805	CHS2004812
MAX OUTPUT WATTAGE[W]	165.0	200.0	192.0
DC OUTPUT	3.3V 50A	5.0V 40A	12V 16A

SPECIFICATIONS

	MODEL	CHS200483R3	CHS2004805	CHS2004812	
INPUT	VOLTAGE[V]	DC36 - 76			
	CURRENT[A]	*1 3.70typ	4.43typ	4.26typ	
	EFFICIENCY[%]	*1 93typ	94typ	94typ	
OUTPUT	VOLTAGE[V]	3.3	5	12	
	CURRENT[A]	50	40	16	
	LINE REGULATION[mV]		10max		
	LOAD REGULATION[mV]		10max		
	RIPPLE	[mVrms] *2	30max	30max	50max
		[mVp-p] *2	80max	100max	150max
	RIPPLE NOISE[mVp-p]	*2 120max	150max	180max	
	TEMPERATURE REGULATION[mV]	66max	100max	240max	
	DRIFT[mV]	*3 16max	20max	40max	
	START-UP TIME[ms]	200max (DCIN 48V, Io=100%)			
	OUTPUT VOLTAGE ADJUSTMENT RANGE	Fixed (TRM pin open), adjustable by external resistor			
		-10% / +15%	-10% / +20%	-10% / +10%	
OUTPUT VOLTAGE SETTING	±1.6%				
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating (Auto restart)			
	OVERVOLTAGE PROTECTION	120% - 140% (Auto restart)	125% - 145% (Auto restart)	115% - 135% (Auto restart)	
	REMOTE SENSING	Provided			
	REMOTE ON/OFF	Provided (Negative logic L:ON, H:OFF)			
ISOLATION	INPUT-OUTPUT	DC2,250V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)			
	INPUT-BASEPLATE	*5 DC2,250V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)			
	OUTPUT-BASEPLATE	*5 AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)			
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE	-40 to +85℃, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max			
	STORAGE TEMP.,HUMID.AND ALTITUDE	-40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000feet) 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 (CSA60950-1), EN60950-1			
OTHERS	CASE SIZE/WEIGHT	57.9 × 10.5 × 22.76mm [2.28 × 0.41 × 0.9 inches] (W × H × D) / 30g max			
		58.4 × 12.7 × 23.26mm [2.3 × 0.5 × 0.92 inches] (W × H × D) / 45g max *5			
	COOLING METHOD	Convection / Forced air / Conduction			

*1 At rated input(DC48V) and rated load. Ta=25℃, 2m/s.

*2 Ripple and ripple noise is measured by using measuring board with ceramic capacitor 22μF.

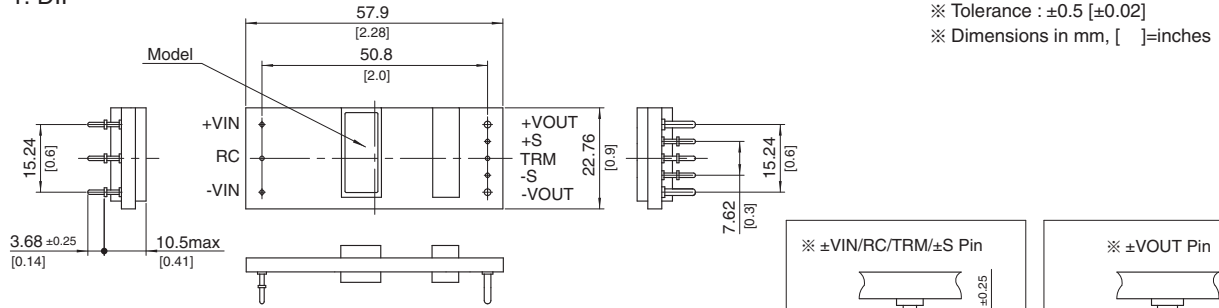
*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.

*4 Refer to the instruction manual for input voltage derating.

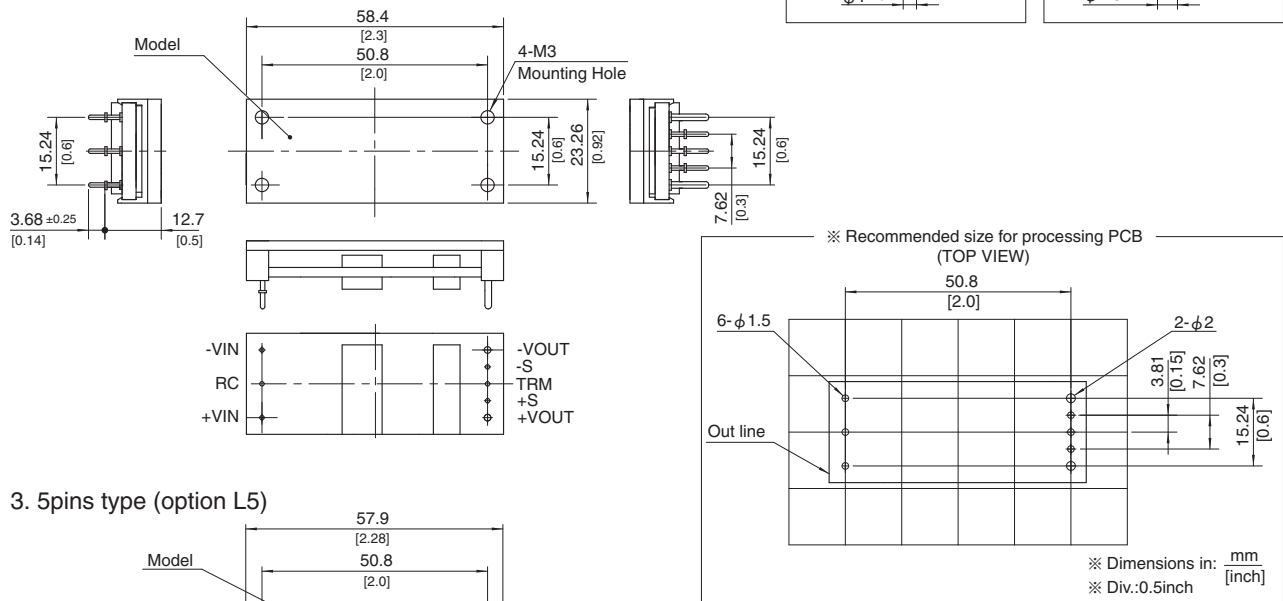
*5 BasePlate Option.

External view

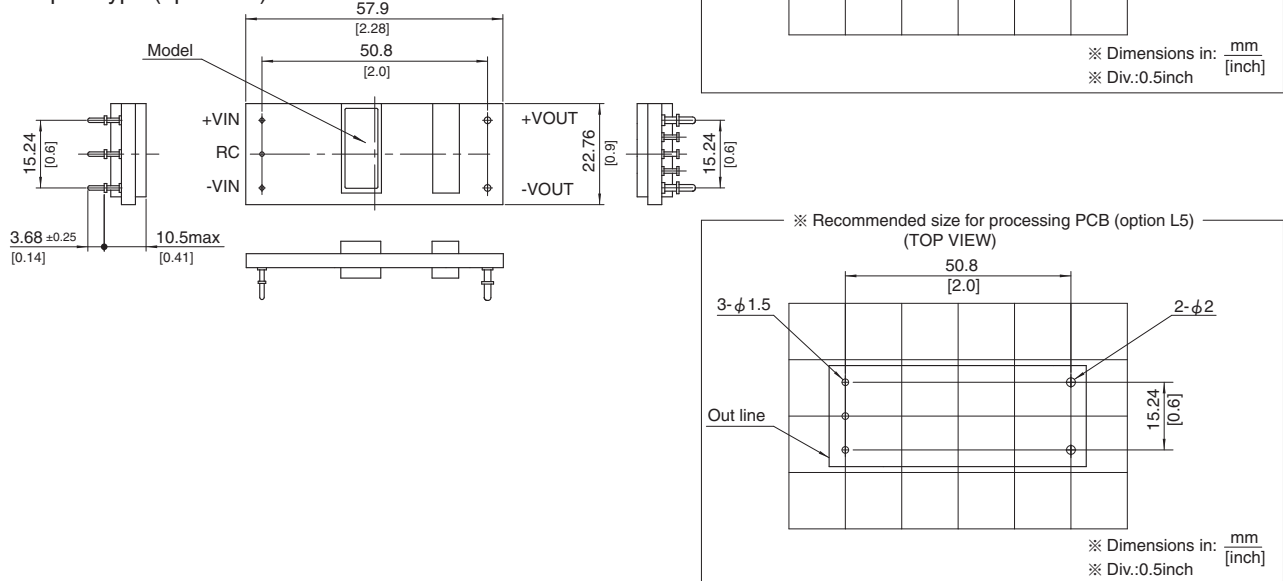
1. DIP



2. BasePlate (optionB)



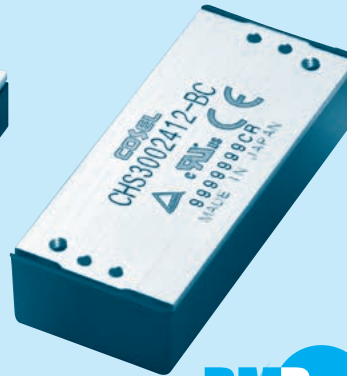
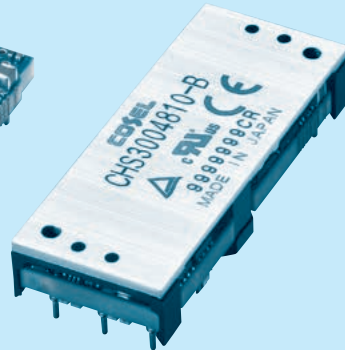
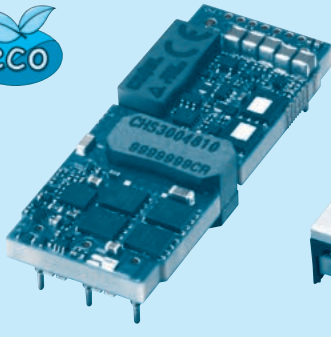
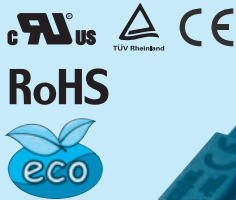
3. 5pins type (option L5)



CHS300

CH S 300 48 10 - ☐

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output power
- ④ Input voltage
24:DC18 - 36V
48:DC36 - 76V
- ⑤ Output voltage
05:5V
10:10V
12:12V
12H: 12V (High efficiency type)
15:15V
- ⑥ Optional
R :with Remote ON/OFF
Positive logic control
U :Shut down in protection
circuit working
B :Baseplate option with
mounting hole M3
BC:Baseplate and case option
with mounting hole M3
(only CHS30024)
L2:Pin length 5.3mm
L5:5pins option
(+S,-S,TRM less)
I :with the PMBus interface
(only CHS3004810/4812)

MODEL	CHS3002405	CHS3002412	CHS3002415
MAX OUTPUT WATTAGE[W]	200.0	200.4	202.5
DC OUTPUT	5V 40A	12V 16.7A	15V 13.5A

SPECIFICATIONS

	MODEL	CHS3002405	CHS3002412	CHS3002415
INPUT	VOLTAGE[V]	DC18 - 36		
	CURRENT[A]	*1 8.91typ	9.08typ	9.02typ
	EFFICIENCY[%]	*1 93.5typ	92.0typ	93.5typ
OUTPUT	VOLTAGE[V]	5	12	15
	CURRENT[A]	40	16.7	13.5
	LINE REGULATION[mV]	10max	24max	30max
	LOAD REGULATION[mV]	10max	24max	30max
	RIPPLE	[mVrms] *2 40max	50max	100max
		[mVp-p] *2 120max	150max	280max
	RIPPLE NOISE[mVp-p]	*2 150max	180max	300max
	TEMPERATURE REGULATION[mV]	120max	240max	300max
	DRIFT[mV]	*3 20max	40max	50max
	START-UP TIME[ms]	50max (DCIN 24V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMENT RANGE	*4 Fixed (TRM pin open), adjustable by external resistor -20% / +20%	-20% / +10%	-20% / +5%
	OUTPUT VOLTAGE SETTING	*1 ±1.6%		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating (Auto restart)		
	OVERVOLTAGE PROTECTION	125% - 145% (Auto restart)	115% - 135% (Auto restart)	110% - 130% (Auto restart)
	REMOTE SENSING	Provided		
	REMOTE ON/OFF	Provided (Negative Logic L : ON, H :OFF)		

MODEL	CHS3004810	CHS3004812	CHS3004812H
MAX OUTPUT WATTAGE[W]	300.0	300.0	300.0
DC OUTPUT	10V 30A	12V 25A	12V 25A

SPECIFICATIONS

	MODEL	CHS3004810	CHS3004812	CHS3004812H
INPUT	VOLTAGE[V]	DC36 - 76		
	CURRENT[A]	*1 6.61typ	6.61typ	6.55typ
	EFFICIENCY[%]	*1 94.5typ	94.5typ	95.5typ
OUTPUT	VOLTAGE[V]	10	12	12
	CURRENT[A]	30	25	25
	LINE REGULATION[mV]	*6 20max	24max	24max
	LOAD REGULATION[mV]	*6 20max	24max	24max
	RIPPLE	[mVrms] *2 40max	50max	50max
		[mVp-p] *2 120max	150max	150max
	RIPPLE NOISE[mVp-p]	*2 150max	180max	180max
	TEMPERATURE REGULATION[mV]	200max	240max	240max
	DRIFT[mV]	*3 30max	40max	40max
	START-UP TIME[ms]	50max (DCIN 48V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMENT RANGE	*4 Fixed (TRM pin open), adjustable by external resistor -10% / +10%		
	OUTPUT VOLTAGE SETTING	*1 ±1.6%		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating (Auto restart)		
	OVERVOLTAGE PROTECTION	115% - 135% (Auto restart)		
	REMOTE SENSING	Provided		
	REMOTE ON/OFF	Provided (Negative Logic L : ON, H :OFF)		

GENERAL SPECIFICATIONS

ISOLATION	INPUT-OUTPUT	DC2,250V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20 $\pm$ 15 $^{\circ}$ C)
	INPUT-BASEPLATE *5,*7	DC2,250V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20 $\pm$ 15 $^{\circ}$ C)
	OUTPUT-BASEPLATE *5,*7	AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (20 $\pm$ 15 $^{\circ}$ C)
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-40 to +85 $^{\circ}$ C, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 5,000m (16,000 feet) max
	STORAGE TEMP., HUMID. AND ALTITUDE	-40 to +100 $^{\circ}$ C, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max
	VIBRATION	10 - 55Hz, 49.0m/s ² (5G), 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 (CSA60950-1), EN60950-1
OTHERS	CASE SIZE/WEIGHT	58.4 X 11.0 X 22.86mm [2.3 X 0.43 X 0.9 inches] (W X H X D) / 38g max
		58.9 X 12.7 X 23.26mm [2.32 X 0.5 X 0.92 inches] (W X H X D) / 50g max *5
		61.1 X 14.3 X 26.1 [2.41 X 0.56 X 1.03 inches] (W X H X D) / 57g max *7
	COOLING METHOD	Convection / Forced air / Conduction

*1 At rated input (DC24V, DC48V) and rated load. Ta=25 $^{\circ}$ C, 2m/s.

*2 Ripple and ripple noise is measured by using measuring board with ceramic capacitor 22 μ F.

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

*4 Refer to the instruction manual for input voltage derating.

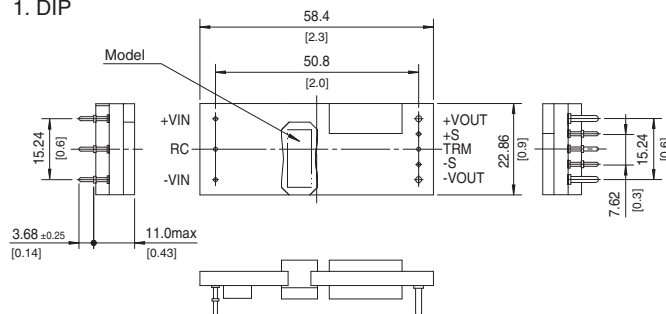
*5 BasePlate Option.

*6 At input voltage DC36 - 76V (CHS3004810, CHS3004812), DC40 - 76V (CHS3004812H).

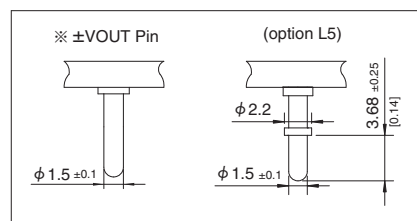
*7 Baseplate and case option.

External view

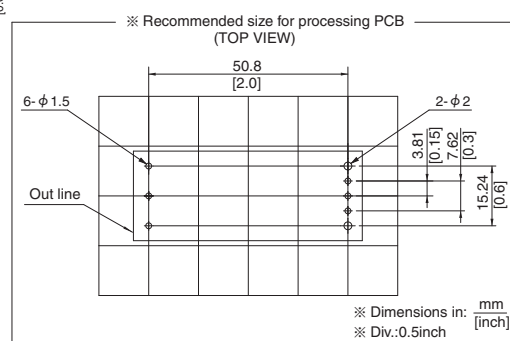
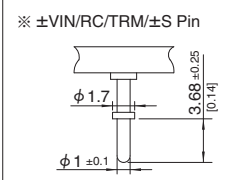
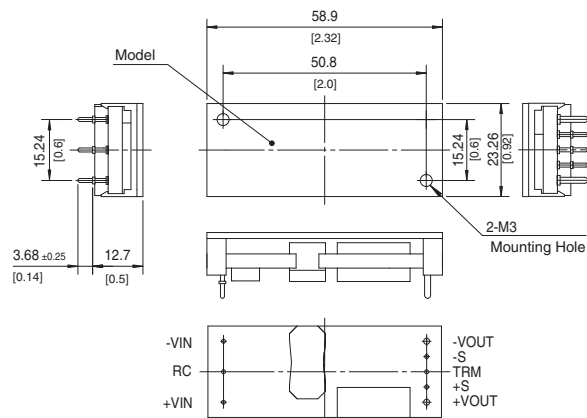
1. DIP



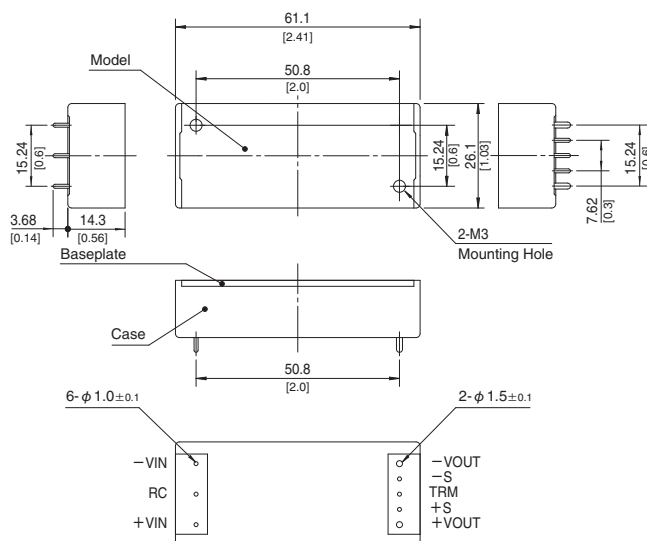
※ Tolerance: ±0.5 [±0.02]
 ※ Dimensions in mm, []=inches



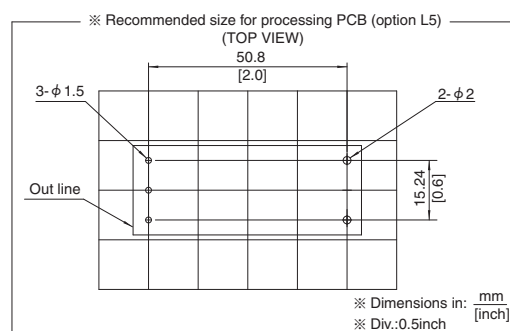
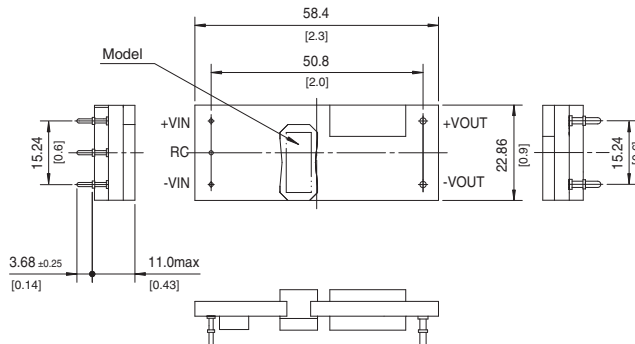
2. BasePlate (optionB)



3. Baseplate and case (option BC)



4. 5pins type (option L5)

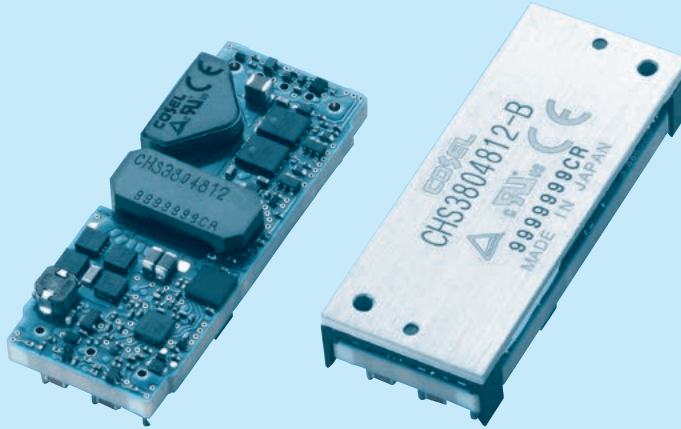
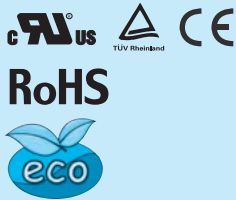


* Please contact us about external view of the PMBus interface (option I).

CHS380

CH S 380 48 12 -□

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output power
- ④ Input voltage
48:DC36 - 76V
- ⑤ Output voltage
10:10V
12:12V
12H:12V(High efficiency type)
- ⑥ Optional
R :with Remote ON/OFF
Positive logic control
U :Shut down in protection
circuit working
B :BasePlate option with
Mounting hole M3
L2:Pin length 5.3mm
L5:5pins type (+S,-S,TRM
less)

MODEL	CHS3804810	CHS3804812	CHS3804812H
MAX OUTPUT WATTAGE[W]	380.0	384.0	384.0
DC OUTPUT	10V 38A	12V 32A	12V 32A

SPECIFICATIONS

	MODEL	CHS3804810	CHS3804812	CHS3804812H
INPUT	VOLTAGE[V]	DC36 - 76		
	CURRENT[A]	*1 8.42typ	8.47typ	8.42typ
	EFFICIENCY[%]	*1 94.0typ	94.5typ	95.0typ
OUTPUT	VOLTAGE[V]	10	12	12
	CURRENT[A]	38	32	32
	LINE REGULATION[mV]	*6 20max	24max	24max
	LOAD REGULATION[mV]	*6 20max	24max	24max
	RIPPLE	[mVrms] *2 40max	50max	60max
		[mVp-p] *2 120max	150max	180max
	RIPPLE NOISE[mVp-p]	*2 150max	180max	200max
	TEMPERATURE REGULATION[mV]	200max	240max	240max
	DRIFT[mV]	*3 30max	40max	40max
	START-UP TIME[ms]	50max (DCIN 48V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMENT RANGE	Fixed (TRIM pin open), adjustable by external resistor -10% / +10%		
	OUTPUT VOLTAGE SETTING	*1 ±1.6%		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating (Auto restart)		
	OVERVOLTAGE PROTECTION	115% - 135% (Auto restart)		
	REMOTE SENSING	Provided		
	REMOTE ON/OFF	Provided (Negative Logic L : ON, H :OFF)		
ISOLATION	INPUT-OUTPUT	DC2,250V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
	INPUT-BASEPLATE	*5 DC2,250V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
	OUTPUT-BASEPLATE	*5 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃)		
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE	-40 to +85℃, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 5,000m (16,000 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 (CSA60950-1), EN60950		
OTHERS	CASE SIZE/WEIGHT	58.4 × 11.0 × 22.86mm [2.3 × 0.43 × 0.9 inches] (W × H × D) / 38g max		
		58.9 × 12.7 × 23.26mm [2.32 × 0.5 × 0.92 inches] (W × H × D) / 50g max *5		
	COOLING METHOD	Convection / Forced air / Conduction		

*1 At rated input (DC48V) and rated load. Ta=25℃, 2m/s.

*2 Ripple and ripple noise is measured by using measuring board with ceramic capacitor 22 μF.

*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.

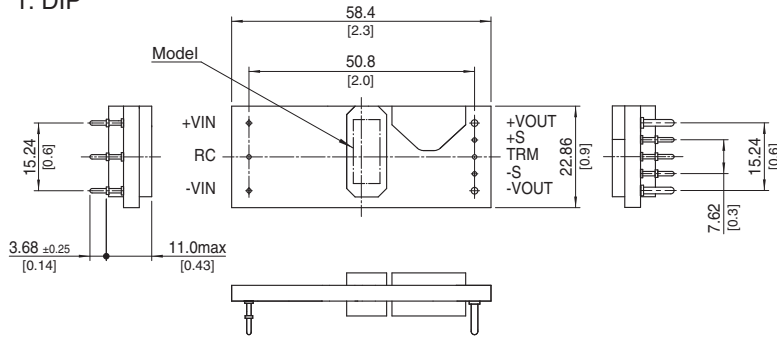
*4 Refer to the instruction manual for input voltage derating.

*5 BasePlate Option.

*6 At input voltage DC36-76V(CHS3804810, CHS3804812), DC40-76V(CHS3804812H).

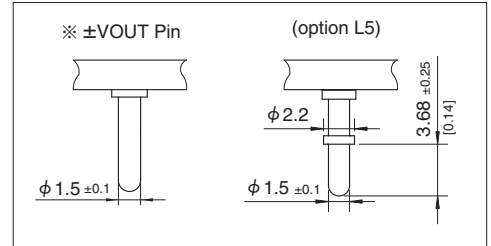
External view

1. DIP

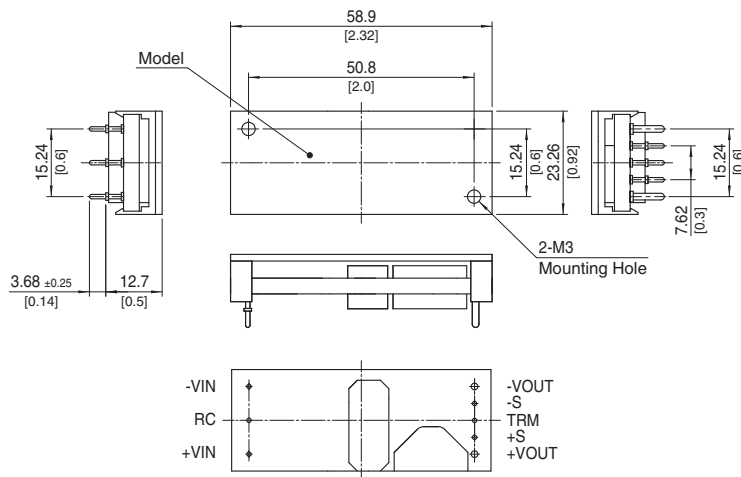


※ Tolerance: ±0.5 [±0.02]

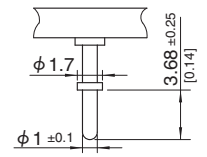
※ Dimensions in mm, []=inches



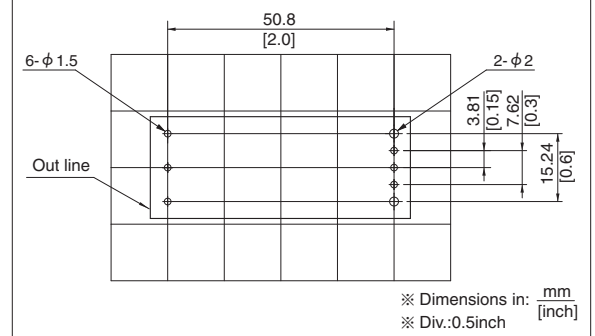
2. BasePlate (optionB)



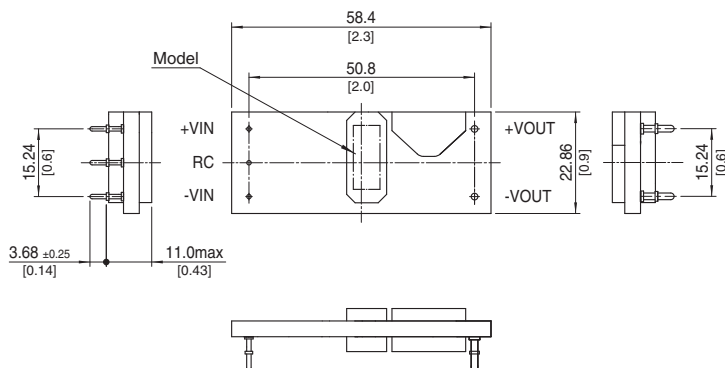
※ ±VIN/RC/TRM/±S Pin



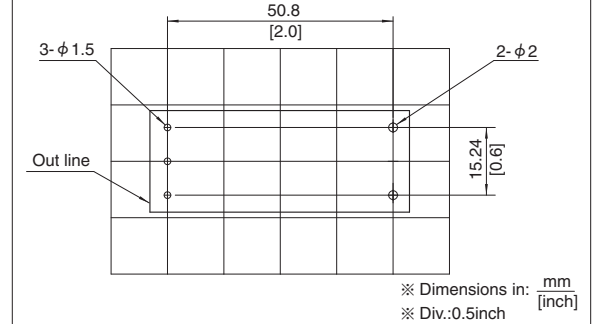
※ Recommended size for processing PCB (TOP VIEW)



3. Parallel operation (option P) 5pins type (option L5)



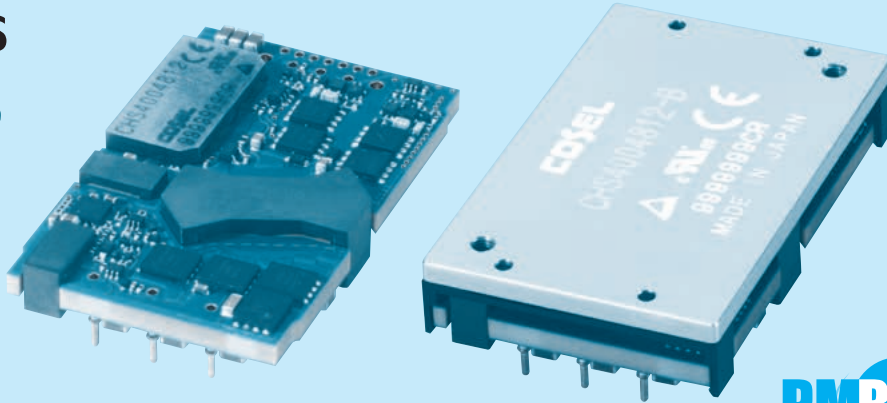
※ Recommended size for processing PCB (option L5) (TOP VIEW)



CHS400

CH S 400 48 12 -□

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output power
- ④ Input voltage
48:DC36 - 76V
- ⑤ Output voltage
10:10V
12:12V
12H:12V(High efficiency type)
- ⑥ Optional
R :with Remote ON/OFF
Positive logic control
U :Shut down in protection
circuit working
B :BasePlate option with
Mounting hole M3
P :Parallel operation (5Pins
:without +S,-S and TRM)
L2:Pin length 5.3mm
L5:5pins type (+S,-S,TRM
less)
I :with the PMBus interface
(Only CHS4004812)

MODEL	CHS4004810	CHS4004812	CHS4004812H
MAX OUTPUT WATTAGE[W]	400.0	396.0	396.0
DC OUTPUT	10V 40A	12V 33A	12V 33A

SPECIFICATIONS

	MODEL	CHS4004810	CHS4004812	CHS4004812H
INPUT	VOLTAGE[V]	DC36 - 76		
	CURRENT[A]	*1 8.82typ	8.68typ	8.64typ
	EFFICIENCY[%]	*1 94.5typ	95typ	95.5typ
OUTPUT	VOLTAGE[V]	10	12	12
	CURRENT[A]	40	33	33
	LINE REGULATION[mV]	*7 20max	24max	24max
	LOAD REGULATION[mV]	*6 *7 20max	24max	24max
	RIPPLE	[mVrms] *2 60max	60max	60max
		[mVp-p] *2 160max	180max	180max
	RIPPLE NOISE[mVp-p]	*2 180max	200max	200max
	TEMPERATURE REGULATION[mV]	200max	240max	240max
	DRIFT[mV]	*3 30max	40max	40max
	START-UP TIME[ms]	50max (DCIN 48V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed (TRM pin open), adjustable by external resistor (N/A : parallel operation)		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating (Auto restart)		
	OVERVOLTAGE PROTECTION	115% - 135% (Auto restart)		
	REMOTE SENSING	Provided (N/A : parallel operation)		
	REMOTE ON/OFF	Provided (Negative Logic L : ON, H : OFF)		
ISOLATION	INPUT-OUTPUT	DC2,250V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
	INPUT-BASEPLATE	*5 DC2,250V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
	OUTPUT-BASEPLATE	*5 AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE	-40 to +85℃, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 5,000m (16,000 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/s ² (5G), 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 (CSA60950-1), EN60950		
OTHERS	CASE SIZE/WEIGHT	58.4×9.5×36.8mm [2.3×0.37×1.45 inches] / 60g max		
	COOLING METHOD	58.9×12.7×37.3mm [2.32×0.5×1.47 inches] (W×H×D) / 90g max *5 Convection / Forced air / Conduction		

*1 At rated input (DC48V) and rated load. Ta=25℃, 2m/s.

*2 Ripple and ripple noise is measured by using measuring board with ceramic capacitor 22 μF.

*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 instruction manual for input voltage derating.

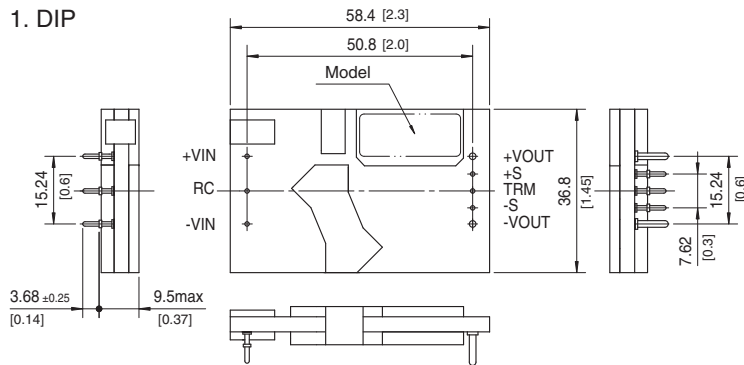
*5 BasePlate Option.

*6 Parallel operation Option is not included.

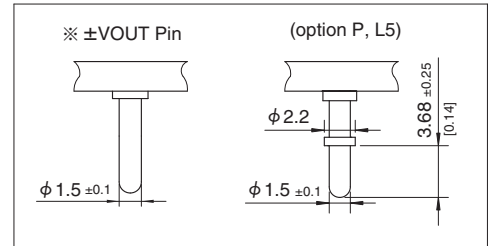
*7 At input voltage DC36-76V(CHS4004810, CHS4004812), DC40-76V(CHS4004812H).

External view

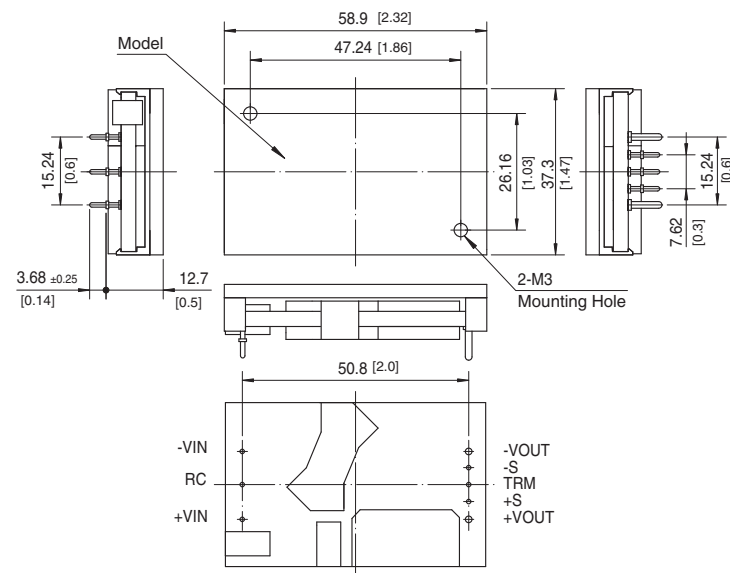
1. DIP



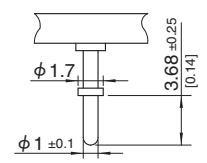
※ Tolerance: ± 0.5 [± 0.02]
 ※ Dimensions in mm, []=inches



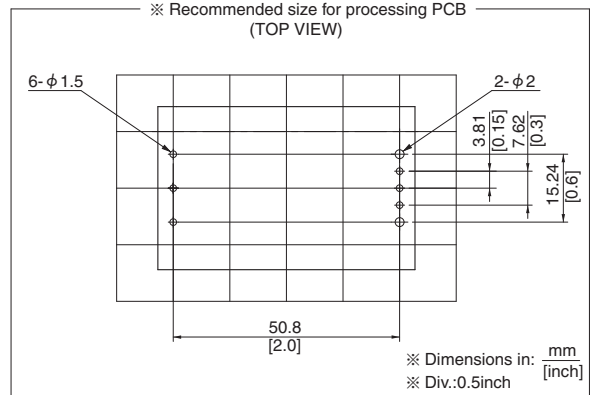
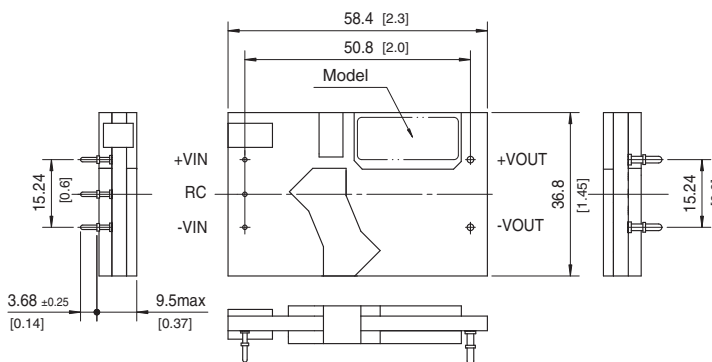
2. BasePlate (optionB)



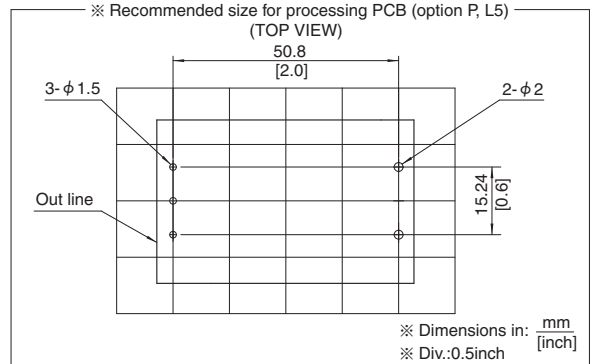
※ $\pm$ VIN/RC/TRM/ $\pm$ S Pin



※ Recommended size for processing PCB
 (TOP VIEW)

3. Parallel operation (option P)
5pins type (option L5)

※ Recommended size for processing PCB (option P, L5)
 (TOP VIEW)

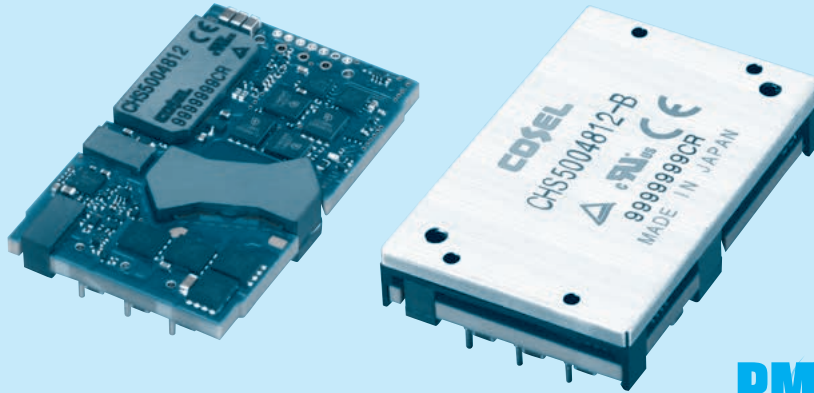
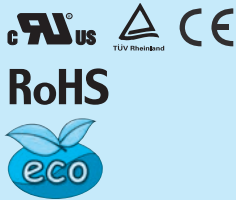


*Please contact us about external view of the PMBus interface (option I).

CHS500

CH S 500 48 12 - ☐

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output power
- ④ Input voltage
48:DC36 - 76V
- ⑤ Output voltage
12:12V
- ⑥ Optional
 - R :with Remote ON/OFF
Positive logic control
 - U :Shut down in protection
circuit working
 - B :BasePlate option with
Mounting hole M3
 - P :Parallel operation (5Pins
:without +S,-S and TRM)
 - L2:Pin length 5.3mm
 - L5:5pins type (+S,-S,TRM
less)
 - I :with the PMBus interface
(Only CHS5004812)

MODEL	CHS5004812
MAX OUTPUT WATTAGE[W]	504.0
DC OUTPUT	12V 42A

SPECIFICATIONS

	MODEL	CHS5004812
INPUT	VOLTAGE[V]	DC36 - 76
	CURRENT[A]	*1 11.06typ
	EFFICIENCY[%]	*1 95typ
OUTPUT	VOLTAGE[V]	12
	CURRENT[A]	42
	LINE REGULATION[mV]	24max
	LOAD REGULATION[mV]	*6 24max
	RIPPLE	[mVrms] *2 60max
		[mVp-p] *2 180max
	RIPPLE NOISE[mVp-p]	*2 200max
	TEMPERATURE REGULATION[mV]	240max
	DRIFT[mV]	*3 40max
	START-UP TIME[ms]	50max (DCIN 48V, Io=100%)
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating (Auto restart)
	OVERVOLTAGE PROTECTION	115% - 135% (Auto restart)
	REMOTE SENSING	Provided (N/A : parallel operation)
	REMOTE ON/OFF	Provided (Negative Logic L : ON, H : OFF)
ISOLATION	INPUT-OUTPUT	DC2,250V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)
	INPUT-BASEPLATE	*5 DC2,250V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)
	OUTPUT-BASEPLATE	*5 AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE	-40 to +85℃, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 5,000m (16,000 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/s ² (5G), 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 (CSA60950-1), EN60950
OTHERS	CASE SIZE/WEIGHT	58.4×9.5×36.8mm [2.3×0.37×1.45 inches] / 60g max
	COOLING METHOD	58.9×12.7×37.3mm [2.32×0.5×1.47 inches] (W×H×D) / 90g max *5 Convection / Forced air / Conduction

*1 At rated input (DC48V) and rated load. Ta=25℃, 2m/s.

*2 Ripple and ripple noise is measured by using measuring board with ceramic capacitor 22 μF.

*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.

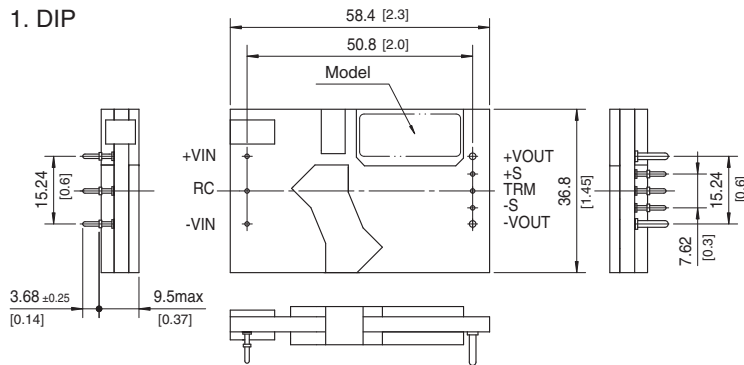
*4 Refer to the instruction manual for input voltage derating.

*5 BasePlate Option.

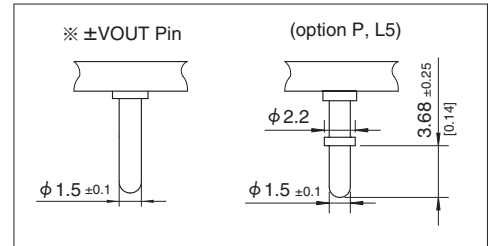
*6 Parallel operation Option is not included.

External view

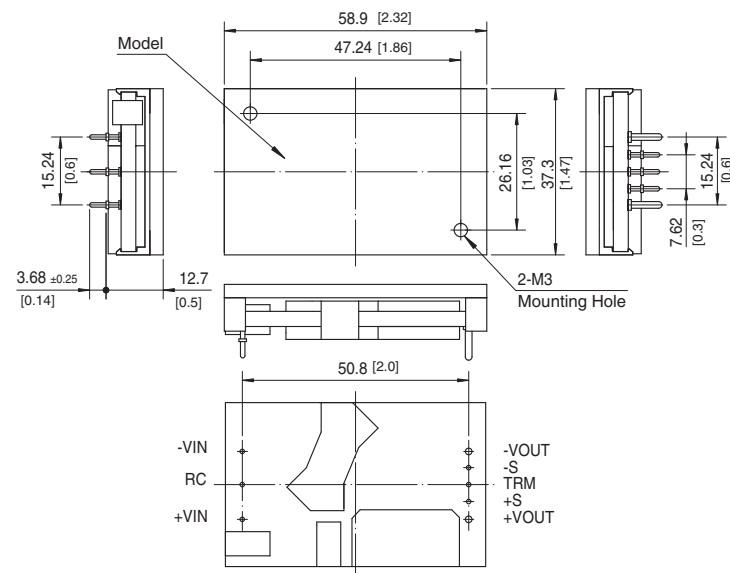
1. DIP



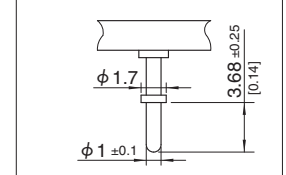
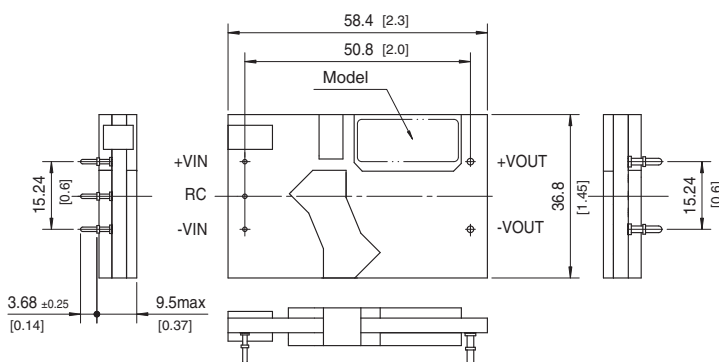
※ Tolerance: ± 0.5 [± 0.02]
 ※ Dimensions in mm, []=inches



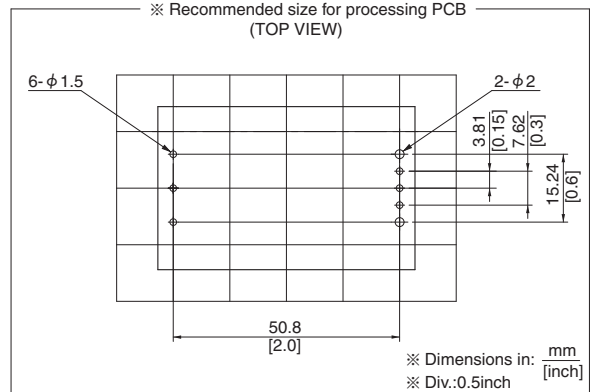
2. BasePlate (optionB)



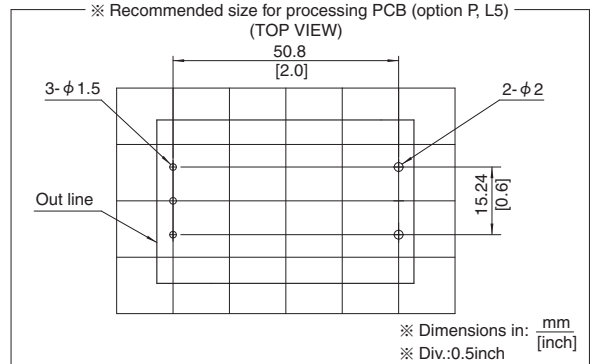
※ $\pm$ VIN/RC/TRM/ $\pm$ S Pin

3. Parallel operation (option P)
5pins type (option L5)

※ Recommended size for processing PCB
(TOP VIEW)



※ Recommended size for processing PCB (option P, L5)
(TOP VIEW)



*Please contact us about external view of the PMBus interface (option I).