



- ① Series name
- ② Single output
- ③ Output wattage
- ④ Input voltage  
24:DC18 - 36V  
48:DC36 - 76V
- ⑤ Output voltage
- ⑥ Optional  
R :with Remote ON/OFF  
Positive logic control  
T :with Mounting hole  
φ 3.4 thru  
□ :with Addition of a  
Heat sink

MODEL	CBS50241R8	CBS50242R5	CBS502403	CBS502405	CBS502412	CBS502415	CBS502424	CBS502428
MAX OUTPUT WATTAGE[W]	21.06	29.25	38.6	50.0	50.4	51.0	50.4	50.4
DC OUTPUT	1.8V 11.7A	2.5V 11.7A	3.3V 11.7A	5V 10A	12V 4.2A	15V 3.4A	24V 2.1A	28V 1.8A

### SPECIFICATIONS

	MODEL	CBS50241R8	CBS50242R5	CBS502403	CBS502405	CBS502412	CBS502415	CBS502424	CBS502428	
INPUT	VOLTAGE[V]	DC18 - 36								
	CURRENT[A]	1.24typ	1.58typ	2.04typ	2.48typ	2.39typ	2.44typ	2.41typ	2.41typ	
	EFFICIENCY[%]	71typ	77typ	79typ	84typ	88typ	87typ	87typ	87typ	
OUTPUT	VOLTAGE[V]	1.8	2.5	3.3	5	12	15	24	28	
	CURRENT[A]	11.7	11.7	11.7	10	4.2	3.4	2.1	1.8	
	LINE REGULATION[mV]	10max	10max	10max	10max	24max	30max	48max	56max	
	LOAD REGULATION[mV]	10max	10max	10max	10max	24max	30max	48max	56max	
	RIPPLE[mVp-p]	-20 to +100°C	80max	80max	80max	80max	120max	120max	120max	120max
		-40 to -20°C	120max	120max	120max	120max	150max	150max	150max	150max
	RIPPLE NOISE[mVp-p]	-20 to +100°C	120max	120max	120max	120max	150max	150max	150max	150max
		-40 to -20°C	200max	200max	200max	200max	200max	200max	250max	250max
	TEMPERATURE REGULATION[mV]	0 to +65°C	35max	35max	35max	50max	120max	150max	240max	280max
		-40 to +100°C	66max	66max	66max	100max	240max	300max	480max	560max
DRIFT[mV]	16max	16max	16max	20max	40max	60max	90max	90max		
START-UP TIME[ms]	200max (DCIN 24V, I <sub>o</sub> =100%)									
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed (TRM pin open), adjustable by external resistor									
OUTPUT VOLTAGE SETTING[V]	1.70 - 1.98	1.98 - 2.75	1.98 - 3.63	3.0 - 5.5	7.2 - 13.2	9.0 - 16.5	14.4 - 26.4	16.8 - 30.8		
OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically									
OVERVOLTAGE PROTECTION[V]	2.16 - 2.88	3.00 - 4.00	4.00 - 5.50	5.75 - 7.00	13.80 - 16.80	17.25 - 21.00	27.60 - 33.60	32.20 - 39.20		
REMOTE SENSING	Provided									
REMOTE ON/OFF	Provided (Negative logic L : ON, H : OFF)									

MODEL	CBS50481R8	CBS50482R5	CBS504803	CBS504805	CBS504812	CBS504815	CBS504824	CBS504828
MAX OUTPUT WATTAGE[W]	21.06	29.25	38.6	50.0	50.4	51.0	50.4	50.4
DC OUTPUT	1.8V 11.7A	2.5V 11.7A	3.3V 11.7A	5V 10A	12V 4.2A	15V 3.4A	24V 2.1A	28V 1.8A

### SPECIFICATIONS

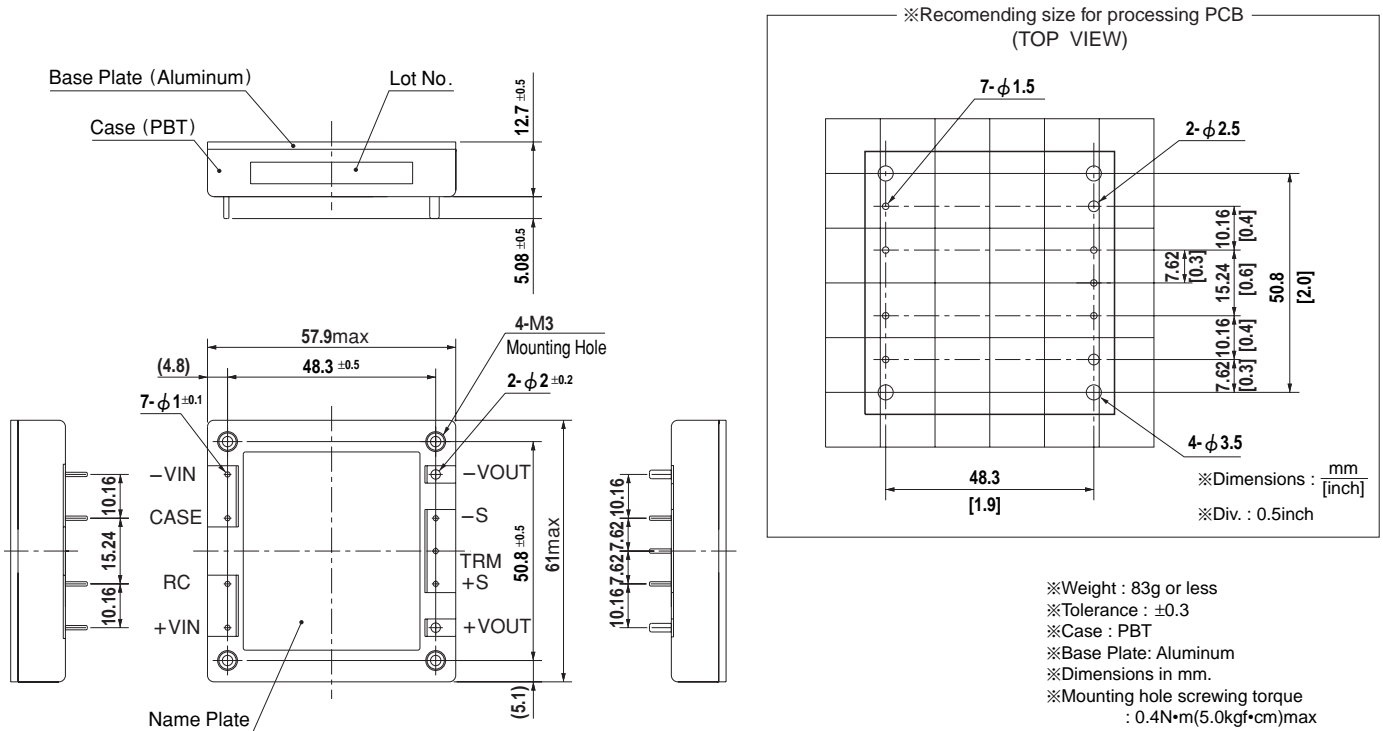
	MODEL	CBS50481R8	CBS50482R5	CBS504803	CBS504805	CBS504812	CBS504815	CBS504824	CBS504828	
INPUT	VOLTAGE[V]	DC36 - 76								
	CURRENT[A]	0.62typ	0.79typ	1.01typ	1.23typ	1.18typ	1.21typ	1.19typ	1.19typ	
	EFFICIENCY[%]	71typ	77typ	80typ	85typ	89typ	88typ	88typ	88typ	
OUTPUT	VOLTAGE[V]	1.8	2.5	3.3	5	12	15	24	28	
	CURRENT[A]	11.7	11.7	11.7	10	4.2	3.4	2.1	1.8	
	LINE REGULATION[mV]	10max	10max	10max	10max	24max	30max	48max	56max	
	LOAD REGULATION[mV]	10max	10max	10max	10max	24max	30max	48max	56max	
	RIPPLE[mVp-p]	-20 to +100°C	80max	80max	80max	80max	120max	120max	120max	120max
		-40 to -20°C	120max	120max	120max	120max	150max	150max	150max	150max
	RIPPLE NOISE[mVp-p]	-20 to +100°C	120max	120max	120max	120max	150max	150max	150max	150max
		-40 to -20°C	200max	200max	200max	200max	200max	200max	250max	250max
	TEMPERATURE REGULATION[mV]	0 to +65°C	35max	35max	35max	50max	120max	150max	240max	280max
		-40 to +100°C	66max	66max	66max	100max	240max	300max	480max	560max
DRIFT[mV]	16max	16max	16max	20max	40max	60max	90max	90max		
START-UP TIME[ms]	200max (DCIN 48V, I <sub>o</sub> =100%)									
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed (TRM pin open), adjustable by external resistor									
OUTPUT VOLTAGE SETTING[V]	1.70 - 1.98	1.98 - 2.75	1.98 - 3.63	3.0 - 5.5	7.2 - 13.2	9.0 - 16.5	14.4 - 26.4	16.8 - 30.8		
OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically									
OVERVOLTAGE PROTECTION[V]	2.16 - 2.88	3.00 - 4.00	4.00 - 5.50	5.75 - 7.00	13.80 - 16.80	17.25 - 21.00	27.60 - 33.60	32.20 - 39.20		
REMOTE SENSING	Provided									
REMOTE ON/OFF	Provided (Negative logic L : ON, H : OFF)									

GENERAL SPECIFICATIONS

ISOLATION	INPUT-OUTPUT	DC1,500V or AC1,000V 1minute. Cutoff current = 10mA, DC500V 50M $\Omega$ min(20 $\pm$ 15 $^{\circ}$ C)
	INPUT-CASE PIN, BASE PLATE	DC1,500V or AC1,000V 1minute. Cutoff current = 10mA, DC500V 50M $\Omega$ min(20 $\pm$ 15 $^{\circ}$ C)
	OUTPUT-CASE PIN, BASE PLATE	AC500V 1minute. Cutoff current = 100mA, DC500V 50M $\Omega$ min (20 $\pm$ 15 $^{\circ}$ C)
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-40 to +100 $^{\circ}$ C (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) 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, EN60950-1
OTHERS	CASE SIZE/WEIGHT	57.9 $\times$ 12.7 $\times$ 61.0mm (W $\times$ H $\times$ D) / 83g max
	COOLING METHOD	Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)

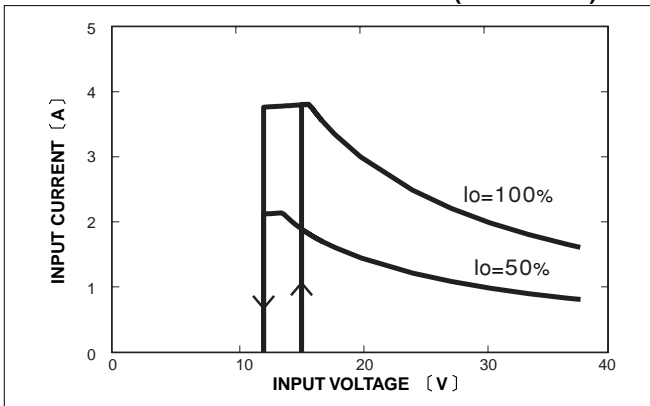
- \*1 At rated input(DC24V,DC48V) and rated load.
- \*2 Ripple and ripple noise is measured by using measuring board with recommended capacitor Co & the film capacitor 0.1  $\mu$ F. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN:RM101).
- \*3 Drift is the change in 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 When the input voltage is in the range of DC18 - 20V, DC36 - 40V, output voltage adjustment range is 60 - 105% (except for 1R8/2R5).

External view

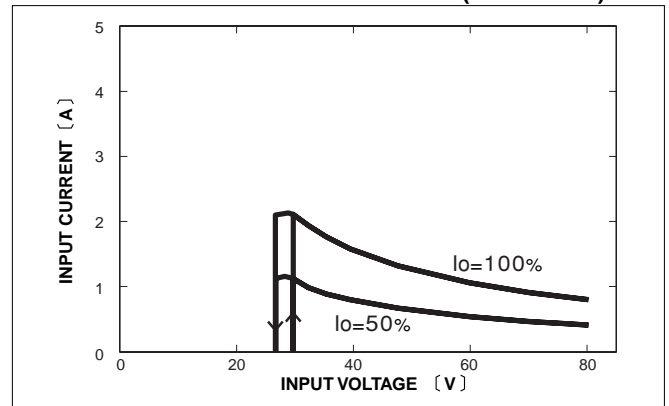


Performance data

INPUT CURRENT CHARACTERISTICS (CBS502428)



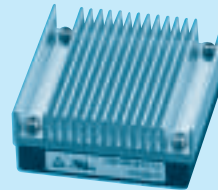
INPUT CURRENT CHARACTERISTICS (CBS504828)



# CBS100

**CB S 100 48 12 - □**

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output wattage
- ④ Input voltage  
24:DC18 - 36V  
48:DC36 - 76V
- ⑤ Output voltage
- ⑥ Optional  
R :with Remote ON/OFF  
Positive logic control  
T :with Mounting hole  
φ 3.4 thru  
□ :with Addition of a  
Heat sink

MODEL	CBS100241R8	CBS100242R5	CBS1002403	CBS1002405	CBS1002412	CBS1002415	CBS1002424	CBS1002428
MAX OUTPUT WATTAGE[W]	42.12	58.50	77.2	100.0	100.8	100.5	100.8	100.8
DC OUTPUT	1.8V 23.4A	2.5V 23.4A	3.3V 23.4A	5V 20A	12V 8.4A	15V 6.7A	24V 4.2A	28V 3.6A

## SPECIFICATIONS

	MODEL	CBS100241R8	CBS100242R5	CBS1002403	CBS1002405	CBS1002412	CBS1002415	CBS1002424	CBS1002428	
INPUT	VOLTAGE[V]	DC18 - 36								
	CURRENT[A]	2.47typ	3.17typ	4.07typ	5.02typ	4.77typ	4.81typ	4.83typ	4.83typ	
	EFFICIENCY[%]	71typ	77typ	79typ	83typ	88typ	87typ	87typ	87typ	
OUTPUT	VOLTAGE[V]	1.8	2.5	3.3	5	12	15	24	28	
	CURRENT[A]	23.4	23.4	23.4	20	8.4	6.7	4.2	3.6	
	LINE REGULATION[mV]	10max	10max	10max	10max	24max	30max	48max	56max	
	LOAD REGULATION[mV]	10max	10max	10max	10max	24max	30max	48max	56max	
	RIPPLE[mVp-p]	-20 to +100°C	80max	80max	80max	80max	120max	120max	120max	120max
		-40 to -20°C	120max	120max	120max	120max	150max	150max	150max	150max
	RIPPLE NOISE[mVp-p]	-20 to +100°C	120max	120max	120max	120max	150max	150max	150max	150max
		-40 to -20°C	200max	200max	200max	200max	200max	200max	250max	250max
	TEMPERATURE REGULATION[mV]	0 to +65°C	35max	35max	35max	50max	120max	150max	240max	280max
		-40 to +100°C	66max	66max	66max	100max	240max	300max	480max	560max
DRIFT[mV]	16max	16max	16max	20max	40max	60max	90max	90max		
START-UP TIME[ms]	200max (DCIN 24V, I <sub>o</sub> =100%)									
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed (TRM pin open), adjustable by external resistor									
OUTPUT VOLTAGE SETTING[V]	1.70 - 1.98	1.98 - 2.75	1.98 - 3.63	3.0 - 5.5	7.2 - 13.2	9.0 - 16.5	14.4 - 26.4	16.8 - 30.8		
OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically									
OVERVOLTAGE PROTECTION[V]	2.16 - 2.88	3.00 - 4.00	4.00 - 5.50	5.75 - 7.00	13.80 - 16.80	17.25 - 21.00	27.60 - 33.60	32.20 - 39.20		
REMOTE SENSING	Provided									
REMOTE ON/OFF	Provided (Negative logic L : ON, H : OFF)									

MODEL	CBS100481R8	CBS100482R5	CBS1004803	CBS1004805	CBS1004812	CBS1004815	CBS1004824	CBS1004828
MAX OUTPUT WATTAGE[W]	42.12	58.50	77.2	100.0	100.8	100.5	100.8	100.8
DC OUTPUT	1.8V 23.4A	2.5V 23.4A	3.3V 23.4A	5V 20A	12V 8.4A	15V 6.7A	24V 4.2A	28V 3.6A

## SPECIFICATIONS

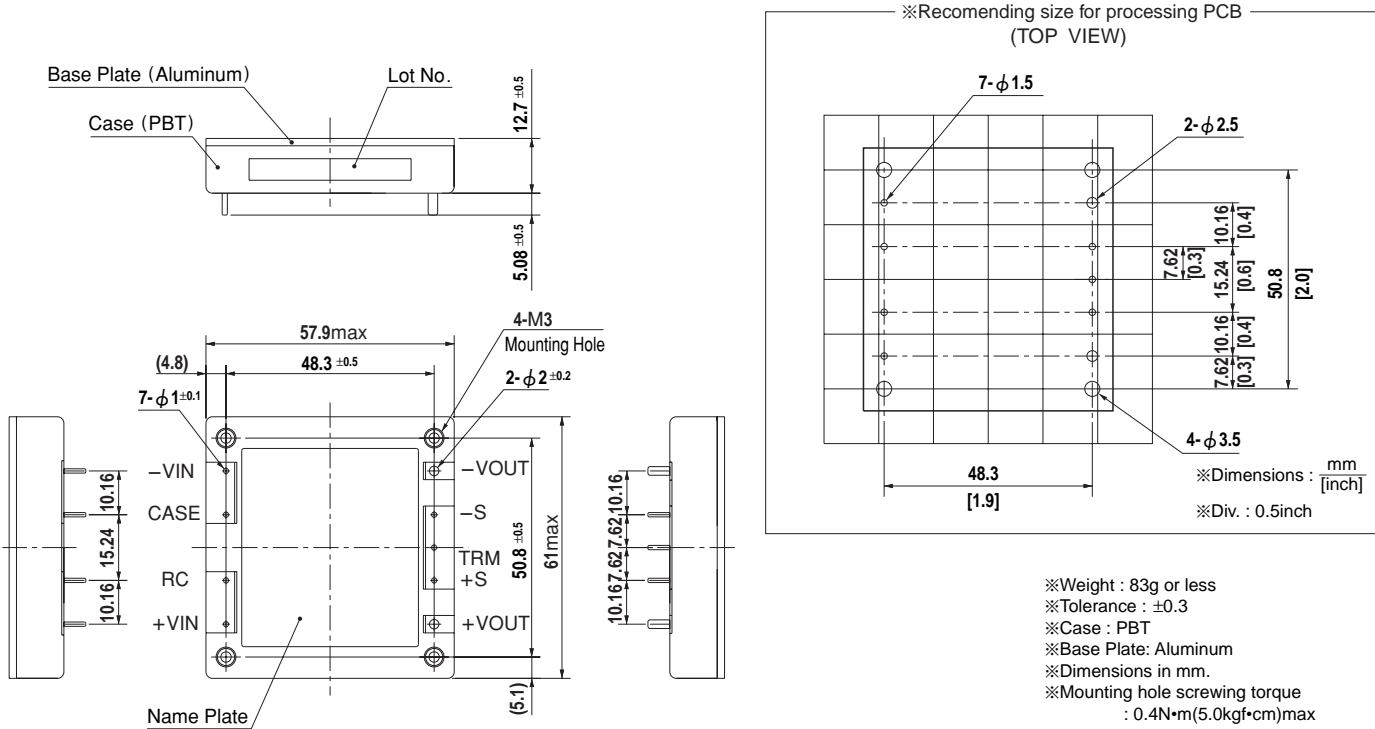
	MODEL	CBS100481R8	CBS100482R5	CBS1004803	CBS1004805	CBS1004812	CBS1004815	CBS1004824	CBS1004828	
INPUT	VOLTAGE[V]	DC36 - 76								
	CURRENT[A]	1.24typ	1.58typ	2.01typ	2.48typ	2.36typ	2.38typ	2.39typ	2.39typ	
	EFFICIENCY[%]	71typ	77typ	80typ	84typ	89typ	88typ	88typ	88typ	
OUTPUT	VOLTAGE[V]	1.8	2.5	3.3	5	12	15	24	28	
	CURRENT[A]	23.4	23.4	23.4	20	8.4	6.7	4.2	3.6	
	LINE REGULATION[mV]	10max	10max	10max	10max	24max	30max	48max	56max	
	LOAD REGULATION[mV]	10max	10max	10max	10max	24max	30max	48max	56max	
	RIPPLE[mVp-p]	-20 to +100°C	80max	80max	80max	80max	120max	120max	120max	120max
		-40 to -20°C	120max	120max	120max	120max	150max	150max	150max	150max
	RIPPLE NOISE[mVp-p]	-20 to +100°C	120max	120max	120max	120max	150max	150max	150max	150max
		-40 to -20°C	200max	200max	200max	200max	200max	200max	250max	250max
	TEMPERATURE REGULATION[mV]	0 to +65°C	35max	35max	35max	50max	120max	150max	240max	280max
		-40 to +100°C	66max	66max	66max	100max	240max	300max	480max	560max
DRIFT[mV]	16max	16max	16max	20max	40max	60max	90max	90max		
START-UP TIME[ms]	200max (DCIN 48V, I <sub>o</sub> =100%)									
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed (TRM pin open), adjustable by external resistor									
OUTPUT VOLTAGE SETTING[V]	1.70 - 1.98	1.98 - 2.75	1.98 - 3.63	3.0 - 5.5	7.2 - 13.2	9.0 - 16.5	14.4 - 26.4	16.8 - 30.8		
OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically									
OVERVOLTAGE PROTECTION[V]	2.16 - 2.88	3.00 - 4.00	4.00 - 5.50	5.75 - 7.00	13.80 - 16.80	17.25 - 21.00	27.60 - 33.60	32.20 - 39.20		
REMOTE SENSING	Provided									
REMOTE ON/OFF	Provided (Negative logic L : ON, H : OFF)									

GENERAL SPECIFICATIONS

ISOLATION	INPUT-OUTPUT	DC1,500V or AC1,000V 1minute. Cutoff current = 10mA, DC500V 50MΩ min(20±15°C)
	INPUT-CASE PIN, BASE PLATE	DC1,500V or AC1,000V 1minute. Cutoff current = 10mA, DC500V 50MΩ min(20±15°C)
	OUTPUT-CASE PIN, BASE PLATE	AC500V 1minute. Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-40 to +100°C (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max
	STORAGE TEMP., HUMID. AND ALTITUDE	-40 to +100°C, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max
	VIBRATION	10 - 55Hz, 49.0m/s <sup>2</sup> (5G), 3minutes period, 60minutes each along X, Y and Z axis
SAFETY	IMPACT	196.1m/s <sup>2</sup> (20G), 11ms, once each along X, Y and Z axis
	AGENCY APPROVALS	UL60950-1, C-UL, EN60950-1
OTHERS	CASE SIZE/WEIGHT	57.9×12.7×61.0mm (W×H×D) / 83g max
	COOLING METHOD	Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)

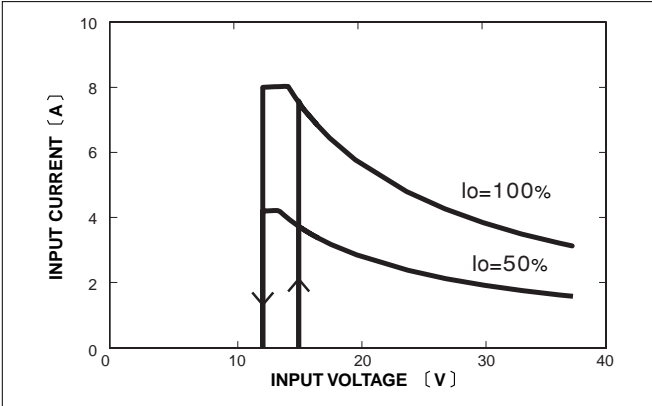
- \*1 At rated input(DC24V,DC48V) and rated load.
- \*2 Ripple and ripple noise is measured by using measuring board with recommended capacitor Co & the film capacitor 0.1 μF. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN:RM101).
- \*3 Drift is the change in DC output 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 When the input voltage is in the range of DC18 - 20V, DC36 - 40V output voltage adjustment range is 60 - 105% (except for 1R8/2R5).

External view

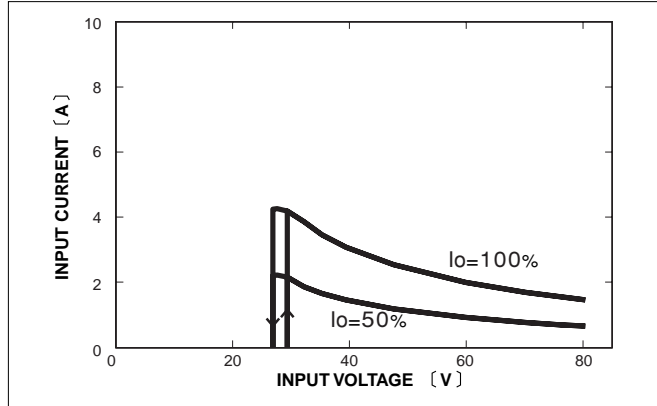


Performance data

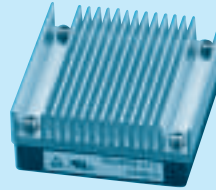
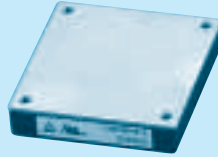
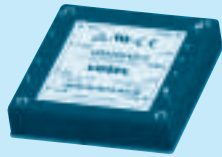
INPUT CURRENT CHARACTERISTICS (CBS1002428)



INPUT CURRENT CHARACTERISTICS (CBS1004828)



CBS



- ① Series name
- ② Single output
- ③ Output wattage
- ④ Input voltage  
24:DC18 - 36V  
48:DC36 - 76V
- ⑤ Output voltage
- ⑥ Optional  
R :with Remote ON/OFF  
Positive logic control  
T :with Mounting hole  
φ3.4 thru  
□:with Addition of a  
Heat sink

MODEL	CBS200241R8	CBS200242R5	CBS2002403	CBS2002405	CBS2002412	CBS2002415	CBS2002424	CBS2002428
<b>MAX OUTPUT WATTAGE[W]</b>	<b>63.00</b>	<b>87.50</b>	<b>115.5</b>	<b>150.0</b>	<b>200.4</b>	<b>201.0</b>	<b>201.6</b>	<b>201.6</b>
<b>DC OUTPUT</b>	<b>1.8V 35A</b>	<b>2.5V 35A</b>	<b>3.3V 35A</b>	<b>5V 30A</b>	<b>12V 16.7A</b>	<b>15V 13.4A</b>	<b>24V 8.4A</b>	<b>28V 7.2A</b>

### SPECIFICATIONS

	MODEL	CBS200241R8	CBS200242R5	CBS2002403	CBS2002405	CBS2002412	CBS2002415	CBS2002424	CBS2002428	
<b>INPUT</b>	<b>VOLTAGE[V]</b>	DC18 - 36								
	<b>CURRENT[A]</b> *1	3.75typ	4.80typ	6.09typ	7.62typ	9.60typ	9.63typ	9.66typ	9.66typ	
	<b>EFFICIENCY[%]</b> *1	70typ	76typ	79typ	82typ	87typ	87typ	87typ	87typ	
<b>OUTPUT</b>	<b>VOLTAGE[V]</b>	1.8	2.5	3.3	5	12	15	24	28	
	<b>CURRENT[A]</b>	35	35	35	30	16.7	13.4	8.4	7.2	
	<b>LINE REGULATION[mV]</b>	10max	10max	10max	10max	24max	30max	48max	56max	
	<b>LOAD REGULATION[mV]</b>	10max	10max	10max	10max	24max	30max	48max	56max	
	<b>RIPPLE[mVp-p]</b>	-20 to +100°C *2	80max	80max	80max	80max	120max	120max	120max	120max
		-40 to -20°C *2	120max	120max	120max	120max	150max	150max	150max	150max
	<b>RIPPLE NOISE[mVp-p]</b>	-20 to +100°C *2	120max	120max	120max	120max	150max	150max	150max	150max
		-40 to -20°C *2	200max	200max	200max	200max	200max	200max	250max	250max
	<b>TEMPERATURE REGULATION[mV]</b>	0 to +65°C	35max	35max	35max	50max	120max	150max	240max	280max
		-40 to +100°C	66max	66max	66max	100max	240max	300max	480max	560max
<b>DRIFT[mV]</b> *3	16max	16max	16max	20max	40max	60max	90max	90max		
<b>START-UP TIME[ms]</b>	200max (DCIN 24V, Io=100%)									
<b>OUTPUT VOLTAGE ADJUSTMENT RANGE[V]</b> *4	Fixed (TRM pin open), adjustable by external resistor									
<b>OUTPUT VOLTAGE SETTING[V]</b>	1.70 - 1.98	1.98 - 2.75	1.98 - 3.63	3.0 - 5.5	7.2 - 13.2	9.0 - 16.5	14.4 - 26.4	16.8 - 30.8		
<b>OVERCURRENT PROTECTION</b>	Works over 105% of rating and recovers automatically									
<b>OVERVOLTAGE PROTECTION[V]</b>	2.16 - 2.88	3.00 - 4.00	4.00 - 5.50	5.75 - 7.00	13.80 - 16.80	17.25 - 21.00	27.60 - 33.60	32.20 - 39.20		
<b>REMOTE SENSING</b>	Provided									
<b>REMOTE ON/OFF</b>	Provided (Negative logic L : ON, H : OFF)									

MODEL	CBS200481R8	CBS200482R5	CBS2004803	CBS2004805	CBS2004812	CBS2004815	CBS2004824	CBS2004828	CBS2004848
<b>MAX OUTPUT WATTAGE[W]</b>	<b>63.00</b>	<b>87.50</b>	<b>115.5</b>	<b>150.0</b>	<b>200.4</b>	<b>201.0</b>	<b>201.6</b>	<b>201.6</b>	<b>201.6</b>
<b>DC OUTPUT</b>	<b>1.8V 35A</b>	<b>2.5V 35A</b>	<b>3.3V 35A</b>	<b>5V 30A</b>	<b>12V 16.7A</b>	<b>15V 13.4A</b>	<b>24V 8.4A</b>	<b>28V 7.2A</b>	<b>48V 4.2A</b>

### SPECIFICATIONS

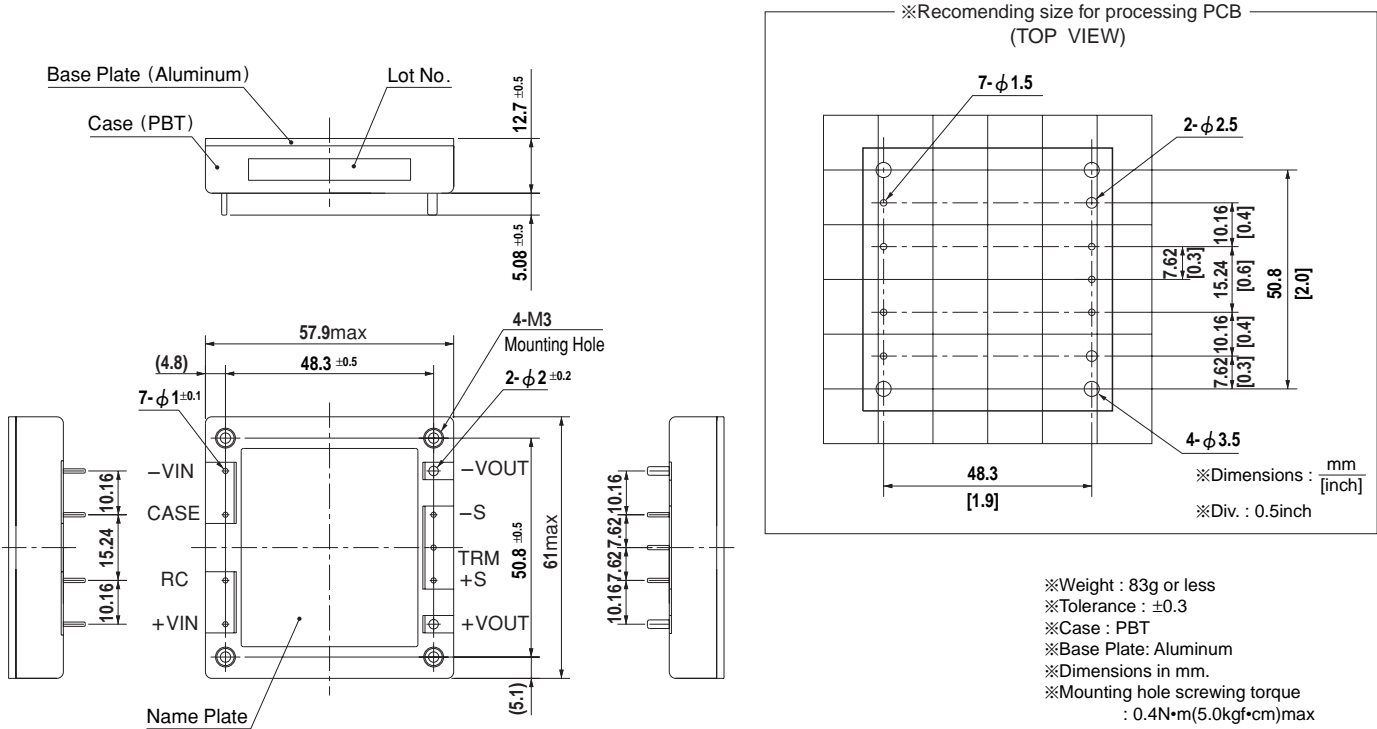
	MODEL	CBS200481R8	CBS200482R5	CBS2004803	CBS2004805	CBS2004812	CBS2004815	CBS2004824	CBS2004828	CBS2004848	
<b>INPUT</b>	<b>VOLTAGE[V]</b>	DC36 - 76									
	<b>CURRENT[A]</b> *1	1.88typ	2.40typ	3.01typ	3.77typ	4.74typ	4.76typ	4.77typ	4.77typ	4.77typ	
	<b>EFFICIENCY[%]</b> *1	70typ	76typ	80typ	83typ	88typ	88typ	88typ	88typ	88typ	
<b>OUTPUT</b>	<b>VOLTAGE[V]</b>	1.8	2.5	3.3	5	12	15	24	28	48	
	<b>CURRENT[A]</b>	35	35	35	30	16.7	13.4	8.4	7.2	4.2	
	<b>LINE REGULATION[mV]</b>	10max	10max	10max	10max	24max	30max	48max	56max	96max	
	<b>LOAD REGULATION[mV]</b>	10max	10max	10max	10max	24max	30max	48max	56max	96max	
	<b>RIPPLE[mVp-p]</b>	-20 to +100°C *2	80max	80max	80max	80max	120max	120max	120max	120max	200max
		-40 to -20°C *2	120max	120max	120max	120max	150max	150max	150max	150max	250max
	<b>RIPPLE NOISE[mVp-p]</b>	-20 to +100°C *2	120max	120max	120max	120max	150max	150max	150max	150max	250max
		-40 to -20°C *2	200max	200max	200max	200max	200max	200max	250max	250max	400max
	<b>TEMPERATURE REGULATION[mV]</b>	0 to +65°C	35max	35max	35max	50max	120max	150max	240max	280max	480max
		-40 to +100°C	66max	66max	66max	100max	240max	300max	480max	560max	960max
<b>DRIFT[mV]</b> *3	16max	16max	16max	20max	40max	60max	90max	90max	180max		
<b>START-UP TIME[ms]</b>	200max (DCIN 48V, Io=100%)										
<b>OUTPUT VOLTAGE ADJUSTMENT RANGE[V]</b> *4	Fixed (TRM pin open), adjustable by external resistor										
<b>OUTPUT VOLTAGE SETTING[V]</b>	1.70 - 1.98	1.98 - 2.75	1.98 - 3.63	3.0 - 5.5	7.2 - 13.2	9.0 - 16.5	14.4 - 26.4	16.8 - 30.8	43.2 - 52.8		
<b>OVERCURRENT PROTECTION</b>	Works over 105% of rating and recovers automatically										
<b>OVERVOLTAGE PROTECTION[V]</b>	2.16 - 2.88	3.00 - 4.00	4.00 - 5.50	5.75 - 7.00	13.80 - 16.80	17.25 - 21.00	27.60 - 33.60	32.20 - 39.20	55.20 - 67.20		
<b>REMOTE SENSING</b>	Provided										
<b>REMOTE ON/OFF</b>	Provided (Negative logic L : ON, H : OFF)										

**GENERAL SPECIFICATIONS**

ISOLATION	INPUT-OUTPUT	DC1,500V or AC1,000V 1minute. Cutoff current = 10mA, DC500V 50MΩ min(20±15°C)
	INPUT-CASE PIN, BASE PLATE	DC1,500V or AC1,000V 1minute. Cutoff current = 10mA, DC500V 50MΩ min(20±15°C)
	OUTPUT-CASE PIN, BASE PLATE	AC500V 1minute. Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE	-40 to +100°C (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max
	STORAGE TEMP.,HUMID.AND ALTITUDE	-40 to +100°C, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max
	VIBRATION	10 - 55Hz, 49.0m/s <sup>2</sup> (5G), 3minutes period, 60minutes each along X, Y and Z axis
	IMPACT	196.1m/s <sup>2</sup> (20G), 11ms, once each along X, Y and Z axis
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL, EN60950-1
OTHERS	CASE SIZE/WEIGHT	57.9×12.7×61.0mm (W×H×D) / 83g max
	COOLING METHOD	Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)

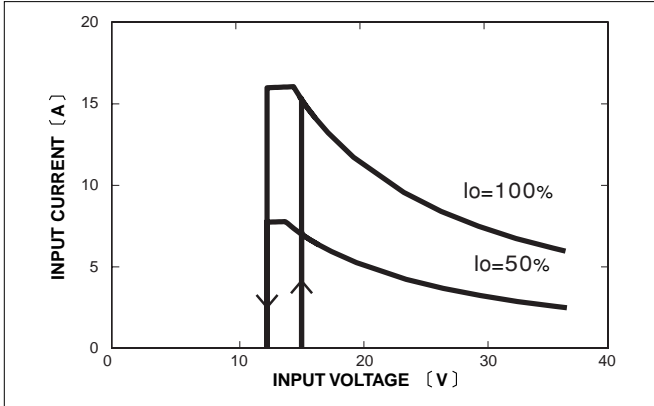
- \*1 At rated input(DC24V,DC48V) and rated load.
- \*2 Ripple and ripple noise is measured by using measuring board with recommended capacitor Co & the film capacitor 0.1 μF. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN:RM101).
- \*3 Drift is the change in DC output 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 When the input voltage is in the range of DC18 - 20V, DC36 - 40V, output voltage adjustment range is 60 - 105% (except for 1R8/2R5/48).

**External view**

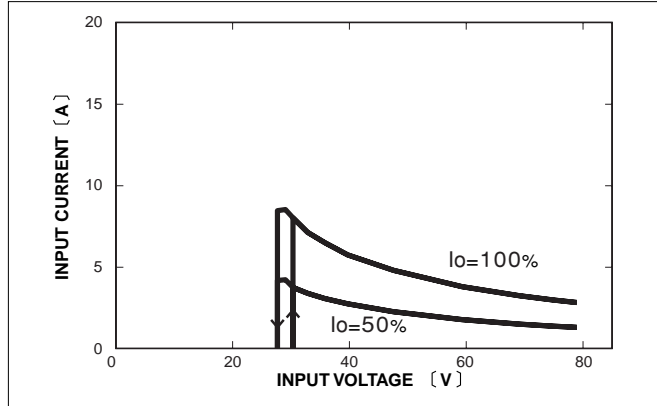


**Performance data**

■ INPUT CURRENT CHARACTERISTICS (CBS2002428)

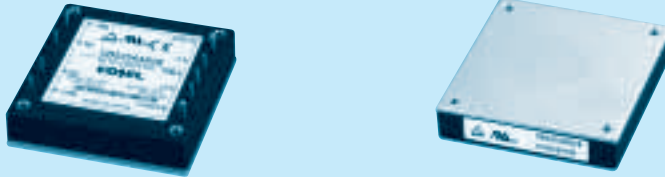


■ INPUT CURRENT CHARACTERISTICS (CBS2004828)



CBS





- ① Series name
- ② Single output
- ③ Output wattage
- ④ Input voltage  
24:DC20 - 36V  
48:DC36 - 76V
- ⑤ Output voltage
- ⑥ Optional  
R :with Remote ON/OFF  
Positive logic control  
T :with Mounting hole  
φ 3.4 thru

MODEL	CBS3502412	CBS3502424	CBS3502428	CBS3502432	CBS3504812	CBS3504824	CBS3504828	CBS3504832
MAX OUTPUT WATTAGE[W]	300	348	350	352	348	348	350	352
DC OUTPUT	12V 25A	24V 14.5A	28V 12.5A	32V 11A	12V 29A	24V 14.5A	28V 12.5A	32V 11A

## SPECIFICATIONS

	MODEL	CBS3502412	CBS3502424	CBS3502428	CBS3502432	CBS3504812	CBS3504824	CBS3504828	CBS3504832	
INPUT	VOLTAGE[V]	DC20 - 36				DC36 - 76				
	CURRENT[A]	*1 14.5typ	16.7typ	16.4typ	16.5typ	8.33typ	8.15typ	8.10typ	8.15typ	
	EFFICIENCY[%]	*1 86typ	87typ	89typ	89typ	87typ	89typ	90typ	90typ	
OUTPUT	VOLTAGE[V]	12	24	28	32	12	24	28	32	
	CURRENT[A]	25	14.5	12.5	11	29	14.5	12.5	11	
	LINE REGULATION[mV]	24max	48max	56max	64max	24max	48max	56max	64max	
	LOAD REGULATION[mV]	24max	48max	56max	64max	24max	48max	56max	64max	
	RIPPLE[mVp-p]	-20 to +100°C *2	120max	150max	180max	180max	120max	150max	180max	180max
		-40 to -20°C *2	150max	180max	220max	220max	150max	180max	220max	220max
		0 to 15%Load *2	240max	300max	360max	360max	240max	300max	360max	360max
	RIPPLE NOISE[mVp-p]	-20 to +100°C *2	150max	180max	220max	220max	150max	180max	220max	220max
		-40 to -20°C *2	200max	250max	280max	280max	200max	250max	280max	280max
		0 to 15%Load *2	300max	360max	440max	440max	300max	360max	440max	440max
	TEMPERATURE REGULATION[mV]	0 to +65°C	120max	240max	280max	320max	120max	240max	280max	320max
		-40 to +100°C	240max	480max	560max	640max	240max	480max	560max	640max
	DRIFT[mV]	*3 40max	90max	90max	120max	40max	90max	90max	120max	
START-UP TIME[ms]	200max (DCIN 24V, Io=100%)				200max (DCIN 48V, Io=100%)					
OUTPUT VOLTAGE ADJUSTMENT RANGE[V] *4	Fixed (TRM pin open), adjustable by external resistor									
	7.2 - 13.2	14.4 - 26.4	16.8 - 30.8	25.6 - 35.2	7.2 - 13.2	14.4 - 26.4	16.8 - 30.8	25.6 - 35.2		
OUTPUT VOLTAGE SETTING[V] *1	11.88 - 12.12	23.76 - 24.24	27.72 - 28.28	31.68 - 32.32	11.88 - 12.12	23.76 - 24.24	27.72 - 28.28	31.68 - 32.32		
OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically									
OVERVOLTAGE PROTECTION[V]	13.80 - 16.80	27.60 - 33.60	32.20 - 39.20	36.80 - 44.80	13.80 - 16.80	27.60 - 33.60	32.20 - 39.20	36.80 - 44.80		
REMOTE SENSING	Provided									
REMOTE ON/OFF	Provided (Negative logic L : ON, H : OFF)									
ISOLATION	INPUT-OUTPUT	DC1,500V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min(20±15°C)								
	INPUT-BASE PLATE	DC1,500V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min(20±15°C)								
	OUTPUT-BASE PLATE	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)								
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE	-40 to +100°C (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max								
	STORAGE TEMP.,HUMID.AND ALTITUDE	-40 to +100°C, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max								
	VIBRATION	10 - 55Hz, 49.0m/s <sup>2</sup> (5G), 3minutes period, 60minutes each along X, Y and Z axis								
	IMPACT	196.1m/s <sup>2</sup> (20G), 11ms, once each along X, Y and Z axis								
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL, EN60950-1								
OTHERS	CASE SIZE/WEIGHT	57.9×12.7×61.0mm (W×H×D) / 83g max								
	COOLING METHOD	Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)								

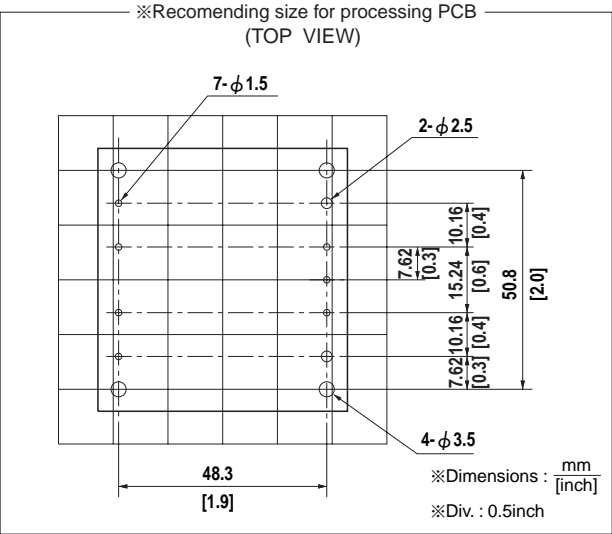
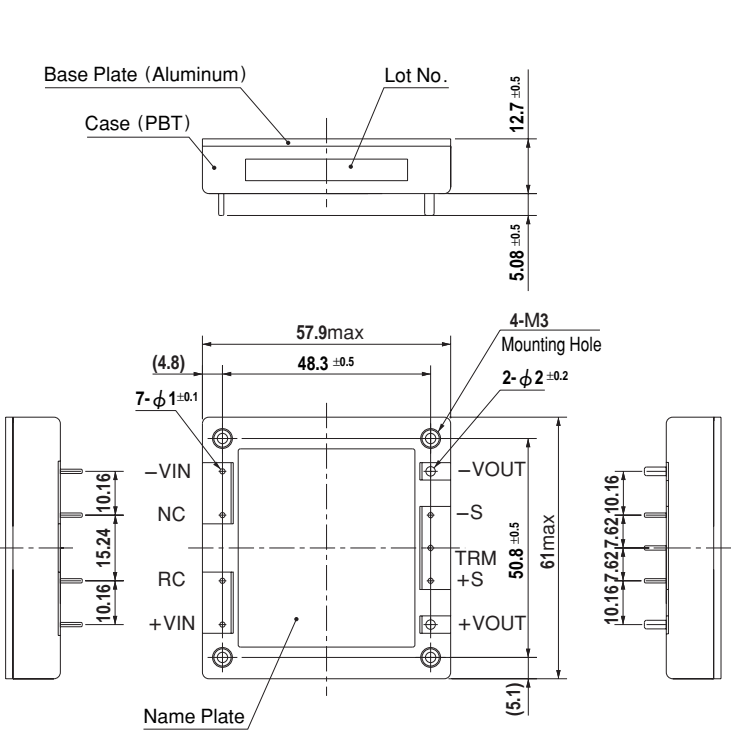
\*1 At rated input(DC24V,DC48V), rated load, and aluminum base plate temperature 25°C.

\*2 Ripple and ripple noise is measured by using measuring board with recommended capacitor Co & the film capacitor 0.1 μF. 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°C, with the input voltage held constant at the rated input/output.

\*4 When the input voltage is in the range of DC20 - 22V, DC36 - 40V, output voltage is limited. Refer to the manual.

External view



- ※Weight : 83g or less
- ※Tolerance : ±0.3
- ※Case : PBT
- ※Base Plate: Aluminum
- ※Dimensions in mm.
- ※Mounting hole screwing torque : 0.4N•m(5.0kgf•cm)max