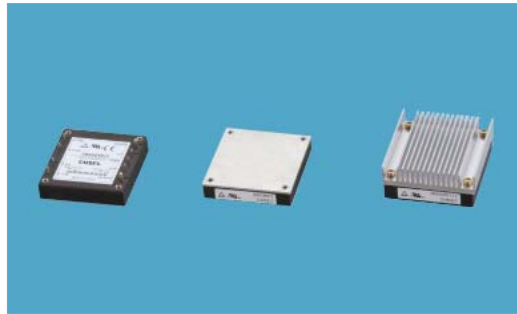


## CBS5024



### Features

- Compact DC-DC Converter, "HALF BRICK" which has been standard size for Telecommunication Market
- High efficiency
- High density
- High reliability : not built-in aluminum and tantalum electrolytic capacitor
- Mounting hole (M3 tapped)
- DIN Rail Attachment (Optional)
- Built-in Over Current Protection
- Built-in Over Voltage Protection
- Built-in Thermal Protection
- RoHS Compliant

### Safety Agency Approvals

UL60950, C-UL (CSA60950) recognized, TUV approved

### CE Markings

Low Voltage Directive

**5 year warranty(refer to Instruction Manual)**

Model	Input Voltage [V]	Output Wattage [W]	DC Output [V/A]
CBS50241R8	DC 18 - 36	21.06	1.8V 11.7A
CBS50242R5	DC 18 - 36	29.25	2.5V 11.7A
CBS502403	DC 18 - 36	38.6	3.3V 11.7A
CBS502405	DC 18 - 36	50	5V 10A
CBS502412	DC 18 - 36	50.4	12V 4.2A
CBS502415	DC 18 - 36	51	15V 3.4A
CBS502424	DC 18 - 36	50.4	24V 2.1A
CBS502428	DC 18 - 36	50.4	28V 1.8A



- 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

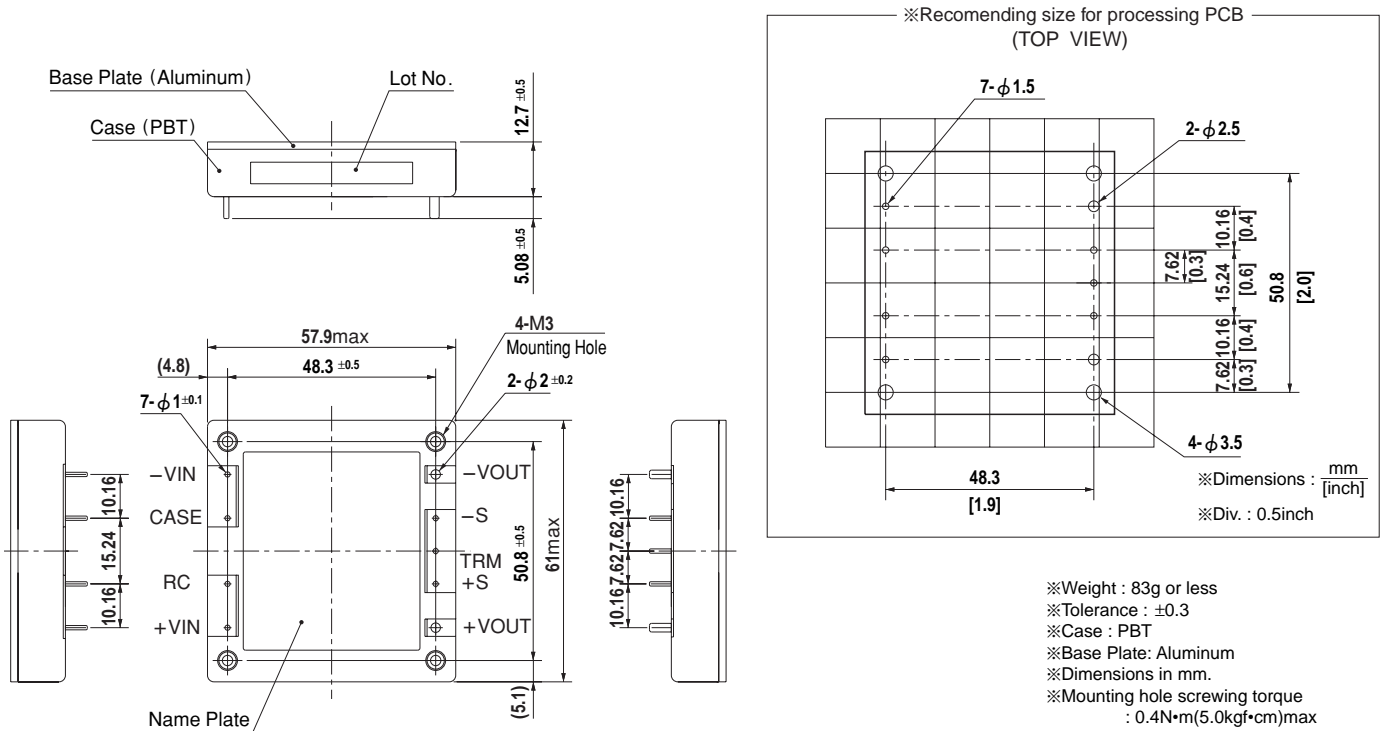
	MODEL	CBS50481R8	CBS50482R5	CBS504803	CBS504805	CBS504812	CBS504815	CBS504824	CBS504828	
INPUT	VOLTAGE[V]	DC36 - 76								
	CURRENT[A]	0.62typ	0.79typ	1.01typ	1.23typ	1.18typ	1.21typ	1.19typ	1.19typ	
	EFFICIENCY[%]	71typ	77typ	80typ	85typ	89typ	88typ	88typ	88typ	
OUTPUT	VOLTAGE[V]	1.8	2.5	3.3	5	12	15	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 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)

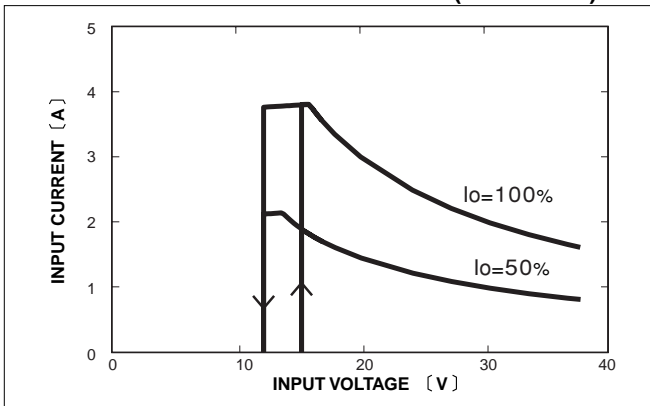
- \*1 At rated input(DC24V,DC48V) and rated load.
- \*2 Ripple and ripple noise is measured by using measuring board with recommended capacitor Co & the film capacitor 0.1 μF. Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN:RM101).
- \*3 Drift is the change in DC output 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 (CBS502428)



INPUT CURRENT CHARACTERISTICS (CBS504828)

