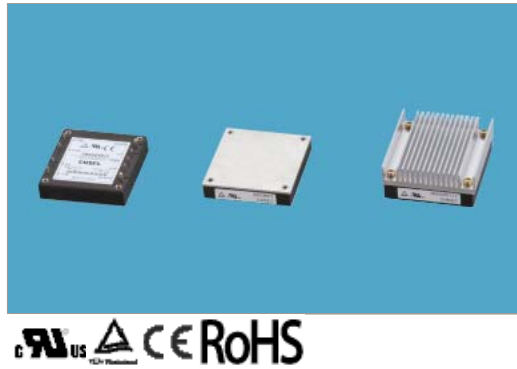


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CBS5048



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
- Built-in Remote ON/OFF
- Mounting hole (M3 tapped)
- 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

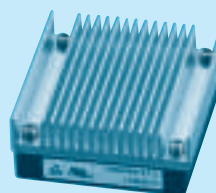
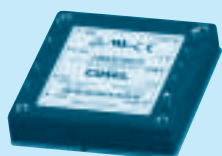
Low Voltage Directive

5 year warranty(refer to Instruction Manual)

Model	Input Voltage [V]	Output Wattage [W]	DC Output [V/A]
CBS50481R8	DC 36 - 76	21.06	1.8V 11.7A
CBS50482R5	DC 36 - 76	29.25	2.5V 11.7A
CBS504803	DC 36 - 76	38.6	3.3V 11.7A
CBS504805	DC 36 - 76	50	5V 10A
CBS504812	DC 36 - 76	50.4	12V 4.2A
CBS504815	DC 36 - 76	51	15V 3.4A
CBS504824	DC 36 - 76	50.4	24V 2.1A
CBS504828	DC 36 - 76	50.4	28V 1.8A



RoHS



- 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
 F □ :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 1.24typ	1.58typ	2.04typ	2.48typ	2.39typ	2.44typ	2.41typ	2.41typ
	EFFICIENCY[%]	*1 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 *2	80max	80max	80max	80max	120max	120max	120max
		-40 to -20°C *2	120max	120max	120max	120max	150max	150max	150max
	RIPPLE NOISE[mVp-p]	-20 to +100°C *2	120max	120max	120max	120max	150max	150max	150max
		-40 to -20°C *2	200max	200max	200max	200max	200max	250max	250max
	TEMPERATURE REGULATION[mV]	0 to +65°C	35max	35max	35max	50max	120max	150max	240max
		-40 to +100°C	66max	66max	66max	100max	240max	300max	480max
PROTECTION CIRCUIT AND OTHERS	DRIFT[mV]	*3 16max	16max	16max	20max	40max	60max	90max	90max
	START-UP TIME[ms]	200max (DCIN 24V, I _o =100%)							
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed (TRM pin open), adjustable by external resistor							
	OUTPUT VOLTAGE SETTING[V]	1.77 - 1.88	2.46 - 2.61	3.25 - 3.45	4.90 - 5.20	11.74 - 12.46	14.55 - 15.45	23.28 - 24.72	27.16 - 28.84
	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

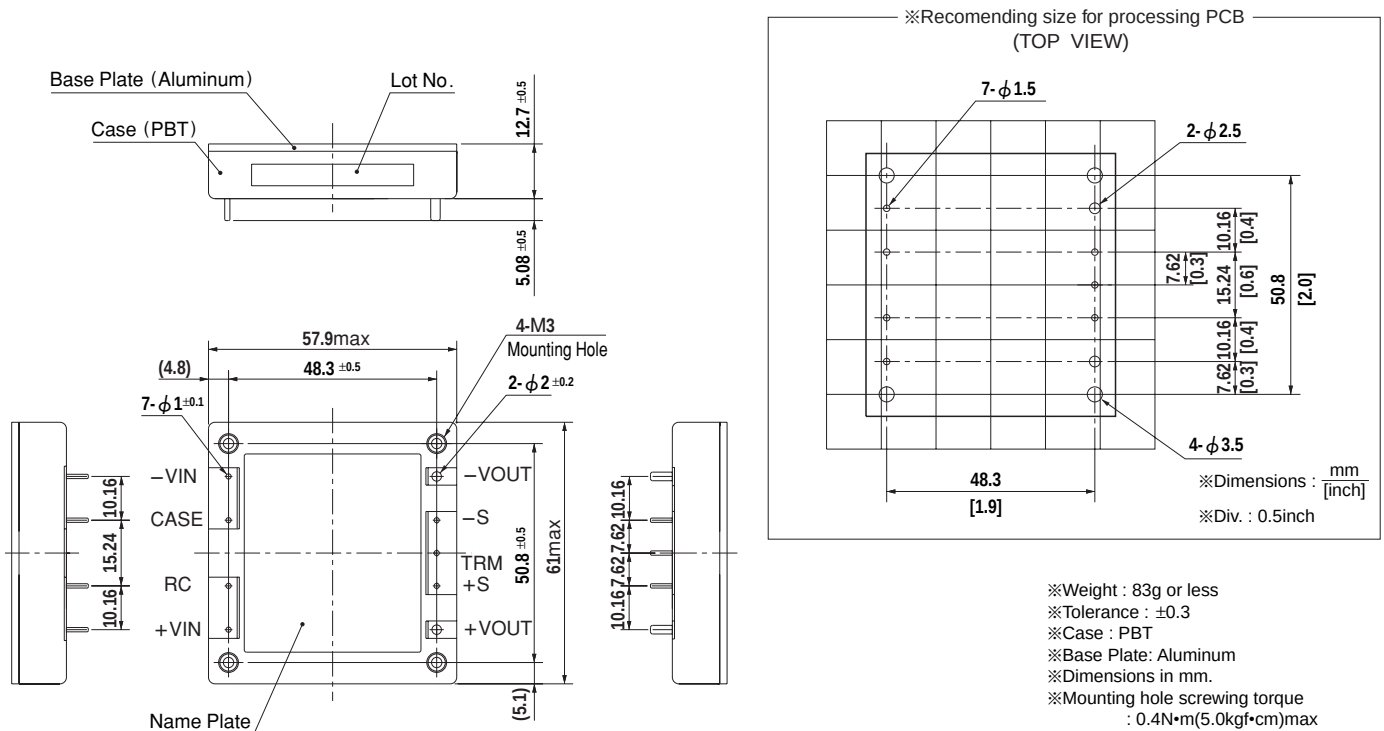
	MODEL	CBS50481R8	CBS50482R5	CBS504803	CBS504805	CBS504812	CBS504815	CBS504824	CBS504828
INPUT	VOLTAGE[V]	DC36 - 76							
	CURRENT[A]	*1 0.62typ	0.79typ	1.01typ	1.23typ	1.18typ	1.21typ	1.19typ	1.19typ
	EFFICIENCY[%]	*1 71typ	77typ	80typ	85typ	89typ	88typ	88typ	88typ
OUTPUT	VOLTAGE[V]	1.8	2.5	3.3	5	12	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 *2	80max	80max	80max	80max	120max	120max	120max
		-40 to -20°C *2	120max	120max	120max	120max	150max	150max	150max
	RIPPLE NOISE[mVp-p]	-20 to +100°C *2	120max	120max	120max	120max	150max	150max	150max
		-40 to -20°C *2	200max	200max	200max	200max	200max	250max	250max
	TEMPERATURE REGULATION[mV]	0 to +65°C	35max	35max	35max	50max	120max	150max	240max
		-40 to +100°C	66max	66max	66max	100max	240max	300max	480max
PROTECTION CIRCUIT AND OTHERS	DRIFT[mV]	*3 16max	16max	16max	20max	40max	60max	90max	90max
	START-UP TIME[ms]	200max (DCIN 48V, I _o =100%)							
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed (TRM pin open), adjustable by external resistor							
	OUTPUT VOLTAGE SETTING[V]	1.77 - 1.88	2.46 - 2.61	3.25 - 3.45	4.90 - 5.20	11.74 - 12.46	14.55 - 15.45	23.28 - 24.72	27.16 - 28.84
	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 Ω min(20 $\pm$ 15 $^{\circ}$ C)
	INPUT-CASE PIN, BASE PLATE	DC1.500V or AC1.000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min(20 $\pm$ 15 $^{\circ}$ C)
	OUTPUT-CASE PIN, BASE PLATE	AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω 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
	IMPACT	196.1m/s 2 (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 x 12.7 x 61.0mm (W x H x D) / 83g max
	COOLING METHOD	Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)

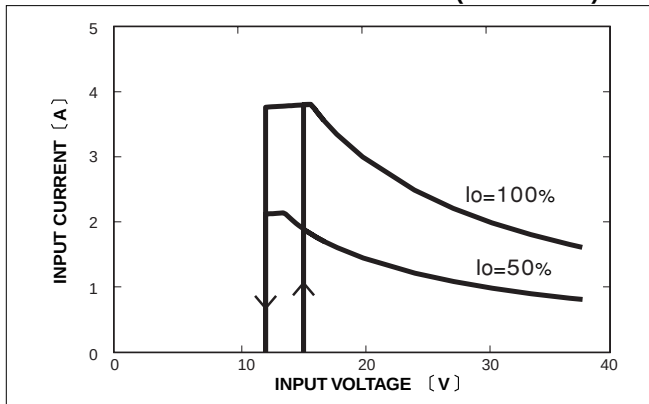
- *1 At rated input(DC24V,DC48V) and rated load.
 *2 Ripple and ripple noise is measured by using measuring board with recommended capacitor Co & the film capacitor 0.1 μF.
 Measured by 20MHz oscilloscope or Ripple-Noise meter (Equivalent to KEISOKU-GIKEN:RM101).
 *3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, 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)

