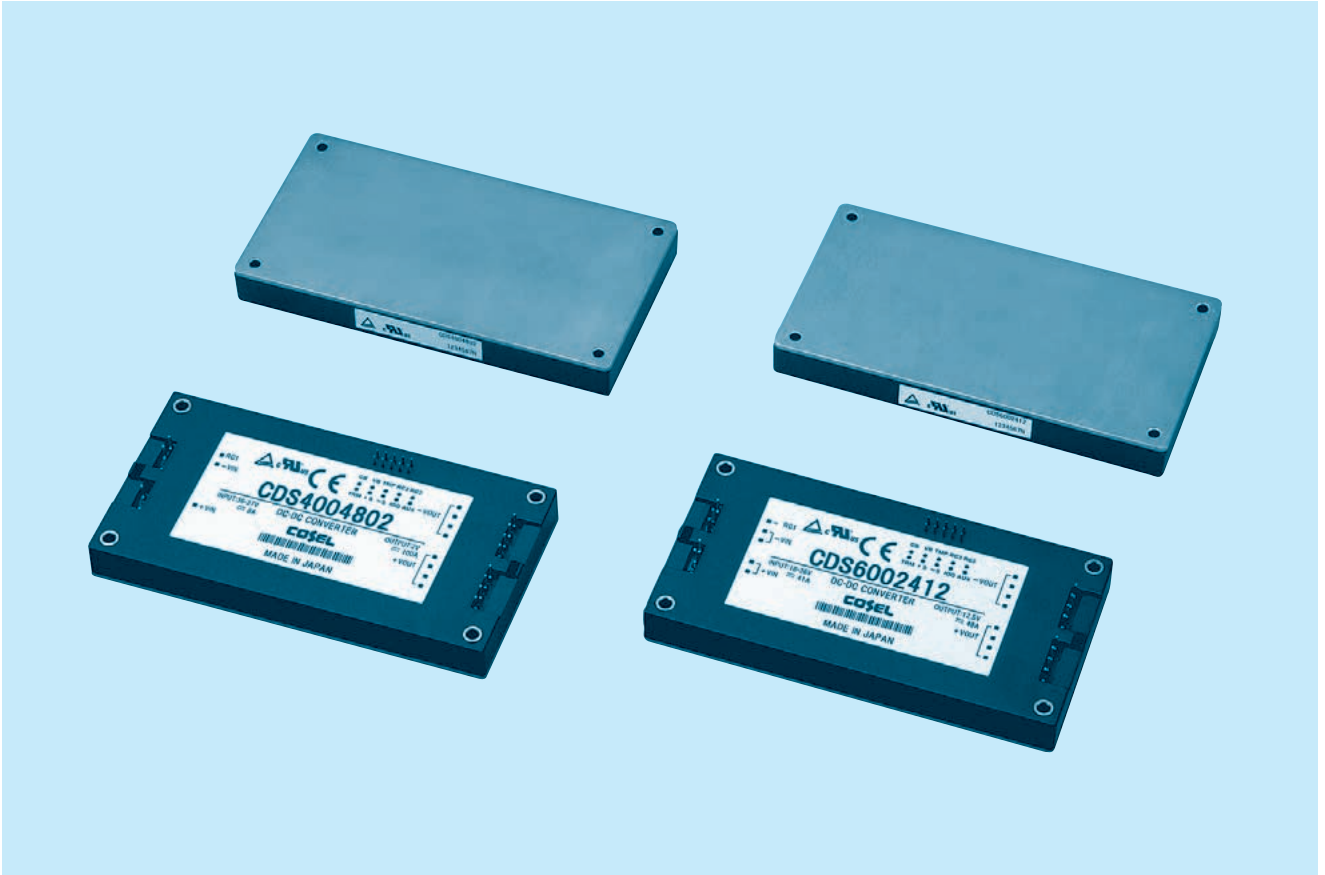




# CDS-series



## ■ Feature

- Ideal for distributed power systems
- Thin and small size
- Built-in overcurrent, overvoltage and thermal protection circuits
- Built-in Remote ON/OFF (on both side of input and output)
- Inverter operating monitoring (IOG)
- Mounting hole (  $\phi$  3.4 thru)

## ■ CE marking

- Low Voltage Directive
- RoHS Directive

## ■ Safety agency approvals

- UL60950-1, C-UL, EN62368-1

## ■ 5-year warranty

# CDS40048

CD S 400 48 12 - □

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output wattage
- ④ Input voltage  
48:DC36 - 76V
- ⑤ Output voltage
- ⑥ Optional  
M:with Mounting hole  
M3 tapped

MODEL	CDS4004802	CDS4004803	CDS4004805	CDS4004807	CDS4004812	CDS4004815	CDS4004824	CDS4004828
MAX OUTPUT WATTAGE[W]	200	330	400	405	500	510	504	504
DC OUTPUT	2V 100A	3.3V 100A	5V 80A	7.5V 54A	12.5V 40A	15V 34A	24V 21A	28V 18A

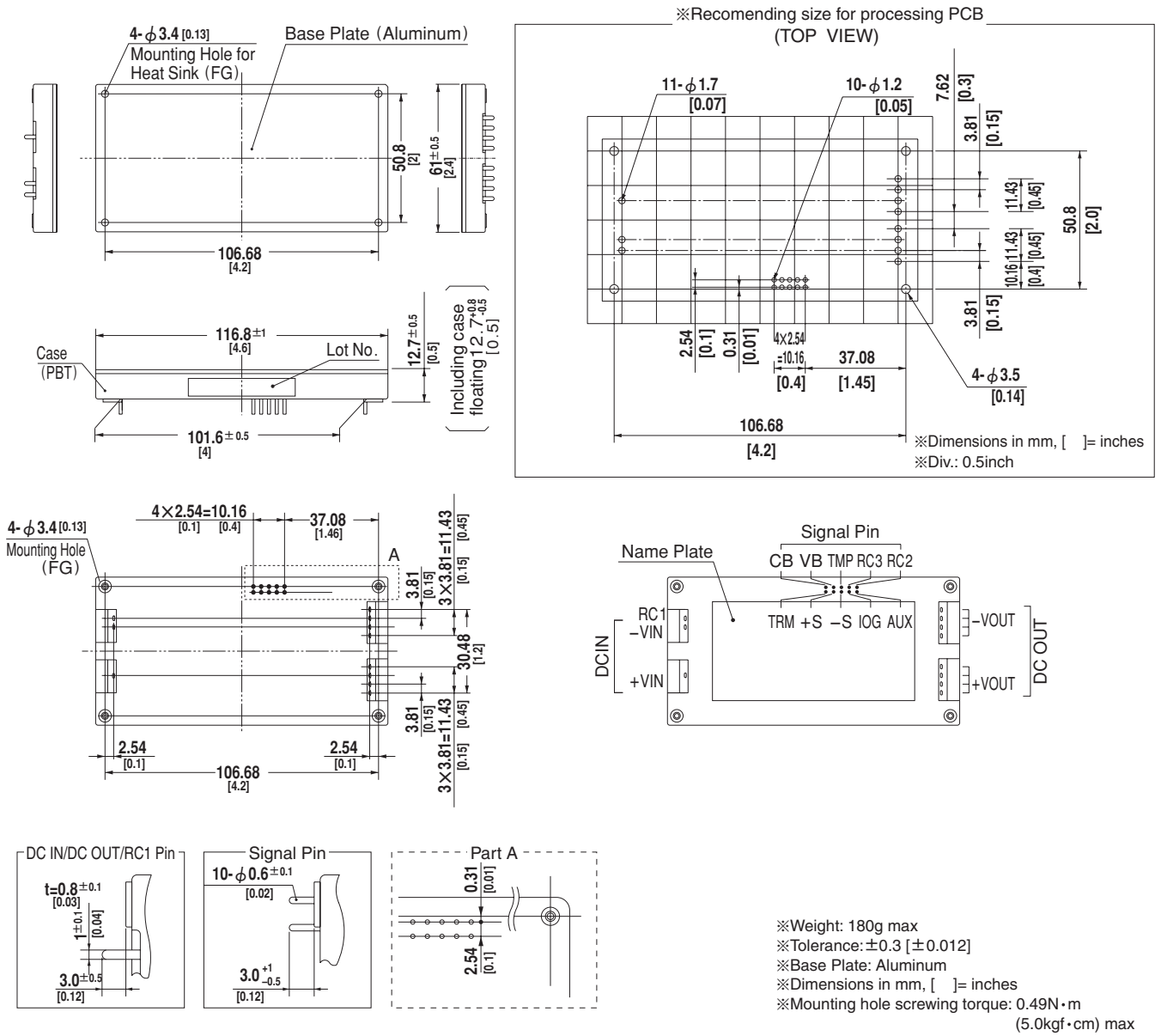
## SPECIFICATIONS

	MODEL	CDS4004802	CDS4004803	CDS4004805	CDS4004807	CDS4004812	CDS4004815	CDS4004824	CDS4004828	
INPUT	VOLTAGE[V]	DC36 - 76								
	CURRENT[A]	*1 6typ	9typ	10typ	10typ	12typ	12typ	12typ	12typ	
	EFFICIENCY[%]	DCIN 48V, Io=100% DCIN 48V, Io=50%	73typ 75typ	80typ 82typ	84typ 86typ	87typ 88typ	89typ 91typ	89typ 90typ	89typ 90typ	89typ 90typ
OUTPUT	VOLTAGE[V]	2	3.3	5	7.5	12.5	15	24	28	
	CURRENT[A]	100	100	80	54	40	34	21	18	
	LINE REGULATION[mV]	10max	16max	20max	30max	40max	60max	95max	95max	
	LOAD REGULATION[mV]	20max	30max	40max	60max	100max	150max	190max	190max	
	RIPPLE[mVp-p]	0 to +85°C *2	80max	80max	80max	100max	120max	120max	120max	120max
		-20 - 0°C *2	140max	140max	140max	150max	160max	160max	160max	160max
	RIPPLE NOISE[mVp-p]	0 to +85°C *2	100max	100max	100max	140max	150max	150max	150max	150max
		-20 - 0°C *2	150max	150max	150max	160max	180max	180max	180max	180max
	TEMPERATURE REGULATION[mV]	0 to +65°C	25max	35max	50max	75max	120max	180max	280max	280max
		-20 to +85°C	40max	60max	85max	130max	200max	310max	480max	480max
DRIFT[mV]	*3	10max	16max	20max	30max	40max	60max	90max	90max	
START-UP TIME[ms]	200max (DCIN 48V, Io=100%)									
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed (TRM pin open), 60 - 110% adjustable by external VR or external voltage									
	1.0 - 2.2 *4	1.98 - 3.63	3.0 - 5.5	4.50 - 8.25	7.50 - 13.75	9.0 - 16.5	14.4 - 26.4	16.8 - 32.0 *5		
OUTPUT VOLTAGE SETTING[V]	1.95 - 2.10	3.25 - 3.45	4.90 - 5.20	7.25 - 7.85	12.00 - 13.00	14.40 - 15.60	23.04 - 24.96	26.88 - 29.12		
OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically									
OVERVOLTAGE PROTECTION[V]	2.80 - 4.50	4.00 - 5.50	5.75 - 7.00	8.60 - 10.50	14.35 - 17.50	17.25 - 21.00	27.60 - 33.60	33.00 - 39.20		
REMOTE SENSING	Provided									
REMOTE ON/OFF	Provided (On both side of input and output)									
ISOLATION	INPUT-OUTPUT	DC1500V 1minute, DC500V 50MΩ min (20±15°C)								
	INPUT-FG	DC1500V 1minute, DC500V 50MΩ min (20±15°C)								
	OUTPUT-FG	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)								
	OUTPUT-RC2,RC3	AC100V 1minute, Cutoff current = 100mA, DC100V 10MΩ min (20±15°C)								
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE *6	-20 to +85°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 +85°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 X, Y and Z axis								
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL, EN62368-1								
OTHERS	CASE SIZE/WEIGHT	61 × 12.7 × 116.8mm [2.4 × 0.5 × 4.6 inches] (W × H × D) / 180g max								
	COOLING METHOD	Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)								

\*1 At rated input(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.

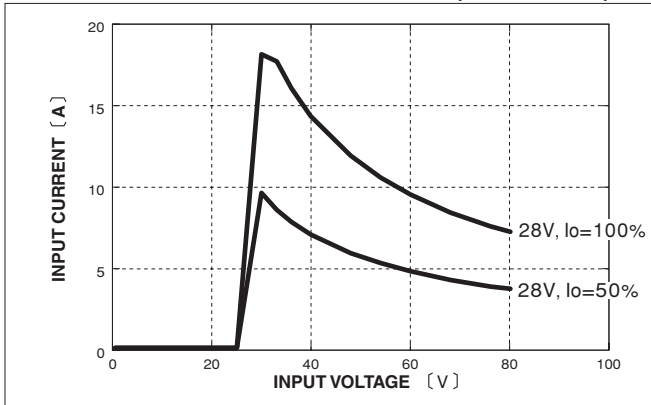
\*4 When using with in the range of 1-1.2V, please consult with us.  
 \*5 CDS4004828 : Output voltage adjustment range is 60 - 114.3%.  
 \*6 Please consult us in regard to use from -40°C.

External view

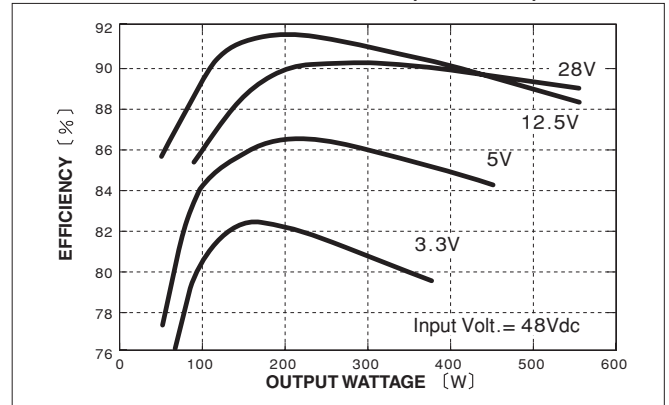


Performance data

INPUT CURRENT CHARACTERISTICS (CDS4004828)



EFFICIENCY CHARACTERISTICS (CDS40048)



# CDS500/600

CD
S
600
48
12
□
-□

① ② ③ ④ ⑤ ⑥ ⑦



- ① Series name
- ② Single output
- ③ Output wattage
- ④ Input voltage  
24:DC18 - 36V  
48:DC36 - 76V
- ⑤ Output voltage
- ⑥ H:HighEfficiency  
(24VIN Model only)
- ⑦ Optional  
M:with Mounting hole  
M3 tapped

MODEL	CDS5002428H	CDS6002412	CDS6002412H	CDS6002428	CDS6002428H	CDS6004812	CDS6004828
MAX OUTPUT WATTAGE[W]	504	600	600	616	616	700	700
DC OUTPUT	28V 18A	12.5V 48A	12.5V 48A	28V 22A	28V 22A	12.5V 56A	28V 25A

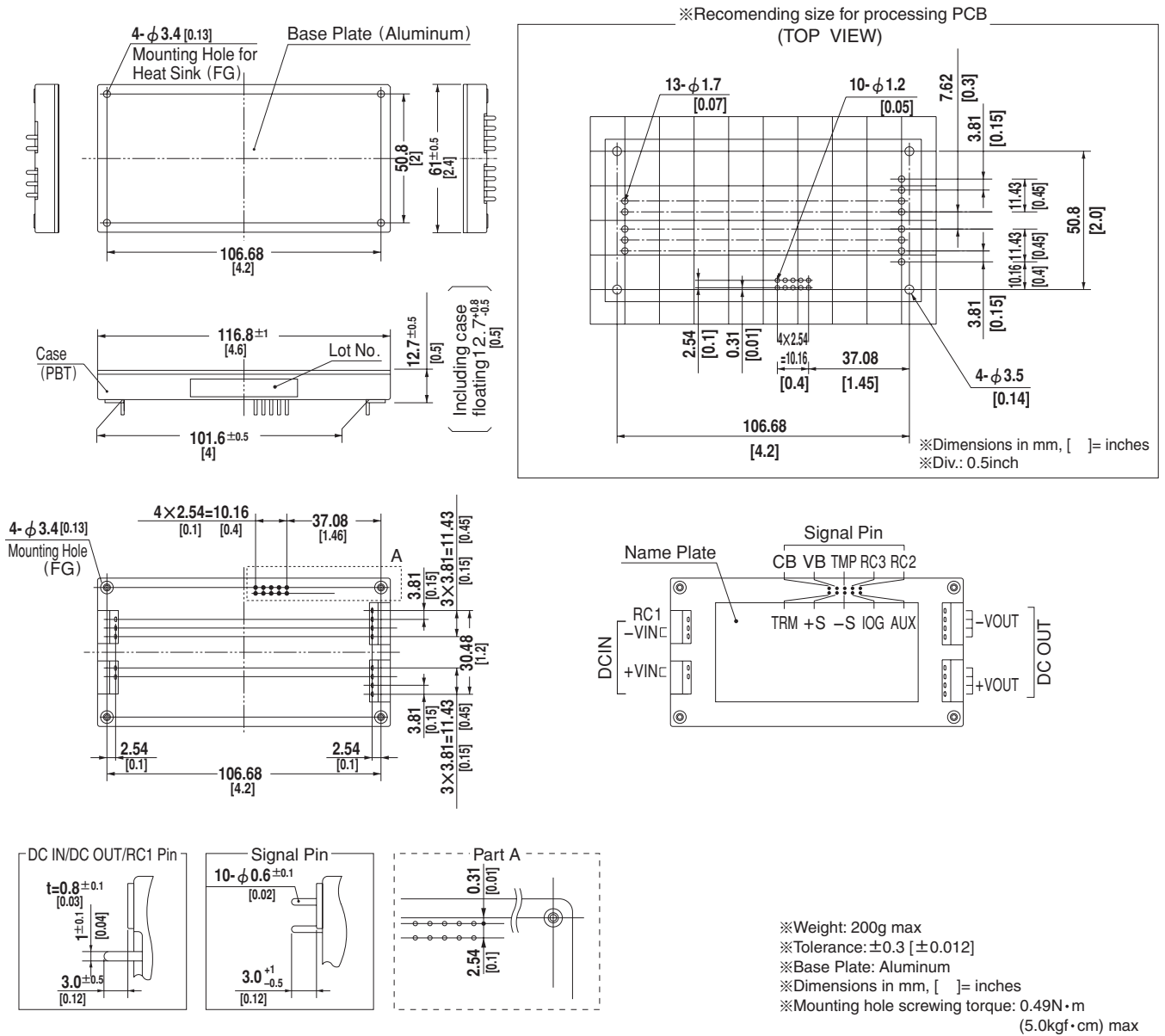
## SPECIFICATIONS

	MODEL	CDS5002428H	CDS6002412	CDS6002412H	CDS6002428	CDS6002428H	CDS6004812	CDS6004828	
INPUT	VOLTAGE[V]	DC18 - 36		DC20.5 - 36	DC18 - 36	DC19 - 36	DC36 - 76		
	CURRENT[A]	24typ	30typ	29typ	30typ	29typ	17typ	17typ	
	EFFICIENCY[%]	89typ(DCIN 24V) 90typ(DCIN 24V)	83typ(DCIN 24V) 87typ(DCIN 24V)	87typ(DCIN 24V) 90typ(DCIN 24V)	86typ(DCIN 24V) 87typ(DCIN 24V)	89typ(DCIN 24V) 90typ(DCIN 24V)	89typ(DCIN 48V) 91typ(DCIN 48V)	89typ(DCIN 48V) 90typ(DCIN 48V)	
OUTPUT	VOLTAGE[V]	28	12.5	12.5	28	28	12.5	28	
	CURRENT[A]	18	48	48	22	22	56	25	
	LINE REGULATION[mV]	95max	40max	40max	95max	95max	40max	95max	
	LOAD REGULATION[mV]	190max	100max	100max	190max	190max	100max	190max	
	RIPPLE[mVp-p]	0 to +85°C *2	120max	120max	120max	120max	120max	120max	120max
		-20 - 0°C *2	160max	160max	160max	160max	160max	160max	160max
	RIPPLE NOISE[mVp-p]	0 to +85°C *2	150max	150max	150max	150max	150max	150max	150max
		-20 - 0°C *2	180max	180max	180max	180max	180max	180max	180max
	TEMPERATURE REGULATION[mV]	0 to +65°C	280max	120max	120max	280max	280max	120max	280max
		-20 to +85°C	480max	200max	200max	480max	480max	200max	480max
DRIFT[mV]	90max	40max	40max	90max	90max	40max	90max		
START-UP TIME[ms]	200max (DCIN 24V, Io=100%)						200max (DCIN 48V, Io=100%)		
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	Fixed (TRM pin open), 80 - 110% adjustable by external VR or external voltage								
OUTPUT VOLTAGE SETTING[V]	22.40 - 32.00 *4 *5	10.00 - 13.75	10.00 - 13.75 *5	22.40 - 30.80	22.40 - 32.00 *4 *5	10.00 - 13.75	22.40 - 32.00 *4		
OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically								
PROTECTION CIRCUIT AND OTHERS	OVERVOLTAGE PROTECTION[V]	33.00 - 39.20	14.35 - 17.50		33.00 - 39.20		14.35 - 17.50	33.00 - 39.20	
	REMOTE SENSING	Provided							
	REMOTE ON/OFF	Provided (On both side of input and output)							
ISOLATION	INPUT-OUTPUT	AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)							
	INPUT-FG	AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)							
	OUTPUT-FG	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)							
	OUTPUT-RC2,RC3	AC100V 1minute, Cutoff current = 100mA, DC100V 10MΩ min (20±15°C)							
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE *7	-20 to +85°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 +85°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 X, Y and Z axis							
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL, EN62368-1							
OTHERS	CASE SIZE/WEIGHT	61 x 12.7 x 116.8mm [2.4 x 0.5 x 4.6 inches] (W x H x D) / 200g max							
	COOLING METHOD	Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)							

\*1 At rated input(DC24,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.

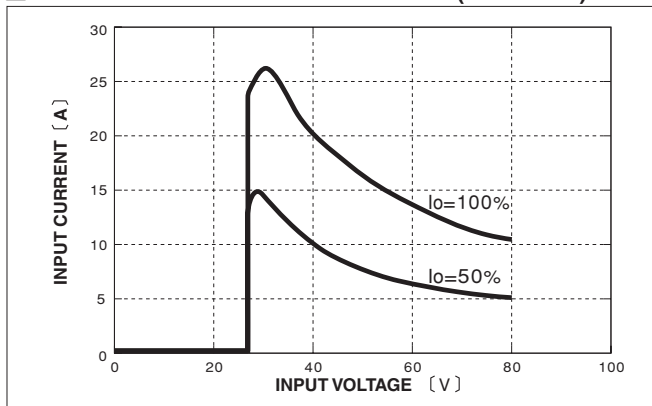
\*4 CDS5002428H,CDS6002428H,CDS6004828:Output voltage adjustment range is 80 - 114.3%.  
 \*5 CDS5002428H,CDS6002412H,CDS6002428H:When the output voltage adjustment range is 101% or more,the input voltage range is limited(Refer to Instruction Manual).  
 \*6 Aluminum baseplate temperature Tc=25°C  
 \*7 Please consult us in regard to use from -40°C.

## External view



## Performance data

### INPUT CURRENT CHARACTERISTICS (CDS60048)



### EFFICIENCY CHARACTERISTICS (CDS60048)

