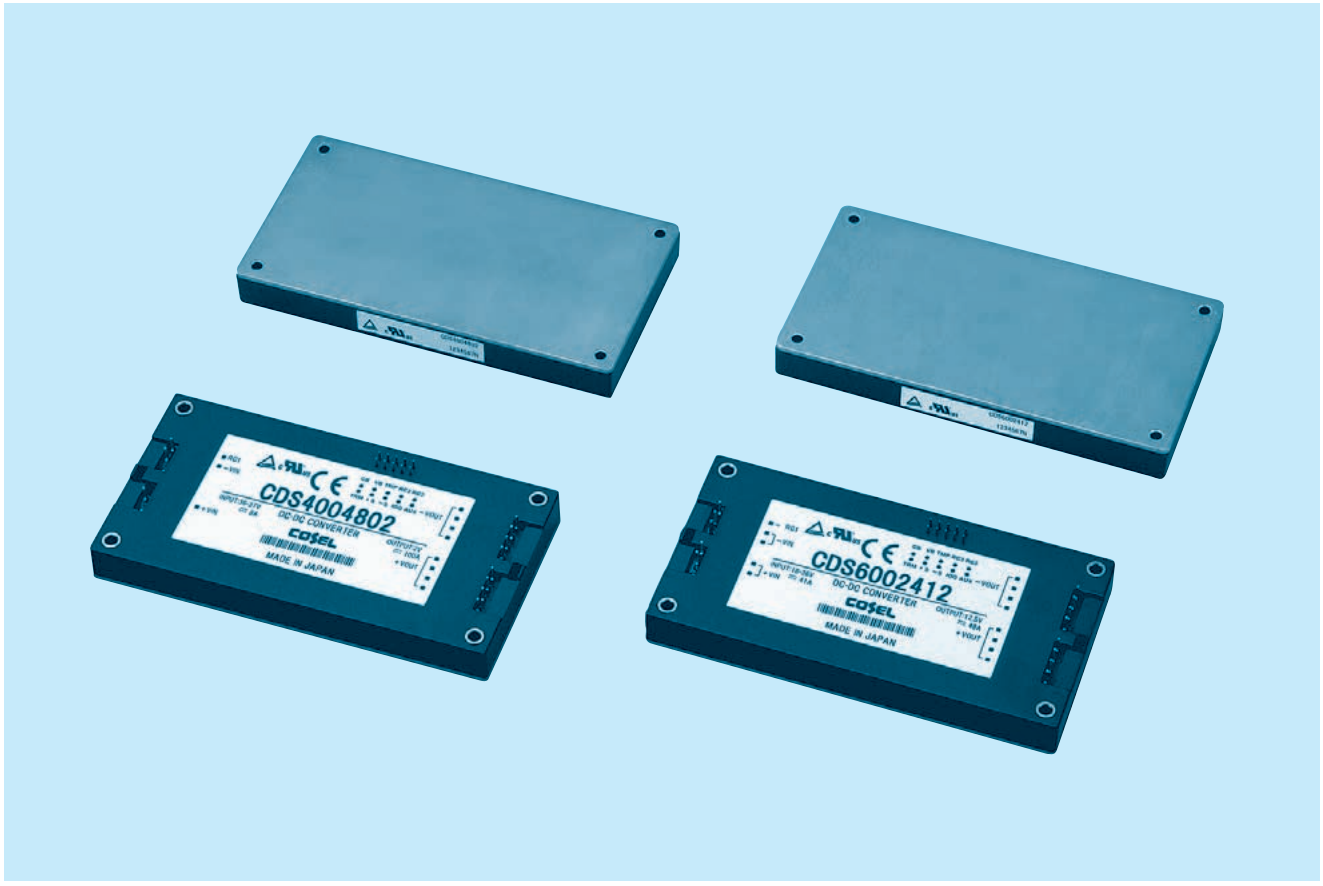
Low Profile | Isolated | Safety Approvals | OCP | OVP | Remote ON/OFF | Parallel Operation

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 (ϕ 3.4 thru)

CE marking

Low Voltage Directive
RoHS Directive

UKCA marking

Electrical Equipment Safety Regulations
RoHS Regulations

Safety agency approvals

UL60950-1, C-UL, EN62368-1

5-year warranty

COSEL DC-DC Converters Bus Converter·Power Module Type

CDS40048

Ordering information

CD	S	400	48	12	-□
①	②	③	④	⑤	⑥



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

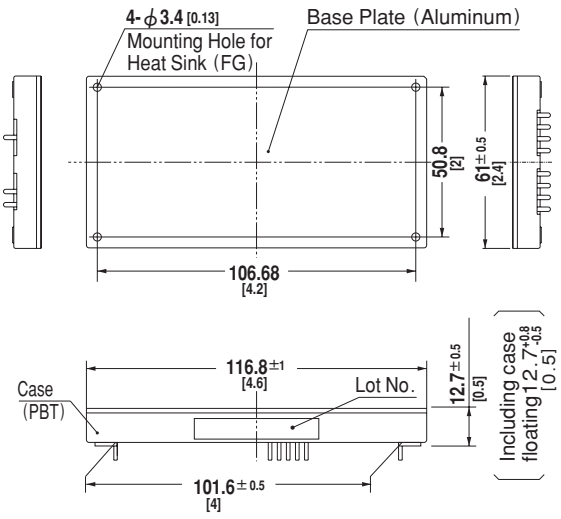
MODEL	CDS4004802	CDS4004803	CDS4004805	CDS4004807	CDS4004812	CDS4004815	CDS4004824	CDS4004828
MAX OUTPUT WATTAGE[W]	200	330	400	405	500	510	504	504
DC OUTPUT	2V 100A	3.3V 100A	5V 80A	7.5V 54A	12.5V 40A	15V 34A	24V 21A	28V 18A

SPECIFICATIONS

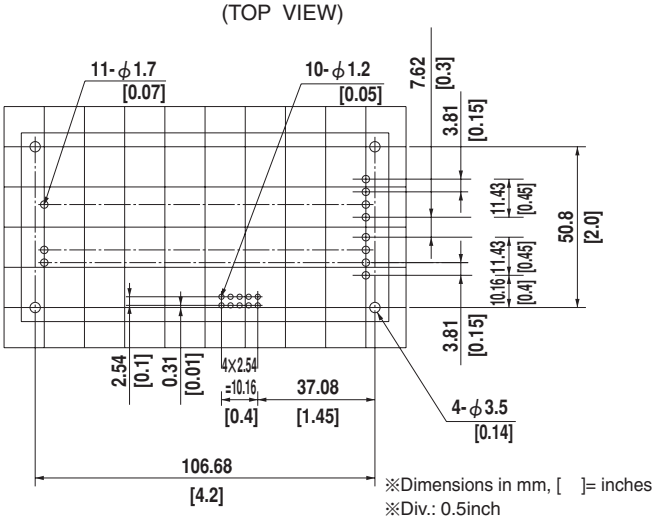
	MODEL		CDS4004802	CDS4004803	CDS4004805	CDS4004807	CDS4004812	CDS4004815	CDS4004824	CDS4004828
INPUT	VOLTAGE[V]		DC36 - 76							
	CURRENT[A] *1		6typ	9typ	10typ	10typ	12typ	12typ	12typ	12typ
	EFFICIENCY[%]	DCIN 48V, Io=100%	73typ	80typ	84typ	87typ	89typ	89typ	89typ	89typ
		DCIN 48V, Io=50%	75typ	82typ	86typ	88typ	91typ	90typ	90typ	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℃ *2	80max	80max	80max	100max	120max	120max	120max	120max
		-20 - 0℃ *2	140max	140max	140max	150max	160max	160max	160max	160max
	RIPPLE NOISE[mVp-p]	0 to +85℃ *2	100max	100max	100max	140max	150max	150max	150max	150max
		-20 - 0℃ *2	150max	150max	150max	160max	180max	180max	180max	180max
	TEMPERATURE REGULATION[mV]	0 to +65℃	25max	35max	50max	75max	120max	180max	280max	280max
		-20 to +85℃	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
PROTECTION CIRCUIT AND OTHERS	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℃)							
	INPUT-FG		DC1500V 1minute, DC500V 50MΩ min (20±15℃)							
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃)							
	OUTPUT-RC2,RC3		AC100V 1minute, Cutoff current = 100mA, DC100V 10MΩ min (20±15℃)							
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE *6		-20 to +85℃ (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℃, 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 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℃, 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℃.

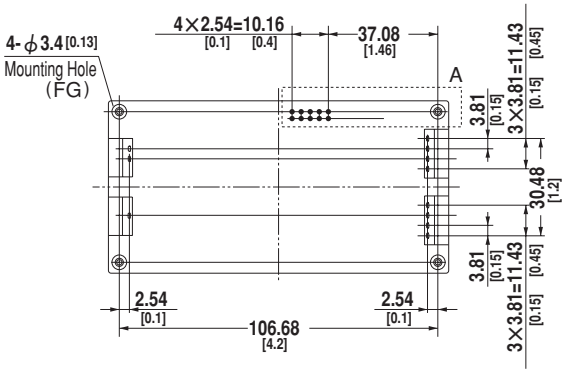
External view

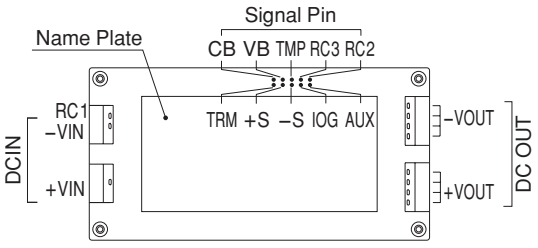


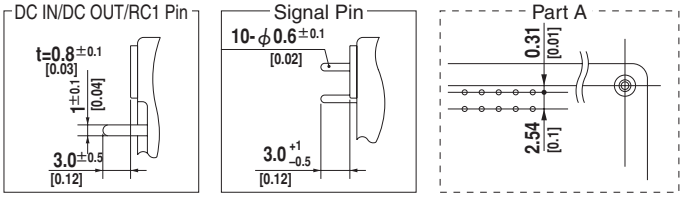
※Recomending size for processing PCB
(TOP VIEW)



※Dimensions in mm, [ ]= inches
※Div.: 0.5inch



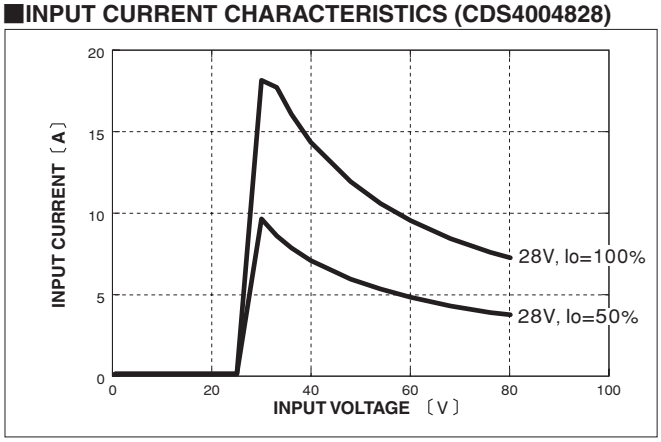




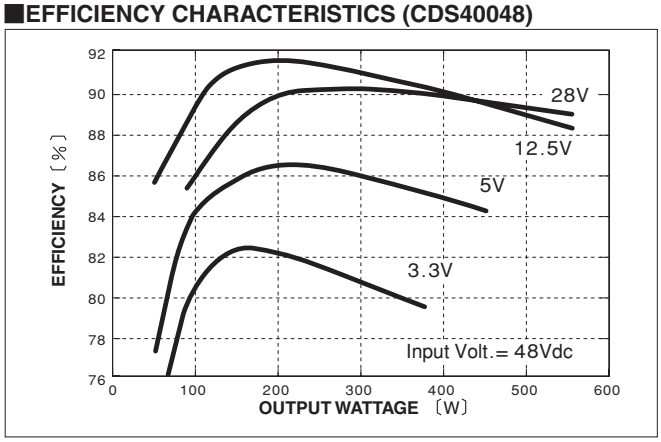
※Weight: 180g max
※Tolerance: ±0.3 [±0.012]
※Base Plate: Aluminum
※Dimensions in mm, [ ]= inches
※Mounting hole screwing torque: 0.49N・m
(5.0kgf・cm) max

Performance data

■INPUT CURRENT CHARACTERISTICS (CDS4004828)



■EFFICIENCY CHARACTERISTICS (CDS40048)



COSEL DC-DC Converters Bus Converter·Power Module Type

CDS500/600

Ordering information

CD	S	600	48	12	□	-□
①	②	③	④	⑤	⑥	⑦



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

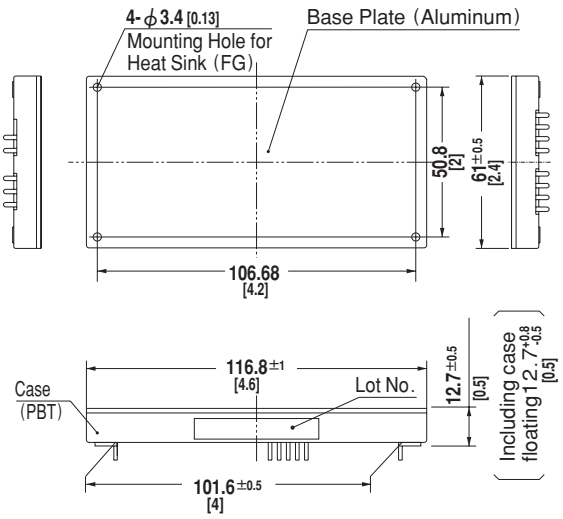
MODEL	CDS5002428H	CDS6002412	CDS6002412H	CDS6002428	CDS6002428H	CDS6004812	CDS6004828
MAX OUTPUT WATTAGE[W]	504	600	600	616	616	700	700
DC OUTPUT	28V 18A	12.5V 48A	12.5V 48A	28V 22A	28V 22A	12.5V 56A	28V 25A

SPECIFICATIONS

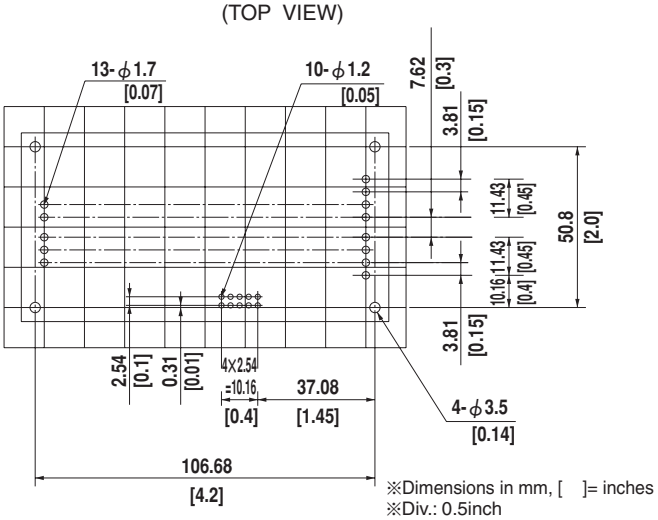
	MODEL		CDS5002428H	CDS6002412	CDS6002412H	CDS6002428	CDS6002428H	CDS6004812	CDS6004828
INPUT	VOLTAGE[V]		DC18 - 36		DC20.5 - 36	DC18 - 36	DC19 - 36	DC36 - 76	
	CURRENT[A]	*1	24typ	30typ	29typ	30typ	29typ	17typ	17typ
	EFFICIENCY[%]	Io=100%	89typ(DCIN 24V)	83typ(DCIN 24V)	87typ(DCIN 24V)	86typ(DCIN 24V)	89typ(DCIN 24V)	89typ(DCIN 48V)	89typ(DCIN 48V)
		Io=50%	90typ(DCIN 24V)	87typ(DCIN 24V)	90typ(DCIN 24V)	87typ(DCIN 24V)	90typ(DCIN 24V)	91typ(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℃ *2	120max	120max	120max	120max	120max	120max	120max
		-20 - 0℃ *2	160max	160max	160max	160max	160max	160max	160max
	RIPPLE NOISE[mVp-p]	0 to +85℃ *2	150max	150max	150max	150max	150max	150max	150max
		-20 - 0℃ *2	180max	180max	180max	180max	180max	180max	180max
	TEMPERATURE REGULATION[mV]	0 to +65℃	280max	120max	120max	280max	280max	120max	280max
		-20 to +85℃	480max	200max	200max	480max	480max	200max	480max
	DRIFT[mV]	*3	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						
			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
	OUTPUT VOLTAGE SETTING[V]		27.72 - 28.28 *6	12.00 - 13.00	12.00 - 13.00	26.88 - 29.12	26.88 - 29.12	12.00 - 13.00	26.88 - 29.12
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically						
	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℃)						
	INPUT-FG		AC500V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)						
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃)						
	OUTPUT-RC2,RC3		AC100V 1minute, Cutoff current = 100mA, DC100V 10MΩ min (20±15℃)						
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE	*7	-20 to +85℃ (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℃, 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 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) / 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℃, 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℃
*7 Please consult us in regard to use from -40℃.

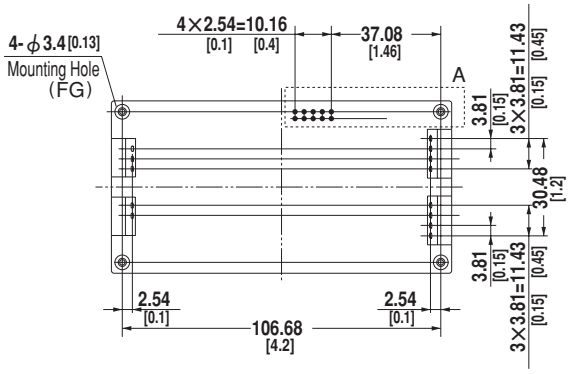
External view

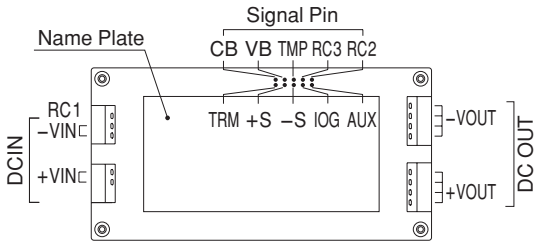


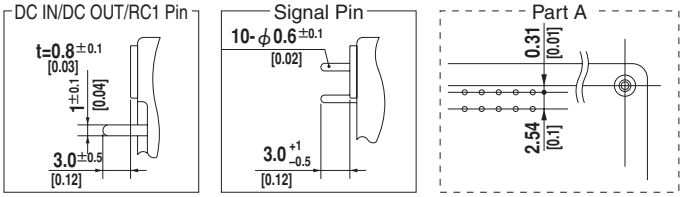
※Recomending size for processing PCB
(TOP VIEW)



※Dimensions in mm, [ ]= inches
※Div.: 0.5inch



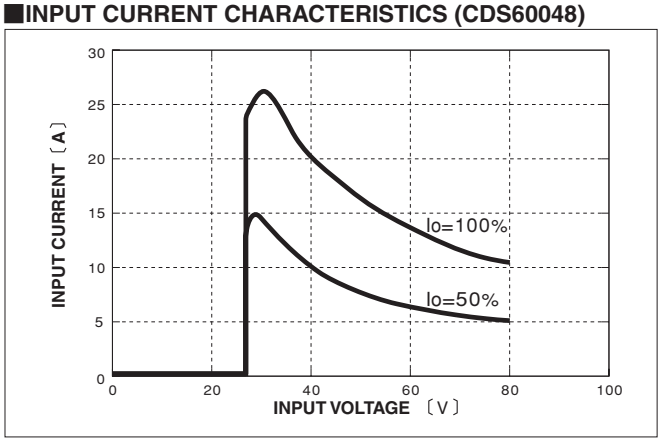




※Weight: 200g max
※Tolerance: ±0.3 [±0.012]
※Base Plate: Aluminum
※Dimensions in mm, [ ]= inches
※Mounting hole screwing torque: 0.49N・m (5.0kgf・cm) max

Performance data

■INPUT CURRENT CHARACTERISTICS (CDS60048)



■EFFICIENCY CHARACTERISTICS (CDS60048)

