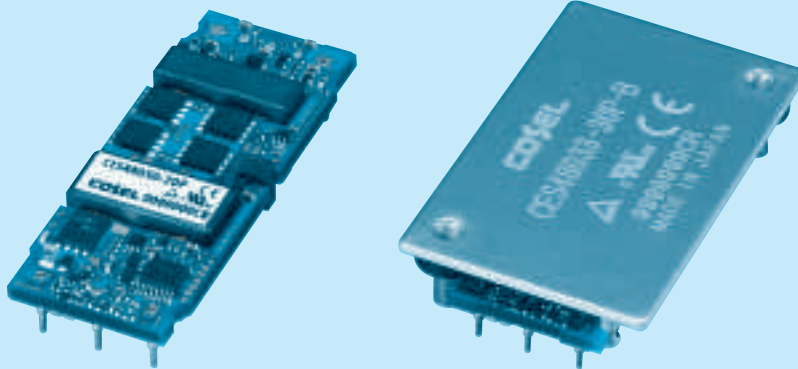
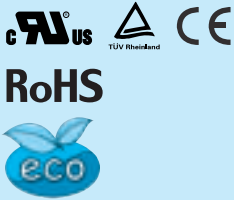


CES Type-P

CE S 48 033 -30 P -□

① ② ③ ④ ⑤ ⑥ ⑦



- ① Series name
 ② Single output
 ③ Input voltage
 48:DC36 - 76V
 ④ Output voltage
 033:3.3V
 050:5.0V
 120:12V
 ⑤ Output current
 ⑥ Type
 P :Conduction Cooling
 ⑦ Optional
 R :with Remote ON/OFF
 Positive logic control
 N :Auto restart from thermal
 protection
 B :BasePlate option
 (Mounting hole M3)
 BT :BasePlate option
 (Mounting hole ϕ 3.4 thru)

* The size of the Base plate option is 1/4Brick size(57.9×36.8mm).

MODEL	CES48033-30P	CES48050-20P	CES48120-7P
MAX OUTPUT WATTAGE[W]	99.0	100.0	84.0
DC OUTPUT	3.3V 30A	5.0V 20A	12V 7A

SPECIFICATIONS

	MODEL	CES48033-30P	CES48050-20P	CES48120-7P	
INPUT	VOLTAGE[V]	DC36 - 76			
	CURRENT[A]	2.29typ	2.32typ	1.93typ	
	EFFICIENCY[%]	90typ	90typ	91typ	
	START-UP VOLTAGE[V]	DC32 - 36			
	HYSTERESIS VOLTAGE[V]	DC2 min			
OUTPUT	VOLTAGE[V]	3.3	5	12	
	CURRENT[A]	30	20	7	
	LINE REGULATION[mV]	±5max			
	LOAD REGULATION[mV]	±5max			
	RIPPLE	[mVrms]	20max	20max	40max
		[mVp-p]	60max	80max	120max
	RIPPLE NOISE[mVp-p]	100max	120max	150max	
	TEMPERATURE REGULATION[mV]	66max	100max	240max	
	DRIFT[mV]	16max	20max	40max	
	START-UP TIME[ms]	200max (DCIN 48V, Io=100%)			
	OUTPUT VOLTAGE ADJUSTMENT RANGE	Fixed (TRM pin open), adjustable by external resistor			
		-15% / +15%	-20% / +20%	-20% / +10%	
OUTPUT VOLTAGE SETTING	±1.6%				
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating			
	OVERVOLTAGE PROTECTION	120% - 140%	125% - 145%	115% - 135%	
	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 50M Ω min (20±15°C)			
	INPUT-BASEPLATE	DC1,500V or AC1,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20±15°C)			
	OUTPUT-BASEPLATE	AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (20±15°C)			
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE	-40 to +85°C, 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/s² (5G), 3minutes period, 60minutes each along X, Y and Z axis			
	IMPACT	196.1m/s² (20G), 11ms, once each along X, Y and Z axis			
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL (CSA60950-1), EN60950-1			
OTHERS	CASE SIZE/WEIGHT	57.9 × 8.5 × 22.76mm [2.28 × 0.33 × 0.9 inches] (W×H×D) / 26g max			
		57.9 × 12.7 × 36.8mm [2.28 × 0.5 × 1.45 inches] (W×H×D) / 50g max			
	COOLING METHOD	Convection / Forced air / Conduction			

*1 At rated input(DC48V) and rated load. Ta=25°C, 2m/s.

*2 Ripple and ripple noise is measured by using measuring board with ceramic capacitor 22 μ F.

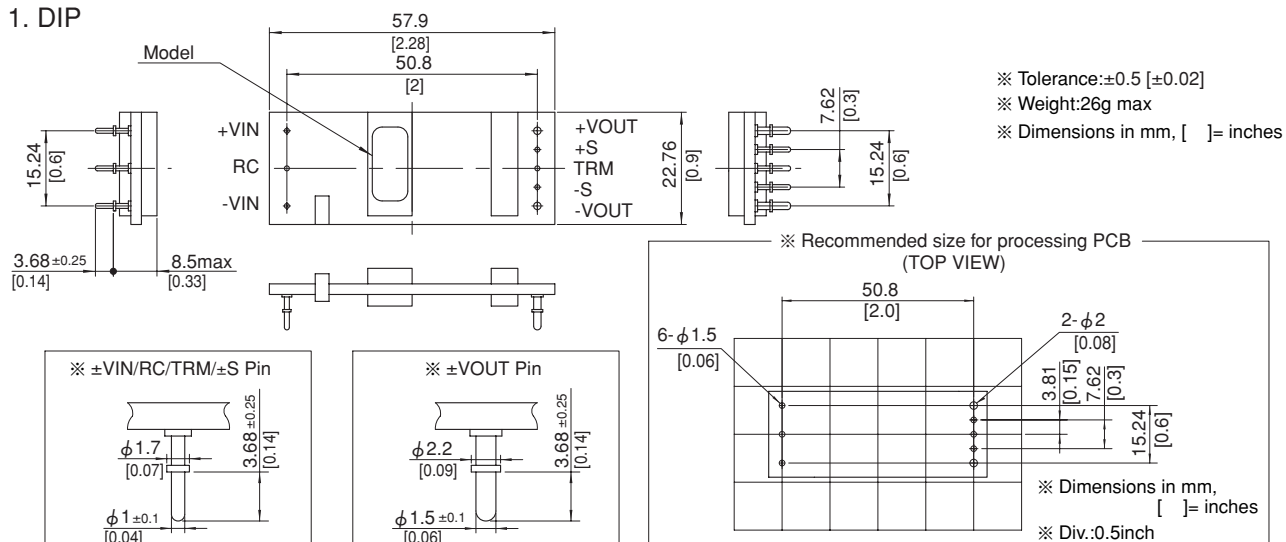
*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.

*4 DC40V or more input voltage is required to trim the output voltage up more than rated output +10%.

*5 BasePlate Option.

External view

1. DIP



2. BasePlate (optionB)

