

Power Supplies

DC to DC Converters

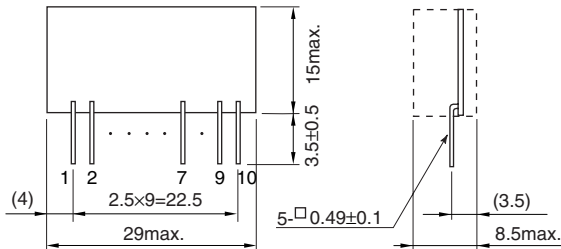
Non-insulation Type, +5V and $\pm 5V$ outputs

CE-5000 Series

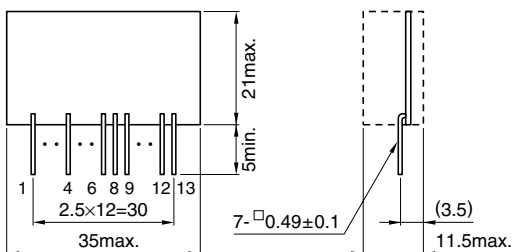
SHAPES AND DIMENSIONS

+5V SINGLE OUTPUT TYPE

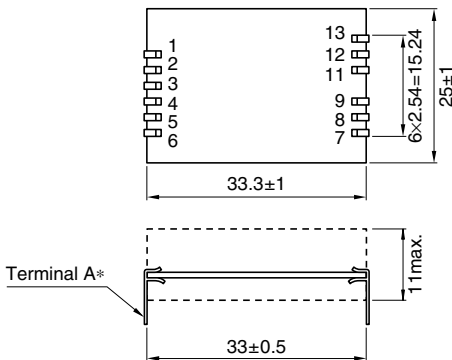
CE-5028



CE-5029

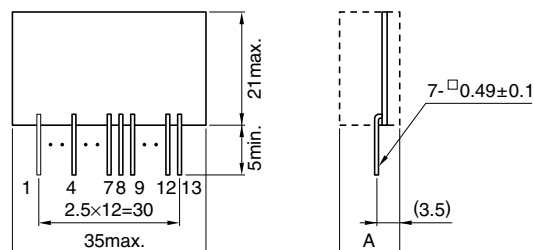


CE-5150



$\pm 5V$ 2-OUTPUT TYPE

CE-5211/CE-5221/CE-5268



• Terminal positions are based on a standard pitch.

A dimension

CE-5211	10max.
CE-5221	11.5max.
CE-5268	11.5max.

Tolerance: ± 0.2
Dimensions in mm

Terminal connection

	CE-5028* ¹	CE-5029* ²
No.1	Vout(-)	+Vin
No.2	Vout(+5V)	—
No.4	—	-Vin
No.7	-Vin	Vout(-)
No.8	—	Vout(+5V)
No.9	Vout sense	Vout sense
No.10	+Vin	—
No.12	—	N.C
No.13	—	N.C

*1 Terminal No.1 and No.7 are connected internally(GND).

*2 Terminal No.4 and No.7 are connected internally(GND).

Terminal connection

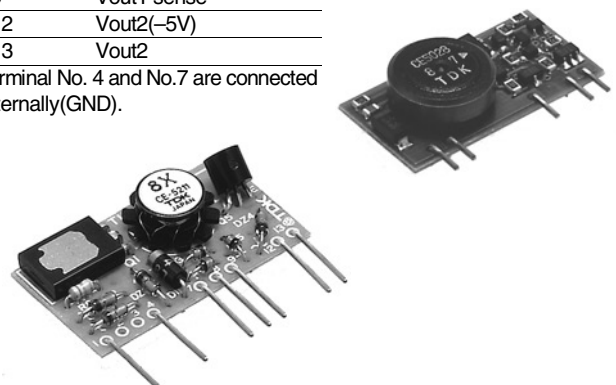
No.1	+Vin(48V)
No.2	+Vin(48V)
No.3	-Vin(0V)
No.4	-Vin(0V)
No.5	N.C
No.6	N.C
No.7	Vout(0V)
No.8	Vout(0V)
No.9	Vout(0V)
No.11	Vout(+5V)
No.12	Vout(+5V)
No.13	Vout(+5V)

• Terminal No.3, 4, 7 and No.8 are connected internally(GND).

Terminal connection

No.1	+Vin
No.4	-Vin
No.7	Vout common
No.8	Vout1(+5V)
No.9	Vout1 sense
No.12	Vout2(-5V)
No.13	Vout2

• Terminal No. 4 and No.7 are connected internally(GND).



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CE-5000 Series

DC to DC Converters

Non-insulation Type, +5V and $\pm 5V$ outputs

SPECIFICATIONS AND STANDARDS

+5V SINGLE OUTPUT TYPE

Part No.		CE-5028	CE-5029	CE-5150
Maximum output power	W	1.5	2.5	5
Input conditions				
Input voltage Edc	V	+10 to +60	+10 to +60	+24 to +60
Efficiency*	%	78typ.	76typ.	83typ.
Output characteristics				
Output voltage Edc	V	+5	+5	+5
Maximum output current	mA	300	500	1000
Output voltage total variation	%	± 5 max.	± 5 max.	± 5 max.
Weight	g	3.5	5	6.5
External device	C1	68 μ F/63V	68 μ F/63V	68 μ F/63V
	C2	330 μ F/6.3V	680 μ F/6.3V	—
	C3	180 μ F/6.3V	390 μ F/6.3V	—
	C4	—	—	—
	C5	—	—	—
	L(Available for equivalent)		EL0607-220K	TSL0707-470K

$\pm 5V$ 2-OUTPUT TYPE

Part No.		CE-5211	CE-5221	CE-5268
Maximum output power	W	3	4.5	2
Input conditions				
Input voltage Edc	V	+10 to +30	+10 to +30	+24 to +60
Efficiency*	%	72typ.	74typ.	70typ.
Output characteristics				
Output voltage Edc	V	± 5	± 5	± 5
Output current range[+5V output]	mA	30 to 450	50 to 750	25 to 280
Output current range[-5V output]	mA	10 to 150	10 to 150	8 to 115
Output voltage total variation	%	± 5 max.	± 5 max.	± 5 max.
Weight	g	5	5	5
External device	C1	100 μ F/50V	180 μ F/50V	56 μ F/80V
	C2	680 μ F/6.3V	1200 μ F/6.3V	680 μ F/6.3V
	C3	470 μ F/6.3V	560 μ F/6.3V	470 μ F/6.3V
	C4	220 μ F/16V	220 μ F/16V	220 μ F/16V
	C5	150 μ F/6.3V	150 μ F/6.3V	150 μ F/6.3V
	L(Available for equivalent)		TSL0707-470K	TSL0707-220K

* Input voltage(listed below), maximum output current.

+36V(CE-5028, CE-5029), +24V(CE-5150, CE-5211, CE-5221, CE-5268)

Power Supplies

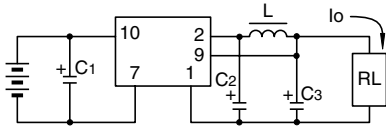
CE-5000 Series

DC to DC Converters

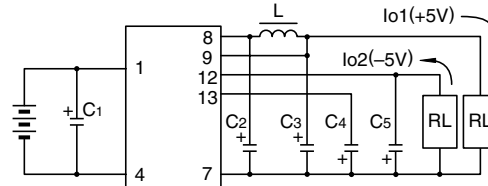
Non-insulation Type, +5V and $\pm 5V$ outputs

CIRCUIT DIAGRAMS

CE-5028

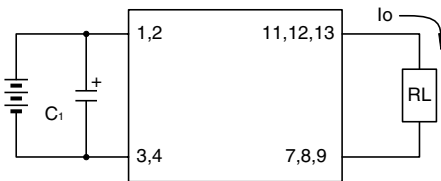


CE-5029, -5211, -5221, -5268



Part No.	C1	C2	C3	C4	C5	L
CE-5028	68 μ F/63V	330 μ F/6.3V	180 μ F/6.3V	—	—	EL0607-220K(22 μ H)
CE-5029	68 μ F/63V	680 μ F/6.3V	390 μ F/6.3V	—	—	TSL0707-470K(47 μ H)
CE-5211	100 μ F/50V	680 μ F/6.3V	470 μ F/6.3V	220 μ F/16V	150 μ F/6.3V	TSL0707-470K(47 μ H)
CE-5221	180 μ F/50V	1200 μ F/6.3V	560 μ F/6.3V	220 μ F/16V	150 μ F/6.3V	TSL0707-220K(22 μ H)
CE-5268	56 μ F/80V	680 μ F/6.3V	470 μ F/6.3V	220 μ F/16V	150 μ F/6.3V	EL0607-220K(22 μ H)

CE-5150



C1: 63V, 68 μ F

- Built-in output capacitor
- Do not connect terminal No.5 and No.6.

LOW INPUT VOLTAGE, OUTPUT STOP FUNCTION

Output voltage is not generated when the input voltage is equal to or lower than the operation start voltage (V_{sd}).

CE-5211, CE-5221: $V_{sd} = +10 \pm 1V$

CE-5268, CE-5150: $V_{sd} = +23 \pm 1V$

OUTPUT SHORT-CIRCUIT PROTECTION FUNCTION

The output 1 (+5V) contains a protection circuit against a short circuit (automatic recovery).

The 2-output type does not contain the protection function in the -5V side.

BALANCE LOAD

The load of the output 1 (I_{o1}) and the load of the output 2 (I_{o2}) should be used under the following conditions:

$$I_{o1}(+5V) > 2 \times I_{o2}(-5V)$$

PRECAUTIONS

- Input fuse
A fuse should be connected to the input with a current rating 3 times that of the standard(normal) input current.
- Install the components according to CIRCUIT DIAGRAMS.
- This product operates only after the input capacitor is connected.