

Power Supplies

CXA Series CXA-L10A/-L10L

DC to AC Inverters

On-board type, Non-dimming, 4.5W, For 1 and 2 Bulbs

FEATURES

- The CXA-L10 series inverters for 2-cold cathode fluorescent lamps support a wide range of CCFL devices and are characterized by highly stable output current.
- Employing a resonance-type push-pull circuit, these inverters deliver sine wave output with very low noise levels.
- Through the use of four different connection methods and combinations of 1 and 2 lamps, different output currents can be selected.
- Compact, lightweight printed circuit board design.
- High efficiency (typically 80%).

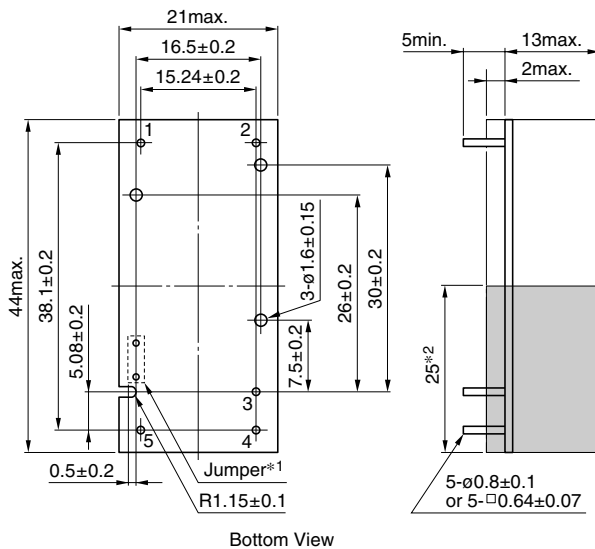
APPLICATIONS

Industrial and other equipment employing LCD panels, products employing small lamps, information terminal devices.

TEMPERATURE AND HUMIDITY RANGES

| | | |
|---------------------------|-----------|-------------------------------------|
| Temperature range (°C) | Operating | -10 to +60 |
| | Storage | -20 to +85 |
| Humidity range(%RH) | | 95max. |
| | | [Maximum wet-bulb temperature 38°C] |

SHAPES AND DIMENSIONS



Bottom View

*1 Terminal numbers 2 and 5 are connected by the jumper. Cut this jumper to let the secondary side float with respect to the primary side.

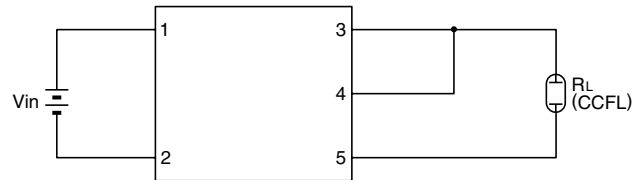
*2 : High-voltage generator (The entire surface within a range of 25mm away from the end of the base in the output)

Weight: 11g typ.

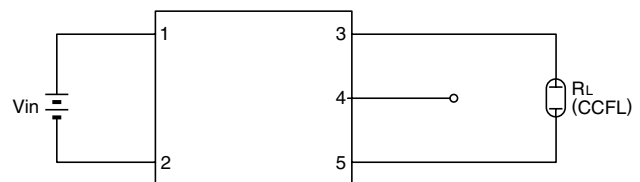
Dimensions in mm

CIRCUIT DIAGRAMS

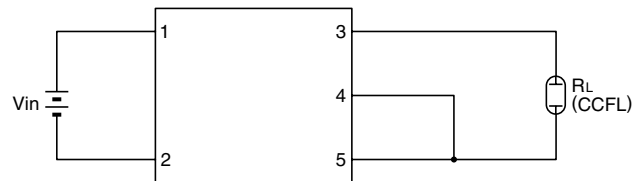
CONNECTION A



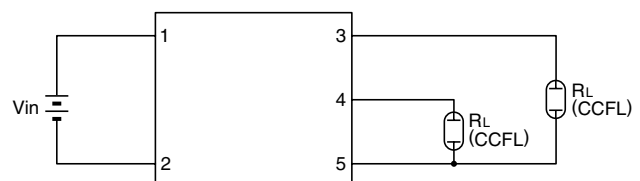
CONNECTION B



CONNECTION C



CONNECTION D



TERMINAL NUMBERS AND FUNCTIONS

| Terminal No. | Functions | CXA-L10A | CXA-L10L | Symbol |
|--------------|---|----------|------------|--------------------|
| 1 | Input voltage E _{dc} | 0 to 6V | 0 to 14.4V | V _{in} |
| 2 | | 5V[nom.] | 12V[nom.] | |
| 3 | Output 1 [High voltage] I _{rms} | 0V | 0V | GND |
| 4 | Output 2 [High voltage] I _{rms} | 5mA | 5mA | V _{HIGH1} |
| 5 | Output [Low voltage] | 5mA | 5mA | V _{HIGH2} |
| | | 0V | 0V | V _{LOW} |

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ELECTRICAL CHARACTERISTICS

5V INPUT TYPE/CXA-L10A

| Connections | Items | Unit | Symbol | Specifications | | | Conditions | | |
|-------------|----------------------------------|------|--------|----------------|------|--------|------------|------------|----------|
| | | | | min. | typ. | max. | Vin(V) | Ta(°C) | RL(kΩ) |
| A | Output current Irms | mA | Iout | 9 | 10 | 11 | 5±1% | 23±5 | 30 |
| | | | | 8 | 10 | 12 | 5±5% | -10 to +60 | 23 to 37 |
| | Input current Idc | A | Iin | — | 0.8 | 1.2 | 5±5% | -10 to +60 | 23 to 37 |
| | Oscillation frequency | kHz | FL | 25 | 30 | 35 | 5±5% | -10 to +60 | 23 to 37 |
| | Open circuit output voltage Erms | V | Vopen | 800 | 900 | — | 5±5% | -10 to +60 | ∞ |
| | Output power | W | Pout | — | — | 4.5 | 5±5% | -10 to +60 | — |
| B | Output current Irms | mA | Iout | 5.2 | 6 | 6.6 | 5±1% | 23±5 | 50 |
| | | | | 4.6 | 6 | 7.2 | 5±5% | -10 to +60 | 38 to 62 |
| | Input current Idc | A | Iin | — | 0.51 | 0.77 | 5±5% | -10 to +60 | 38 to 62 |
| | Oscillation frequency | kHz | FL | 30 | 35 | 40 | 5±5% | -10 to +60 | 38 to 62 |
| | Open circuit output voltage Erms | V | Vopen | 800 | 900 | — | 5±5% | -10 to +60 | ∞ |
| | Output power | W | Pout | — | — | 2.7 | 5±5% | -10 to +60 | — |
| C | Output current Irms | mA | Iout | 4.5 | 5 | 5.6 | 5±1% | 23±5 | 60 |
| | | | | 4 | 5 | 6.1 | 5±5% | -10 to +60 | 45 to 75 |
| | Input current Idc | A | Iin | — | 0.45 | 0.68 | 5±5% | -10 to +60 | 45 to 75 |
| | Oscillation frequency | kHz | FL | 25 | 30 | 35 | 5±5% | -10 to +60 | 45 to 75 |
| | Open circuit output voltage Erms | V | Vopen | 800 | 900 | — | 5±5% | -10 to +60 | ∞ |
| | Output power | W | Pout | — | — | 2.25 | 5±5% | -10 to +60 | — |
| D | Output current Irms | mA | Iout1 | 4.5 | 5 | 5.5 | 5±1% | 23±5 | 60 |
| | | | Iout2 | 4.5 | 5 | 5.5 | 5±1% | 23±5 | 60 |
| | | | Iout1 | 4 | 5 | 6 | 5±5% | -10 to +60 | 45 to 75 |
| | | | Iout2 | 4 | 5 | 6 | 5±5% | -10 to +60 | 45 to 75 |
| | Input current Idc | A | Iin | — | 0.8 | 1.2 | 5±5% | -10 to +60 | 45 to 75 |
| | Oscillation frequency | kHz | FL | 25 | 30 | 35 | 5±5% | -10 to +60 | 45 to 75 |
| | Open circuit output voltage Erms | V | Vopen | 800 | 900 | — | 5±5% | -10 to +60 | ∞ |
| | Output power | W | Pout | — | — | 2.25×2 | 5±5% | -10 to +60 | — |

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ELECTRICAL CHARACTERISTICS

12V INPUT TYPE/CXA-L10L

| Connections | Items | Unit | Symbol | Specifications | | | Conditions | | |
|-------------|----------------------------------|------|--------|----------------|------|--------|------------|------------|----------|
| | | | | min. | typ. | max. | Vin(V) | Ta(°C) | RL(kΩ) |
| A | Output current Irms | mA | Iout | 9 | 10 | 11 | 12±1% | 23±5 | 30 |
| | | | | 8 | 10 | 12 | 12±5% | -10 to +60 | 23 to 37 |
| | Input current Idc | A | Iin | — | 0.32 | 0.48 | 12±5% | -10 to +60 | 23 to 37 |
| | Oscillation frequency | kHz | FL | 25 | 30 | 35 | 12±5% | -10 to +60 | 23 to 37 |
| | Open circuit output voltage Erms | V | Vopen | 800 | 900 | — | 12±5% | -10 to +60 | ∞ |
| | Output power | W | Pout | — | — | 4.5 | 12±5% | -10 to +60 | — |
| B | Output current Irms | mA | Iout | 5.3 | 6 | 6.7 | 12±1% | 23±5 | 50 |
| | | | | 4.7 | 6 | 7.3 | 12±5% | -10 to +60 | 38 to 62 |
| | Input current Idc | A | Iin | — | 0.2 | 0.3 | 12±5% | -10 to +60 | 38 to 62 |
| | Oscillation frequency | kHz | FL | 30 | 35 | 40 | 12±5% | -10 to +60 | 38 to 62 |
| | Open circuit output voltage Erms | V | Vopen | 800 | 900 | — | 12±5% | -10 to +60 | ∞ |
| | Output power | W | Pout | — | — | 2.7 | 12±5% | -10 to +60 | — |
| C | Output current Irms | mA | Iout | 4.5 | 5 | 5.6 | 12±1% | 23±5 | 60 |
| | | | | 4 | 5 | 6.1 | 12±5% | -10 to +60 | 45 to 75 |
| | Input current Idc | A | Iin | — | 0.18 | 0.27 | 12±5% | -10 to +60 | 45 to 75 |
| | Oscillation frequency | kHz | FL | 25 | 30 | 35 | 12±5% | -10 to +60 | 45 to 75 |
| | Open circuit output voltage Erms | V | Vopen | 800 | 900 | — | 12±5% | -10 to +60 | ∞ |
| | Output power | W | Pout | — | — | 2.25 | 12±5% | -10 to +60 | — |
| D | Output current Irms | mA | Iout1 | 4.5 | 5 | 5.5 | 12±1% | 23±5 | 60 |
| | | | Iout2 | 4.5 | 5 | 5.5 | 12±1% | 23±5 | 60 |
| | | | Iout1 | 4 | 5 | 6 | 12±5% | -10 to +60 | 45 to 75 |
| | | | Iout2 | 4 | 5 | 6 | 12±5% | -10 to +60 | 45 to 75 |
| | Input current Idc | A | Iin | — | 0.32 | 0.48 | 12±5% | -10 to +60 | 45 to 75 |
| | Oscillation frequency | kHz | FL | 25 | 30 | 35 | 12±5% | -10 to +60 | 45 to 75 |
| | Open circuit output voltage Erms | V | Vopen | 800 | 900 | — | 12±5% | -10 to +60 | ∞ |
| | Output power | W | Pout | — | — | 2.25×2 | 12±5% | -10 to +60 | — |

