

INVERTERS(FOR 2-COLD CATHODE FLUORESCENT LAMP, ON-BOARD TYPE)

5, 12V input/4.5W
CXA series, CXA-L10A/-L10L

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%).

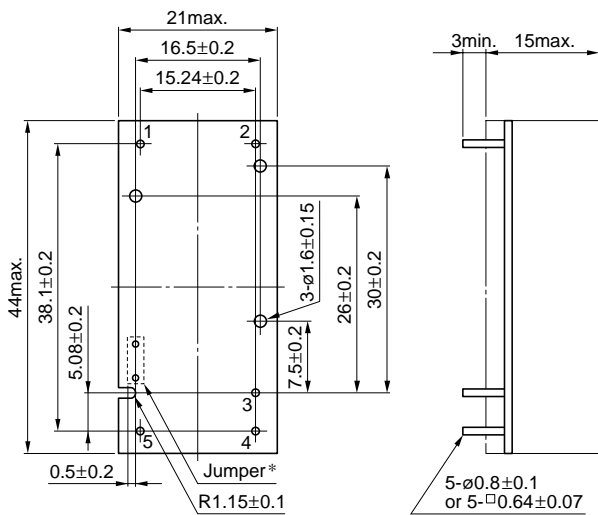
APPLICATIONS

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

TEMPERATURE AND HUMIDITY RANGES

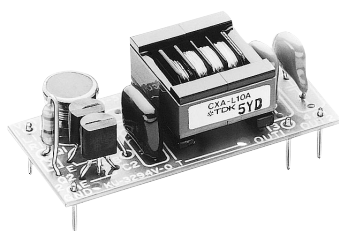
| | | |
|---------------------------|---|------------|
| Temperature range (°C) | Operating | -10 to +60 |
| | Storage | -20 to +85 |
| Humidity range (%)RH | 95max. [Maximum wet-bulb temperature 38°C] | |

SHAPES AND DIMENSIONS



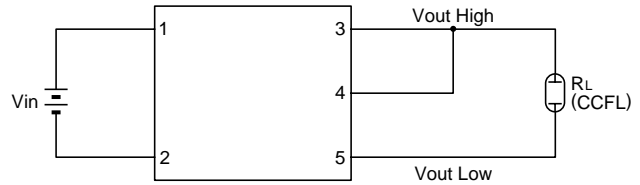
* Terminal numbers 2 and 5 are connected by the jumper. Cut this jumper to let the secondary side float with respect to the primary side.

Weight: 11g typ.
Dimensions in mm

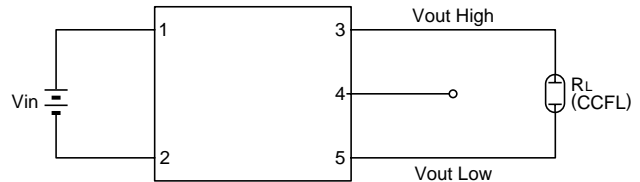


CIRCUIT DIAGRAMS

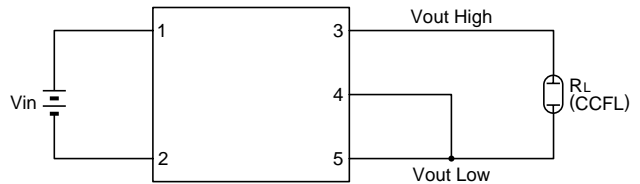
CONNECTION A



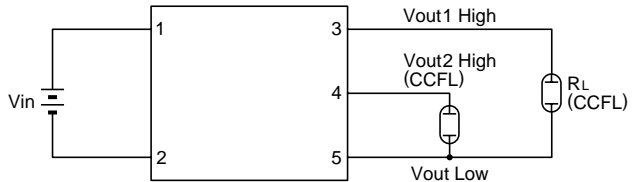
CONNECTION B



CONNECTION C



CONNECTION D



TERMINAL NUMBERS AND FUNCTIONS

| Terminal No. | Functions |
|--------------|-------------|
| 1 | +Vin |
| 2 | -Vin(GND) |
| 3 | Iout1 |
| 4 | Iout2 |
| 5 | Iout-return |

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5, 12V input/4.5W
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ELECTRICAL CHARACTERISTICS 5V INPUT TYPE, CXA-L10A

| Connections | Items | | | Specifications | | | Conditions | | |
|--------------|-----------------------------|-----------------------|-------------------|----------------|------|--------|---------------------|---------------------|---------------------|
| | | | | min. | typ. | max. | V _{in} (V) | T _a (°C) | R _L (kΩ) |
| A | Output current | I _{rms} (mA) | I _{out} | 9 | 10 | 11 | 5±1% | 23±5 | 30 |
| | | | | 8 | 10 | 12 | 5±5% | -10 to +60 | 23 to 37 |
| | Input current | I _{dc} (A) | I _{in} | — | 0.8 | 1.2 | 5±5% | -10 to +60 | 23 to 37 |
| | Oscillation frequency | (kHz) | f | 25 | 30 | 35 | 5±5% | -10 to +60 | 23 to 37 |
| | Open circuit output voltage | E _{rms} (V) | V _{open} | 800 | 900 | — | 5±5% | -10 to +60 | ∞ |
| Output power | (W) | P _{out} | — | — | 4.5 | 5±5% | -10 to +60 | — | |
| B | Output current | I _{rms} (mA) | I _{out} | 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 | I _{dc} (A) | I _{in} | — | 0.51 | 0.77 | 5±5% | -10 to +60 | 38 to 62 |
| | Oscillation frequency | (kHz) | f | 30 | 35 | 40 | 5±5% | -10 to +60 | 38 to 62 |
| | Open circuit output voltage | E _{rms} (V) | V _{open} | 800 | 900 | — | 5±5% | -10 to +60 | ∞ |
| Output power | (W) | P _{out} | — | — | 2.7 | 5±5% | -10 to +60 | — | |
| C | Output current | I _{rms} (mA) | I _{out} | 4.5 | 5 | 5.6 | 5±1% | 23±5 | 60 |
| | | | | 4 | 5 | 6.1 | 5±5% | -10 to +60 | 45 to 75 |
| | Input current | I _{dc} (A) | I _{in} | — | 0.45 | 0.68 | 5±5% | -10 to +60 | 45 to 75 |
| | Oscillation frequency | (kHz) | f | 25 | 30 | 35 | 5±5% | -10 to +60 | 45 to 75 |
| | Open circuit output voltage | E _{rms} (V) | V _{open} | 800 | 900 | — | 5±5% | -10 to +60 | ∞ |
| Output power | (W) | P _{out} | — | — | 2.25 | 5±5% | -10 to +60 | — | |
| D | Output current | I _{rms} (mA) | I _{out1} | 4.5 | 5 | 5.5 | 5±1% | 23±5 | 60 |
| | | | I _{out2} | 4.5 | 5 | 5.5 | 5±1% | 23±5 | 60 |
| | | | I _{out1} | 4 | 5 | 6 | 5±5% | -10 to +60 | 45 to 75 |
| | | | I _{out2} | 4 | 5 | 6 | 5±5% | -10 to +60 | 45 to 75 |
| | Input current | I _{dc} (A) | I _{in} | — | 0.8 | 1.2 | 5±5% | -10 to +60 | 45 to 75 |
| | Oscillation frequency | (kHz) | f | 25 | 30 | 35 | 5±5% | -10 to +60 | 45 to 75 |
| | Open circuit output voltage | E _{rms} (V) | V _{open} | 800 | 900 | — | 5±5% | -10 to +60 | ∞ |
| | Output power | (W) | P _{out} | — | — | 2.25×2 | 5±5% | -10 to +60 | — |

INVERTERS(FOR 2-COLD CATHODE FLUORESCENT LAMP, ON-BOARD TYPE)

5, 12V input/4.5W
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ELECTRICAL CHARACTERISTICS 12V INPUT TYPE, CXA-L10L

| Connections | Items | | | Specifications | | | Conditions | | |
|--------------|-----------------------------|-----------------------|-------------------|----------------|------|--------|---------------------|---------------------|---------------------|
| | | | | min. | typ. | max. | V _{in} (V) | T _a (°C) | R _L (kΩ) |
| A | Output current | I _{rms} (mA) | I _{out} | 9 | 10 | 11 | 12±1% | 23±5 | 30 |
| | | | | 8 | 10 | 12 | 12±5% | -10 to +60 | 23 to 37 |
| | Input current | I _{dc} (A) | I _{in} | — | 0.32 | 0.48 | 12±5% | -10 to +60 | 23 to 37 |
| | Oscillation frequency | (kHz) | f | 25 | 30 | 35 | 12±5% | -10 to +60 | 23 to 37 |
| | Open circuit output voltage | E _{rms} (V) | V _{open} | 800 | 900 | — | 12±5% | -10 to +60 | ∞ |
| Output power | (W) | P _{out} | — | — | 4.5 | 12±5% | -10 to +60 | — | |
| B | Output current | I _{rms} (mA) | I _{out} | 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 | I _{dc} (A) | I _{in} | — | 0.2 | 0.3 | 12±5% | -10 to +60 | 38 to 62 |
| | Oscillation frequency | (kHz) | f | 30 | 35 | 40 | 12±5% | -10 to +60 | 38 to 62 |
| | Open circuit output voltage | E _{rms} (V) | V _{open} | 800 | 900 | — | 12±5% | -10 to +60 | ∞ |
| Output power | (W) | P _{out} | — | — | 2.7 | 12±5% | -10 to +60 | — | |
| C | Output current | I _{rms} (mA) | I _{out} | 4.5 | 5 | 5.6 | 12±1% | 23±5 | 60 |
| | | | | 4 | 5 | 6.1 | 12±5% | -10 to +60 | 45 to 75 |
| | Input current | I _{dc} (A) | I _{in} | — | 0.18 | 0.27 | 12±5% | -10 to +60 | 45 to 75 |
| | Oscillation frequency | (kHz) | f | 25 | 30 | 35 | 12±5% | -10 to +60 | 45 to 75 |
| | Open circuit output voltage | E _{rms} (V) | V _{open} | 800 | 900 | — | 12±5% | -10 to +60 | ∞ |
| Output power | (W) | P _{out} | — | — | 2.25 | 12±5% | -10 to +60 | — | |
| D | Output current | I _{rms} (mA) | I _{out1} | 4.5 | 5 | 5.5 | 12±1% | 23±5 | 60 |
| | | | I _{out2} | 4.5 | 5 | 5.5 | 12±1% | 23±5 | 60 |
| | | | I _{out1} | 4 | 5 | 6 | 12±5% | -10 to +60 | 45 to 75 |
| | | | I _{out2} | 4 | 5 | 6 | 12±5% | -10 to +60 | 45 to 75 |
| | Input current | I _{dc} (A) | I _{in} | — | 0.32 | 0.48 | 12±5% | -10 to +60 | 45 to 75 |
| | Oscillation frequency | (kHz) | f | 25 | 30 | 35 | 12±5% | -10 to +60 | 45 to 75 |
| | Open circuit output voltage | E _{rms} (V) | V _{open} | 800 | 900 | — | 12±5% | -10 to +60 | ∞ |
| | Output power | (W) | P _{out} | — | — | 2.25×2 | 12±5% | -10 to +60 | — |