

CXA-0359

Dimming/Connector Type

Features

- 2-output
 - Applicable panel size*: 12 inches
 - With brightness control function (Pulse Wide Modulation mode).
 - With shut down function.
 - With a sensing function for running out of lamp (alarm output).
 - In the high-voltage generator(a terminal and a pattern), an anti-dust measure by silicone application is taken.
 - Two stages of dimming range of a Hi mode and a Low mode is selectable.
- (Notice) Applicable panel size becomes a standard.

Applications



CXA-0359 Specifications (Please refer to each specification before use)

Electrical Characteristics

High-mode

| Item | Unit | Symbol | Specification | | | Condition | | | | | | | Remark |
|----------------------|-------|--------------------------|---------------|-----|------|-----------|---------|--------|---------|-----------|------------|------------|------------------------------|
| | | | min | typ | max | Vin(V) | Vrmt(V) | Vbr(V) | Rbr(kΩ) | Hi/Low(V) | Ta(°C) | RL(kΩ) | |
| Output Current | mArms | Iout (Maximum dimmer) | 6.5 | 7.0 | 7.5 | 12±0.6 | 5 | 2.5 | - | 5 | -10 to +70 | 70 | Voltage dimmer (*1) |
| | | | 6.5 | 7.0 | 7.5 | 12±0.6 | 5 | - | 10 | 5 | -10 to +70 | 70 | Volume dimmer (*1) |
| | | Iout (Minimum dimmer) | 2.6 | 3.5 | 4.0 | 12±0.6 | 5 | 0 | - | 5 | -10 to +70 | 70 | Voltage dimmer (*1) |
| | | | 2.6 | 3.5 | 4.0 | 12±0.6 | 5 | - | 0 | 5 | -10 to +70 | 70 | Volume dimmer (*1) |
| Input Current | A | Iin1 | - | 0.8 | 1.0 | 12±0.6 | 5 | 2.5 | 10 | 5 | -10 to +70 | 70 | Remote ON |
| | mA | Iin2 | - | | | 1 | 12±0.6 | 0 | 2.5 | 10 | 5 | -10 to +70 | 70 |
| Frequency | kHz | Freq1 | 58 | 63 | 68 | 12±0.6 | 5 | 2.5 | 10 | 5 | -10 to +70 | 70 | |
| | | Freq2(Duty frequency) | 310 | 340 | 370 | 12±0.6 | 5 | 0 | | 5 | -10 to +70 | 70 | |
| Open Circuit Voltage | Vrms | Vopen | 1800 | - | 2000 | 11.4min. | 5 | 2.5 | 10 | 5 | -10 to +70 | ∞ | Open load |
| Alarm Signal | V | Vst | 4.5 | 5.0 | 5.5 | 12±0.6 | 5 | 2.5 | 10 | 5 | -10 to +70 | ∞ | In case of lamp anomaly (*2) |
| | | | - | 0 | 0.5 | 12±0.6 | 5 | 2.5 | 10 | 5 | -10 to +70 | 70 | On a normal operation (*2) |

(*1) Please refer to the connection diagram for details of a dimming method.

(*2) Please refer to the connection diagram for details of alarm output.

Low-mode

| Item | Unit | Symbol | Specification | | | Condition | | | | | | | Remark |
|----------------------|-------|--------------------------|---------------|-----|------|-----------|---------|--------|---------|-----------|------------|------------|------------------------------|
| | | | min | typ | max | Vin(V) | Vrmt(V) | Vbr(V) | Rbr(kΩ) | Hi/Low(V) | Ta(°C) | RL(kΩ) | |
| Output Current | mArms | Iout (Maximum dimmer) | 4.5 | 5 | 5.5 | 12±0.6 | 5 | 2.5 | - | 0 or open | -10 to +70 | 110 | Voltage dimmer (*1) |
| | | | 4.5 | 5 | 5.5 | 12±0.6 | 5 | - | 10 | 0 or open | -10 to +70 | 110 | Volume dimmer (*1) |
| | | Iout (Minimum dimmer) | 1.5 | 2.2 | 2.9 | 12±0.6 | 5 | 0 | - | 0 or open | -10 to +70 | 110 | Voltage dimmer (*1) |
| | | | 1.5 | 2.2 | 2.9 | 12±0.6 | 5 | - | 0 | 0 or open | -10 to +70 | 110 | Volume dimmer (*1) |
| Input Current | A | Iin1 | - | 0.6 | 0.8 | 12±0.6 | 5 | 2.5 | 10 | 0 or open | -10 to +70 | 110 | Remote ON |
| | mA | Iin2 | - | | | 1 | 12±0.6 | 0 | 2.5 | 10 | 0 or open | -10 to +70 | 110 |
| Frequency | kHz | Freq1 | 58 | 63 | 68 | 12±0.6 | 5 | 2.5 | 10 | 0 or open | -10 to +70 | 110 | |
| | | Freq2(Duty frequency) | 310 | 340 | 370 | 12±0.6 | 5 | 0 | | 0 or open | -10 to +70 | 110 | |
| Open Circuit Voltage | Vrms | Vopen | 1600 | - | 1800 | 11.4min. | 5 | 2.5 | 10 | 0 or open | -10 to +70 | ∞ | Open load |
| Alarm Signal | V | Vst | 4.5 | 5.0 | 5.5 | 12±0.6 | 5 | 2.5 | 10 | 0 or open | -10 to +70 | ∞ | In case of lamp anomaly (*2) |
| | | | - | 0 | 0.5 | 12±0.6 | 5 | 2.5 | 10 | 0 or open | -10 to +70 | 110 | On a normal operation (*2) |

(*1) Please refer to the connection diagram for details of a dimming method.

(*2) Please refer to the connection diagram for details of alarm output.

Other Specifications

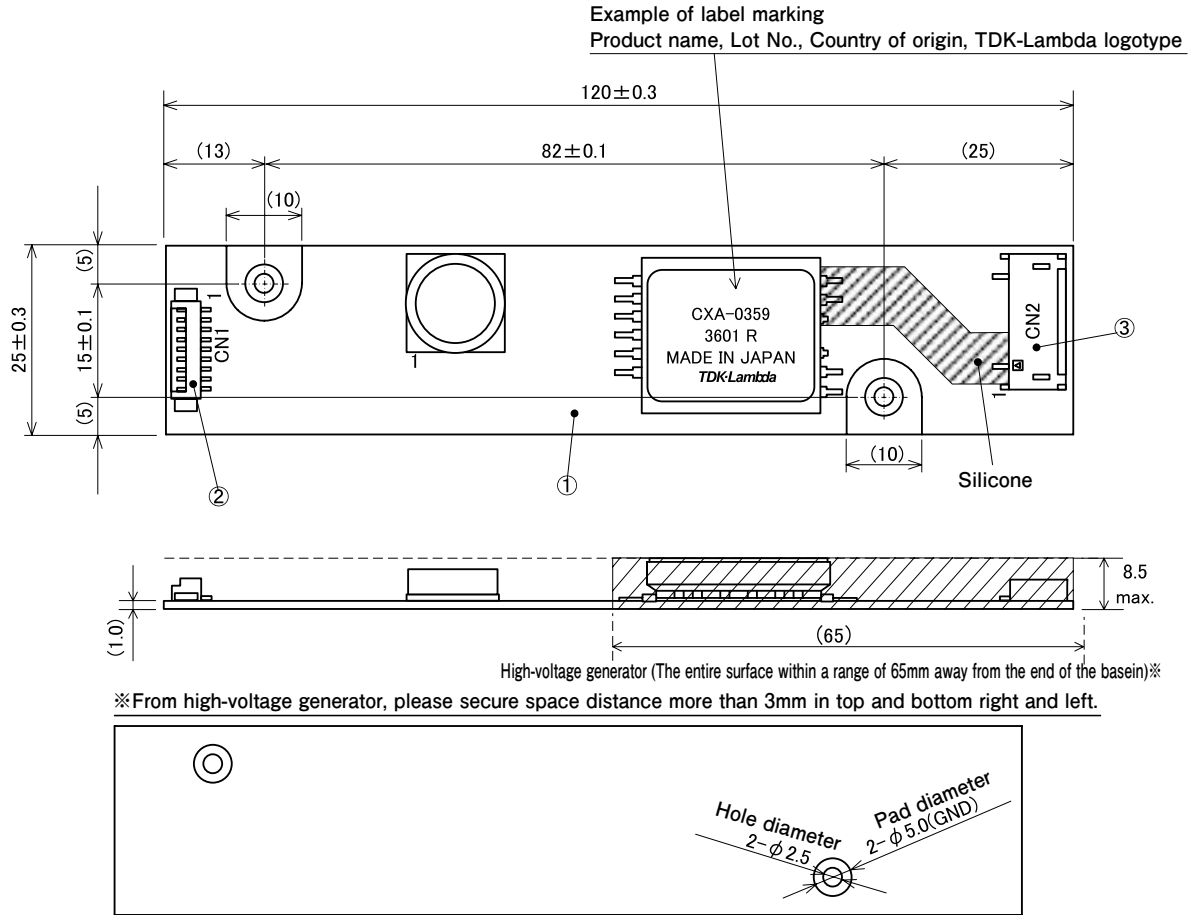
| | | |
|---------------------------------------|-----|-----------------|
| Dimming Function | | Yes |
| Operating Temperature | °C | -10 to +70 |
| Storage Temperature | °C | -30 to +85 |
| Operating Humidity Ratio | RH% | 95Max |
| Safety Standard | | - |
| Weight | g | 23 |
| Dimensions(WxDxH) | mm | 120x25x8.5 (*3) |
| Fused Input | | Yes |
| Remote ON / OFF | | Yes |
| Alarm Signal Function | | Yes |
| Shutdown Function | | Yes |
| Silicone Coating on High Voltage Area | | Yes |

(*3) These dimensions are indicated the maximum only H. Others are typical values.

Conformity to RoHs Directive

This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

Outline Drawing



unit:mm

Connector

| Connector number | Part number | Model/Material | Quantity | Remarks | Recommended applicable connector |
|------------------|---------------------------|----------------------------------|----------|--------------------|----------------------------------|
| ① | Printed circuit board PCB | Composite (CEM-3) | 1 | UL94V-0 t=1.0 | — |
| ② | Input connector CN1 | 53261-0971 | 1 | Molex Inc. | 51021-0900 |
| ③ | Output connector CN2,CN3 | SM03 (7-D1) B-BHS-1-TB (LF) (SN) | 1 | JST Mfg. Co., Ltd. | BHR-04VS-1 |

Terminal Numbers And Functions

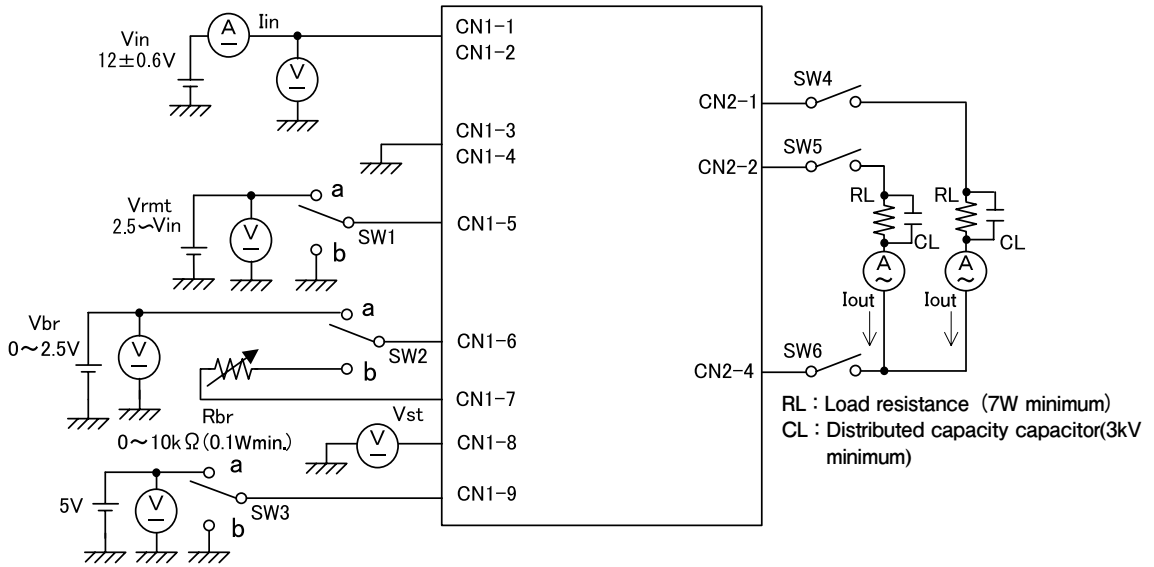
Input side CN1

| Terminal number | Symbol | Rated voltage | Remarks |
|-----------------|--------------|---------------------|--|
| CN1-1 | Vin | $12 \pm 0.6V$ | Power input |
| CN1-2 | | | |
| CN1-3 | GND | 0V | Ground |
| CN1-4 | | | |
| CN1-5 | Vrmt | 0V/2.5V to Vin | Remote terminal 0 to 0.4V : OFF 2.5 to Vin V : ON Open : ON |
| CN1-6 | Rbr1/Vbr | 0 to 2.5V/0 to 10kΩ | Dimmer terminal 1 |
| CN1-7 | Rbr2 | 0 to 10kΩ | Dimmer terminal 2 |
| CN1-8 | Vst (Output) | 0V/5V | Alarm output Lump open : 5V |
| CN1-9 | H/L | 0V/5V | 0 to 0.4V : Low-mode 2.5 to Vin : High-mode Open: Low-mode |

Output side CN2

| Terminal number | Symbol | Rated voltage | Remarks |
|-----------------|--------------------|---------------|--------------------|
| CN2-1 | V _{HIGH1} | 600Vrms | Output 1 |
| CN2-2 | V _{HIGH2} | 600Vrms | Output 2 |
| CN2-3 | N.C. | — | N.C. |
| CN2-4 | V _{LOW} | (2V) | Output 1, 2 return |

Connections



Operate as follows by switching SW1.

| SW1 | Unit operation |
|------|------------------|
| a | Operation |
| b | Does not operate |
| Open | Operation |

Operate as follows by switching SW2.

| SW2 | Unit operation |
|-----|---------------------------------|
| a | Voltage dimmer Vbr=0 to 2.5V |
| b | Volume dimmer VR=0 to 10kΩ |

※ Vbr=0V:Maximum brightness
Rbr=0Ω:Maximum brightness

Operate as follows by switching SW3.

| SW3 | Unit operation |
|------|--|
| a | High-mode (Lamp current 7mA _{RMS} /Lamp) |
| b | Low-mode (Lamp current 5mA _{RMS} /Lamp) |
| Open | Low-mode (Lamp current 5mA _{RMS} /Lamp) |

Protection circuit operation

| Load condition | Alarm output (CN1-8) ※1 | Shut-down function ※2 |
|---------------------------------|-------------------------|-----------------------|
| Normal condition | 0.5V max. | Does not shut down |
| When one load (lamp) is run-out | 5±0.5V | Does not shut down |
| When 2 loads (lamps) is run-out | 5±0.5V | Shut down |

※1: In the case of low mode, and more than one of SW4-SW6 in the connection diagram was open, alarm signal will output 5V. (Please make CN1-8 opening in a high mode)

※2: When all lamps were opened, this inverter has included protective function to stop operation in about 10 seconds.