

CXA-0385 (16W QUAD OUTPUTS WITH DIMMING FUNCTION)

Applicable LCD:

AA150XN02 (MITSUBISHI)
 AA150XN03 (MITSUBISHI)
 AA150XN04 (MITSUBISHI)
 T-351863D150-FW-A-AB (OPTREX)

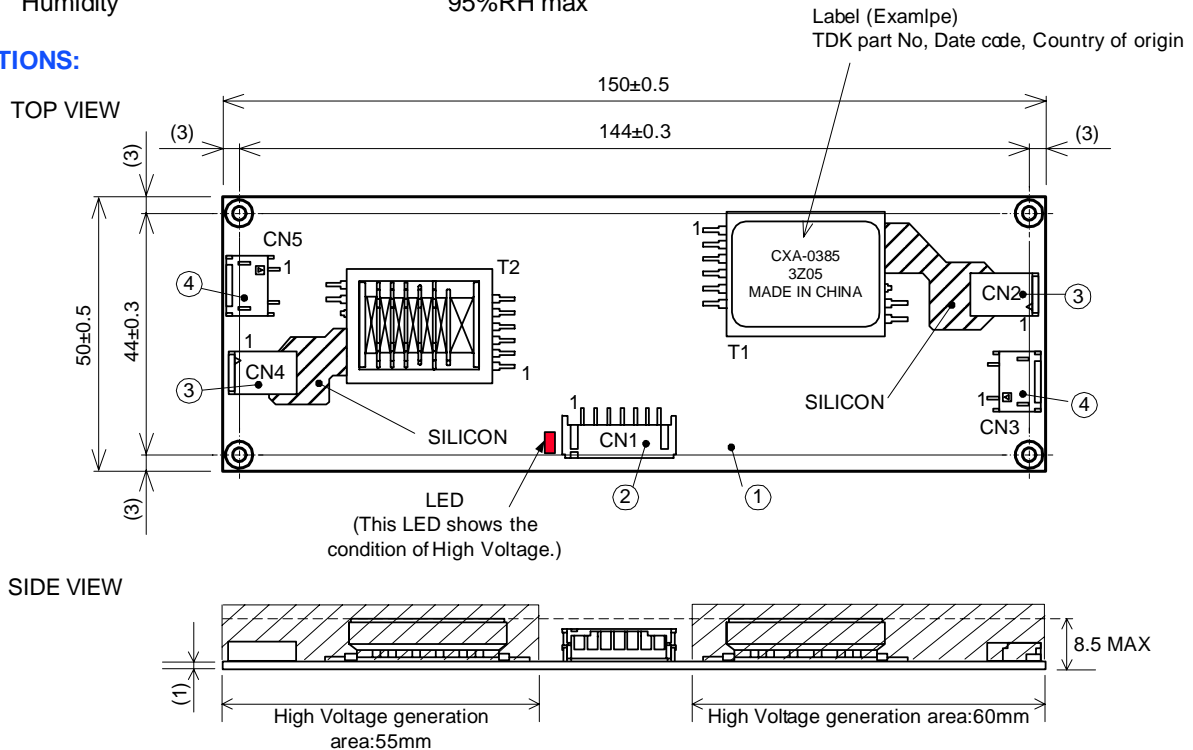
FEATURES:

- This inverter is for four lamps. It has Dimming function(PWM Sys tem) and Remote function.
- This product has shutdown function.
It prevents from keeping generating the high voltage when the lamps open.(Refer Note.6.)
- With lamp failure detector.
Normal Operation : CN1-6=0V
Some Lamps Open : CN1-6=5V
- Select the way of dimming (CN1-5)
 - Insert a potentiometer (0-50kΩ)
 - Apply the voltage (0-2.5V)
- When LED lights , it shows the generation of high voltage.
- The high-voltage area (terminals and patterns) is coated with silicone so as to avoid the defects caused by dust.

TEMPERATURE & HUMIDITY:

Operating Temperature Range : 0°C ~ +70°C
 Storage Temperature Range : -30°C ~ +85°C
 Humidity : 95%RH max

DIMENSIONS:



Note1 : Please keep minimum 2mm clearance (all directions) between high voltage area as marked on mechanical drawing and any conductors.

BOTTOM VIEW



Unit:mm

Weight:43g

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CONNECTOR CONFIGURATION:

| No. | Part Description | Qty. | Material | Using connector | Corresponding connector |
|-----|------------------|------|------------------------------|-----------------------|-------------------------|
| ① | PWB | 1 | Composite (CEM-3) t=1.0mm | - | Using connector |
| ② | Input Connector | 1 | - | S7B-PH-SM3(JST) | PHR-7(JST) |
| ③ | Output Connector | 2 | - | SM02B-BHSS-1(JST) | BHSR02VS-1(JST) |
| ④ | Output Connector | 2 | - | SM02(4.0)B-BHS-1(JST) | BHR-02VS-1(JST) |

CN01:S7B-PH-SM3 (JST)

| Pin | Symbol | | Note |
|-------|--------|------------------------------|--------------------|
| CN1-1 | Vin | 10.8~13.2V | Input Voltage |
| CN1-2 | | | |
| CN1-3 | GND | 0V | Ground |
| CN1-4 | | | |
| CN1-5 | Vbr | 0~2.5V | Brightness Control |
| | Rbr | 0~50kΩ | |
| CN1-6 | Vst | 0V / 5V | Alarm Signal |
| CN1-7 | Vrmt | 0~0.4V : OFF 2.5~Vin : ON | Remote Control |

Note2 : This is an output pin and it is active high(5V) if any Lamp opens / fails.

CN2,CN4:SM02B-BHSS-1 (JST)

| Pin | Symbol | Note |
|-------|--------|--------------------|
| CN2-1 | Vhigh1 | 600Vrms / 6.5mArms |
| CN2-2 | Vhigh2 | 600Vrms / 6.5mArms |
| CN4-1 | Vhigh3 | 600Vrms / 6.5mArms |
| CN4-2 | Vhigh4 | 600Vrms / 6.5mArms |

CN3,CN5:SM02(4.0)B-BHS-1 (JST)

| Pin | Symbol | Note |
|-------|--------|------|
| CN3-1 | Vlow1 | (2V) |
| CN3-2 | Vlow2 | (2V) |
| CN5-1 | Vlow3 | (2V) |
| CN5-2 | Vlow4 | (2V) |

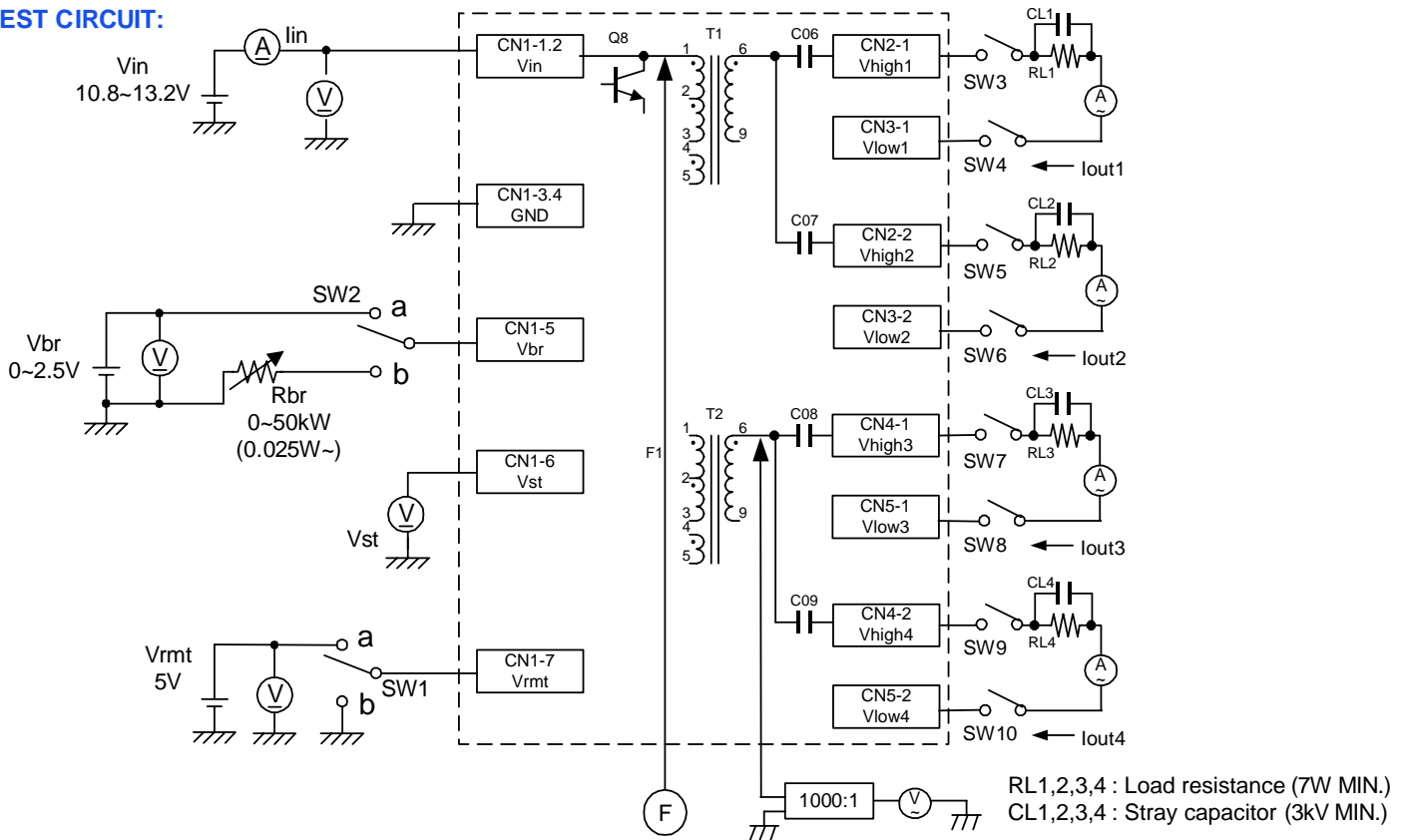
ELECTRICAL CHARACTERISTICS:

| Parameter | Symbol | Conditions | | | | | Specifications | | | Unit | Note |
|------------------|--------|------------|---------|------------------|--------|-------------------------------|----------------|------|------|-------|---------------------------|
| | | Vin(V) | Vrmt(V) | Vbr(V) / Rbr(kΩ) | Ta(°C) | RL1~RL4(kΩ) // CL1~CL4(pF) | min. | typ. | max. | | |
| Output Current | Iout1 | 12.0±1.2 | 5±0.25 | 0 / 0 | 0~70 | 90 // 5 | 6.0 | 6.5 | 7.0 | mArms | Max Brightness |
| | ~Iout4 | 12.0±1.2 | 5±0.25 | 2.5 / 50 | 0~70 | 90 // 5 | 2.3 | 3.0 | 3.7 | mArms | Min Brightness |
| Input Current | Iin1 | 12.0±1.2 | 5±0.25 | 0 / 0 | 0~70 | 90 // 5 | - | 1.7 | 2.0 | A | |
| | Iin2 | 12.0±1.2 | 0 | 0~2.5 / 0~50 | 0~70 | 90 // 5 | - | - | 1 | mA | Remote OFF |
| Frequency | F1 | 12.0±1.2 | 5±0.25 | 0 | 0~70 | 90 // 5 | 45 | 50 | 55 | kHz | |
| Frequency (Duty) | F2 | 12.0±1.2 | 5±0.25 | 2.5 / 50 | 0~70 | 90 // 5 | 240 | 270 | 300 | Hz | |
| Open Voltage | Vopen | 12.0±1.2 | 5±0.25 | 0 | 0~70 | ∞ / ∞ | 1.5 | 1.6 | - | kVrms | |
| Alarm Signal | Vst | 12.0±1.2 | 5±0.25 | 0 | 0~70 | 90 // 5 | - | 0 | - | V | Normal |
| | | 12.0±1.2 | 5±0.25 | 0~2.5 / 0~50 | 0~70 | 90 // 5 Refer Note 6 | 4.5 | 5 | 5.5 | V | Operation Alarm Signal |

Note3. The test circuits added 5pF capacitor across the load resistor for LCD back light stay capacitor.

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TEST CIRCUIT:



Note 4. SW1 Operation is as following;

| SW1 | Operation of Unit |
|------|-------------------|
| a | Operation |
| b | Non Operation |
| OPEN | Non Operation |

Note 5. SW2 Operation is as following;

| SW2 | Operation of Unit |
|-----|--|
| a | Voltage dimming Vbr=0~2.5V (Vbr=0V : Max Brightness) |
| b | Variable resistance dimming Rbr=0~50kΩ (Rbr=0Ω : Max Brightness) |

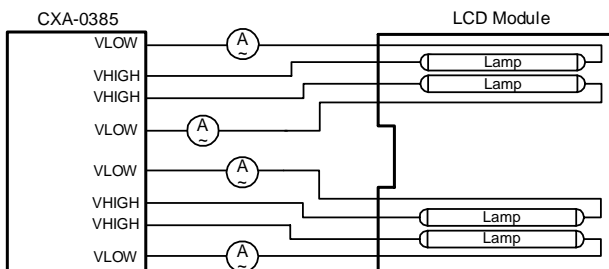
Note 6. Safety Function

| Load Condition | *1 Alarm Signal (CN1-6) | **2 Shutdown Operation |
|------------------|-------------------------|------------------------|
| Normal Operation | 0.5V max. | Normal |
| 1 Lamp Open | 4.5~5.5V | Normal |
| 2 Lamps Open | 4.5~5.5V | Normal |
| 3 Lamps Open | 4.5~5.5V | Normal |
| 4 Lamps Open | 4.5~5.5V | Shutdown |

*1. If the inverter detects open circuit all lamps for more than 3 seconds it will shut down.

*2. In test circuit, If anyone of switches SW3~SW10 opens, then the warning signal will be activated (+5V).

Note 7. Connection diagram of LCD module (Reference)



*Connect the High Frequency Current Meter to the Low-Voltage (VLOW) side.