

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

### Applicable LCD:

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

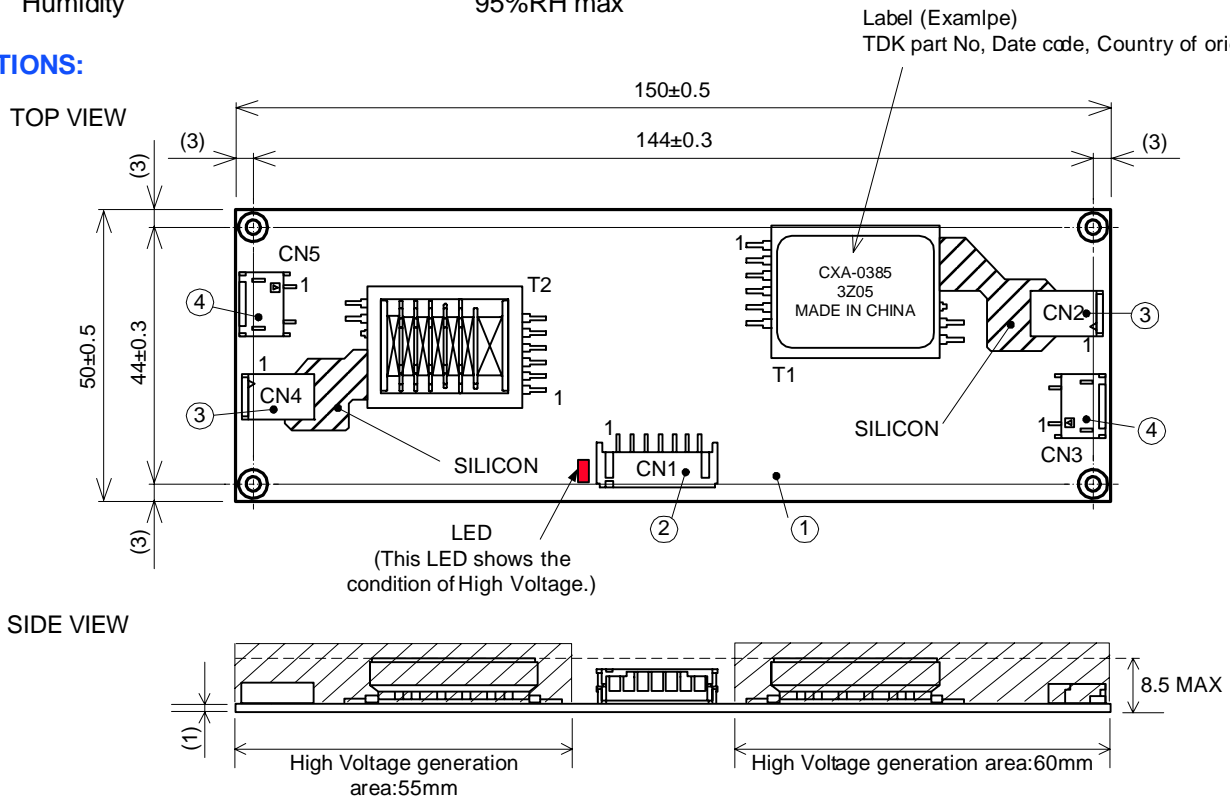
### FEATURES:

- a. This inverter is for four lamps. It has Dimming function(PWM System) and Remote function.
- b. This product has shutdown function.  
 It prevents from keeping generating the high voltage when the lamps open.(Refer Note.6.)
- c. With lamp failure detector.  
 Normal Operation : CN1-6=0V  
 Some Lamps Open : CN1-6=5V
- d. Select the way of dimming (CN1-5)
  1. Insert a potentiometer (0-50kΩ)
  2. Apply the voltage (0-2.5V)
- e. When LED lights , it shows the generation of high voltage.
- f. 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.

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)

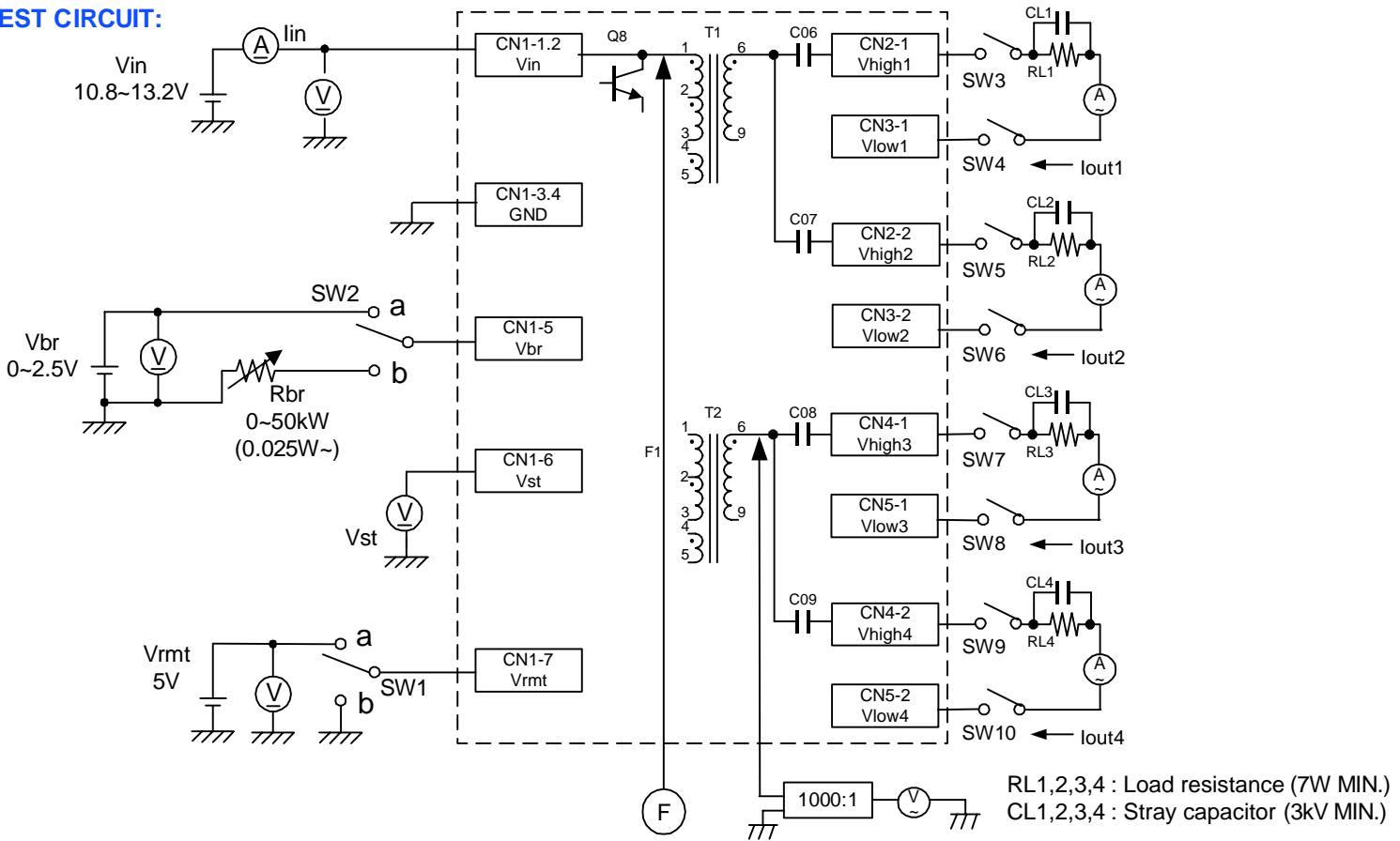
### ELECTRICAL CHARACTERISTICS:

Parameter	Symbol	Conditions					Specifications			Unit	Note
		Vin(V)	Vrmt(V)	Vbr(V) / Rbr(kΩ)	Ta(°C)	RL1~RL4(kΩ) // CL1~CL4(μF)	min.	typ.	max.		
Output Current	lout1 ~lout4	12.0±1.2	5±0.25	0 / 0	0~70	90 // 5	6.0	6.5	7.0	mArms	Max Brightness
		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	lin1	12.0±1.2	5±0.25	0 / 0	0~70	90 // 5	-	1.7	2.0	A	
	lin2	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	
		12.0±1.2	5±0.25	0	0~70	90 // 5	-	0	-	V	Normal
Alarm Signal	Vst	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)

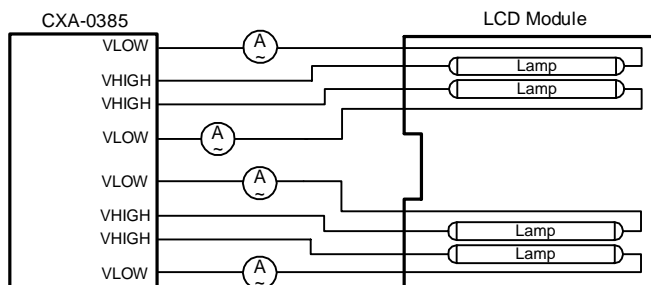
Note 6. Safety Function

Load Condition	*1Alarm Signal (CN1-6)	*2Shutdown 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.