

# DC-AC INVERTER UNIT

## CXA-0377 (10W DUAL OUTPUTS WITH DIMMING FUNCTION)

### Applicable LCD:

LQ150X1LGN2A (SHARP)

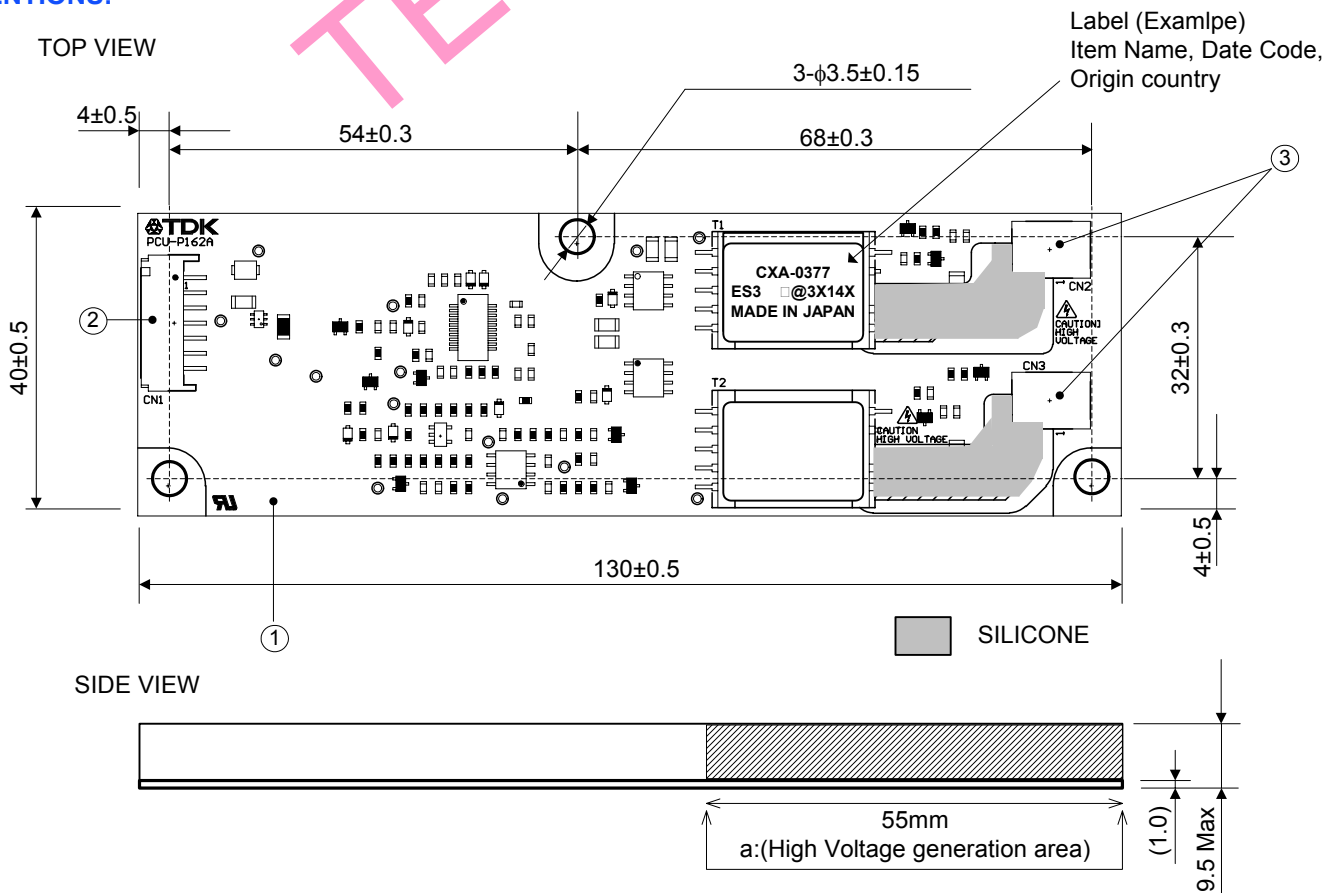
### FEATURES:

- a. This inverter is for two 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 (0-10kΩ)
  - 2. Apply the voltage (0-2.5V)
- e. 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:50g typ.

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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)

#### CN01:S7B-PH-SM3 (JST)

Pin	Symbol	Note
CN1-1	Vin	10.8~13.2V
CN1-2		
CN1-3	GND	0V
CN1-4		
CN1-5	Vbr	0~2.5V
	Rbr	0~10kΩ
CN1-6 (Note2)	Vst	0V / 5V
CN1-7	Vrmt	0~0.4V : OFF 2.5~Vin : ON

#### CN2:SM02B-BHSS-1 (JST)

Pin	Symbol	Note
CN2-1	Vhigh1	1000Vrms / 4.5mArms
CN2-2	Vlow1	(2V)

#### CN3:SM02B-BHSS-1 (JST)

Pin	Symbol	Note
CN3-1	Vlow1	1000Vrms / 4.5mArms
CN3-2	Vlow2	(2V)

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

### ELECTRICAL CHARACTERISTICS:

#### Dimming with voltage

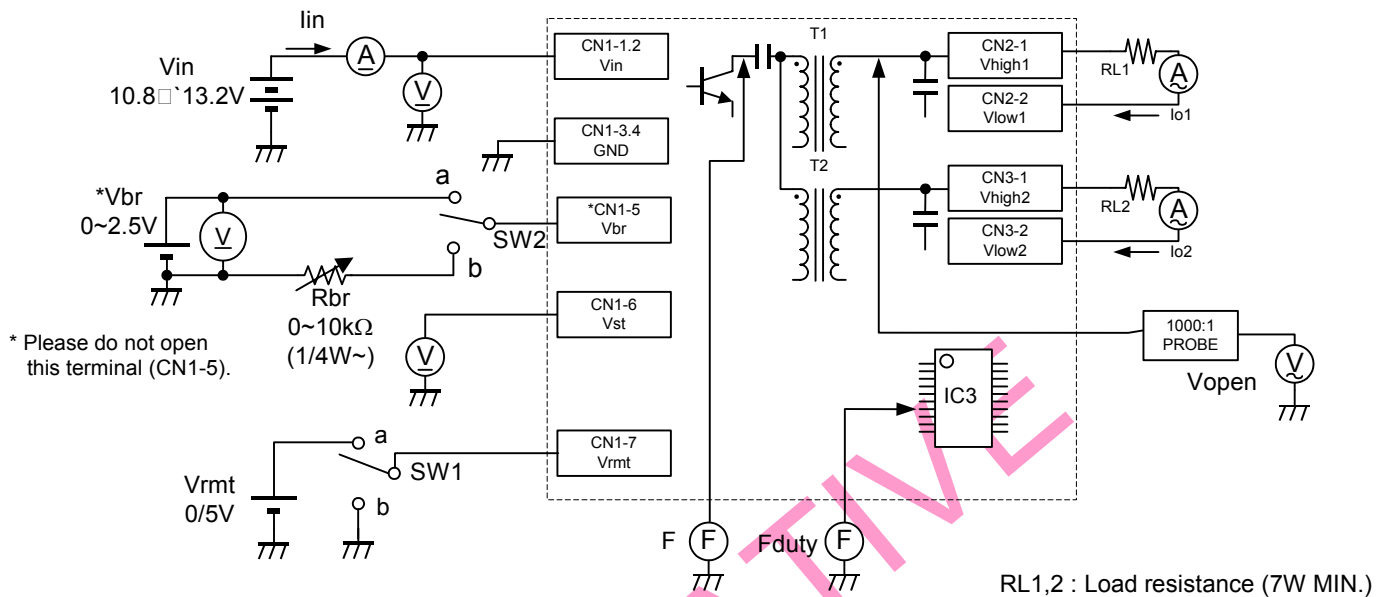
Parameter	Symbol	Conditions					Specification			Unit	Note
		Vin(V)	Vrmt(V)	Vbr(V)	Ta(°C)	RL1 / RL2(kΩ)	min.	typ.	max.		
Output Current	Iout1/2	12.0±1.2	5±0.25	0	0~70	200 / 200	3.5	4.5	5.5	mArms	Max Brightness
		12.0±1.2	5±0.25	2.5	0~70	200 / 200	1.5	2.5	3.5	mArms	Min Brightness
Input Current	lin1	12.0±1.2	5±0.25	0	0~70	200 / 200	-	1.2	1.8	A	
	lin2	12.0±1.2	0	0~2.5	0~70	200 / 200	-	-	1	mA	Remote OFF
Frequency	F1	12.0±1.2	5±0.25	0	0~70	200 / 200	60	65	55	kHz	
Frequency (Duty)	F2	12.0±1.2	5±0.25	2.5	0~70	200 / 200	-	240	-	Hz	
Alarm Signal	Vst	12.0±1.2	5±0.25	0	0~70	∞ / 200	4.0	5.0	5.5	V	RL1 Open
		12.0±1.2	5±0.25	0	0~70	200 / ∞	4.0	5.0	5.5	V	RL2 Open
		12.0±1.2	5±0.25	0	0~70	200 / 200	-	0	0.5	V	Normal

#### Dimming with Resistor

Parameter	Symbol	Conditions					Specification			Unit	Note
		Vin(V)	Vrmt(V)	Rbr(kΩ)	Ta(°C)	RL1 / RL2(kΩ)	min.	typ.	max.		
Output Current	Iout1/2	12.0±1.2	5±0.25	0	0~70	200 / 200	3.5	4.5	5.5	mArms	Max Brightness
		12.0±1.2	5±0.25	10	0~70	200 / 200	1.5	2.5	3.5	mArms	Min Brightness
Input Current	lin1	12.0±1.2	5±0.25	0	0~70	200 / 200	-	1.2	1.8	A	
	lin2	12.0±1.2	0	0~10	0~70	200 / 200	-	-	1	mA	Remote OFF
Frequency	F1	12.0±1.2	5±0.25	0	0~70	200 / 200	60	65	55	kHz	
Frequency (Duty)	F2	12.0±1.2	5±0.25	10	0~70	200 / 200	-	240	-	Hz	
Alarm Signal	Vst	12.0±1.2	5±0.25	0	0~70	∞ / 200	4.0	5.0	5.5	V	RL1 Open
		12.0±1.2	5±0.25	0	0~70	200 / ∞	4.0	5.0	5.5	V	RL2 Open
		12.0±1.2	5±0.25	0	0~70	200 / 200	-	0	0.5	V	Normal

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### TEST CIRCUIT:



Note 4. SW1(ON/OFF) Operation is as following;

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

Note 5. SW2(ON/OFF) Operation is as following;

SW2	Operation of Unit
a	Voltage dimming Vbr=0~2.5V (Vbr=0V : Max Brightness)
b	Variable resistance dimming Rbr=0~10kΩ (Rbr=0Ω : Max Brightness)

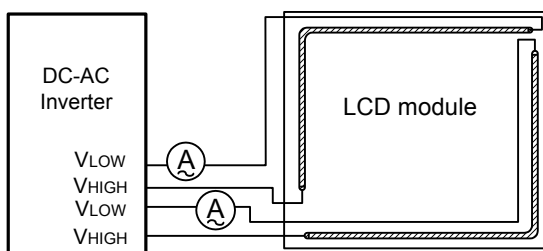
Note 6. Safety Function

Load Condition	*1Alarm Signal (CN1-6)	*2Shutdown Operation
Normal Operation	0.5V max.	Normal
1 Lamp Open (CN2 or CN3 Open)	4.0~5.5V	Normal
2 Lamps Open (CN2 and CN3 Open)	4.0~5.5V	Shutdown

\*1. In test circuit, if CN2 or CN3 opens, then the warning signal will be activated (+5V).

\*2. If the inverter detects open circuit all lamps for more than 3 seconds it will shut down.

Note 7. Connection diagram of LCD module (Reference)



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