

DESCRIPTION :

This low profile DC to AC Inverter is developed for dual lamps, low power LCD back-light. Application includes industrial PC and LCD monitor.

Applicable LCD; NL8060BC31-20 / NL8060BC31-17 (NEC)

Lamp Voltage 600Vrms

Lamp Current 5mA_{rms}

Lamp Start Up Voltage 1250Vrms (Vin : 12V)



FEATURES :

Wide operating temperature range

Alarm signal function

PWM dimming type.

Current Feedback Circuit

Silicon Coating in High Voltage area

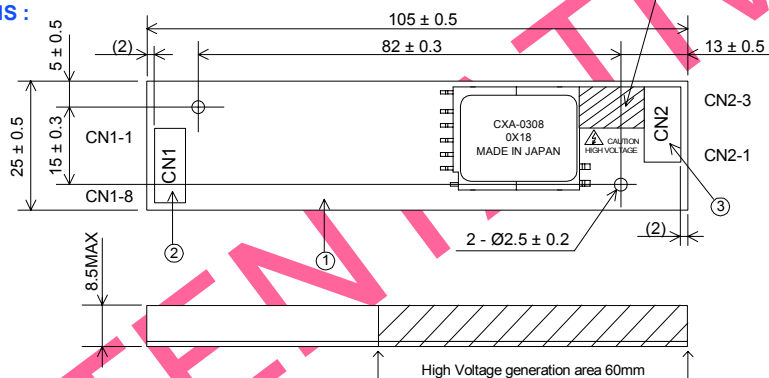
TEMPERATURE & HUMIDITY :

Operating Temperature Range -10 °C ~ +70 °C

Storage Temperature Range -30 °C ~ +85 °C

Humidity 95 %RH max

DIMENSIONS :



Unit : mm
Weight :20 (g) typ.

No.	Part Description	Qty.	Note
1	PWB	1	UL94V-0 t=1.0mm
2	Connector CN1	1	53261-0890 (Molex)
3	Connector CN2	1	SM03(4.0)B-BHS (JST)

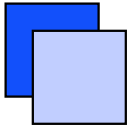
CN1 : 53261-0890 (Molex)

Pin	Symbol	Note
CN1-1	Vin	10.8 ~ 13.2V
CN1-2		
CN1-3		
CN1-4	GND	0 V
CN1-5	Vrmt	0 ~ 0.4V : OFF 2.5V ~ Vin : ON
CN1-6	Vbr1 / Rbr1	0 ~ 2.5V / 0 ~ 50kΩ
CN1-7	Vbr2 / Rbr2	GND / 0 ~ 50kΩ
CN1-8	Vst ^{*1}	0V / 5V

CN2 : SM03(4.0)B-BHS (JST)

Pin	Symbol	Note
CN2-1	Vlow	(2V)
CN2-2	Vhigh2	600Vrms (5mA _{rms})
CN2-3	Vhigh1	600Vrms (5mA _{rms})

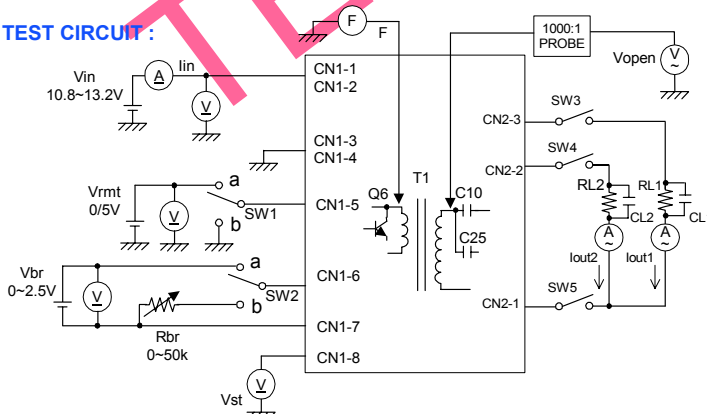
*1. This is an output pin and it is active high (+5V)
if any Lamp opens / fails

**ELECTRICAL CHARACTERISTICS :**

Parameters	Symbol	Conditions					Specifications			Unit	Note
		Vin (V)	Vrmt (V)	Vbr / VR	Ta (°C)	RL1 (kΩ) // CL1(pF) RL2 (kΩ) // CL2(pF)	min.	typ.	max.		
Output Current	Iout1 / Iout2	12 ± 1.2	5 ± 0.25	0V / 0 Ω	-10 ~ +70	TBD TBD	TBD	5.0	TBD	mArms	Max Brightness.
		12 ± 0.6	5 ± 0.25	0V / 0 Ω	23 ± 5	TBD TBD	TBD	5.0	TBD	mArms	
		12 ± 0.6	5 ± 0.25	2.5V / 50kΩ	23 ± 5	TBD TBD	TBD	2.0	TBD	mArms	Min Brightness.
Input Current 1	Iin1	12 ± 0.6	5 ± 0.25	0V / 0 Ω	-10 ~ +70	TBD TBD	-	TBD	TBD	Adc	
Input Current 2	Iin2	12 ± 0.6	0 ± 0.25	0V / 0 Ω	-10 ~ +70	TBD TBD	-	-	1	mAdc	
Frequency	F1	12 ± 0.6	5 ± 0.25	0V / 0 Ω	-10 ~ +70	TBD TBD	TBD	(55)	TBD	kHz	
Frequency (Duty)	F2	12 ± 0.6	5 ± 0.25	2.5V / 50kΩ	-10 ~ +70	TBD TBD	TBD	270	TBD	Hz	
Open Voltage	Vopen	10.8	5 ± 0.25	0V / 0 Ω	-10 ~ +70	∞ ∞	TBD	TBD	TBD	Vrms	
Alarm Signal (Note 4)	Vst	12 ± 1.2	5 ± 0.25	0V / 0 Ω	-10 ~ +70	TBD ∞	4.5	5.0	5.5	Vdc	RL2 // CL2 open
		12 ± 1.2	5 ± 0.25	0V / 0 Ω	-10 ~ +70	∞ TBD	4.5	5.0	5.5	Vdc	RL1 // CL1 open
		12 ± 1.2	5 ± 0.25	0V / 0 Ω	-10 ~ +70	TBD TBD	-	0	0.5	Vdc	Normal
		12 ± 1.2	5 ± 0.25	0V / 0 Ω	-10 ~ +70	TBD TBD	-	0	0.5	Vdc	Normal

Note 1 : Please keep minimum of 2mm clearance (all directions) between inverter high voltage area as marked on mechanical drawing and any conductors.

Note 2 : Open circuit on all lamps for more than 3 seconds, will shut the inverter down.

TEST CIRCUIT :

SW1	Operation of unit
a	Operation
b	Non operation

SW2	Operation of unit
a	Voltage dimming Vbr=0~2.5V
b	Variable resistance dimming VR=0~50kΩ

Note 3: In test circuit; 5pF capacitor across the load resistor is add to simulate LCD back-light stray capacitor.

Note 4 : In test circuit; if any of switches SW3, SW4 or SW5 opens , then the alarm signal will be activated (+5V).

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