IRTRONIX
Global Partner in UV LED Solutions

UV-A COB EMITTER
PRELIMINARY DATA SHEET

Model No. : UV1006C

October 17, 2018

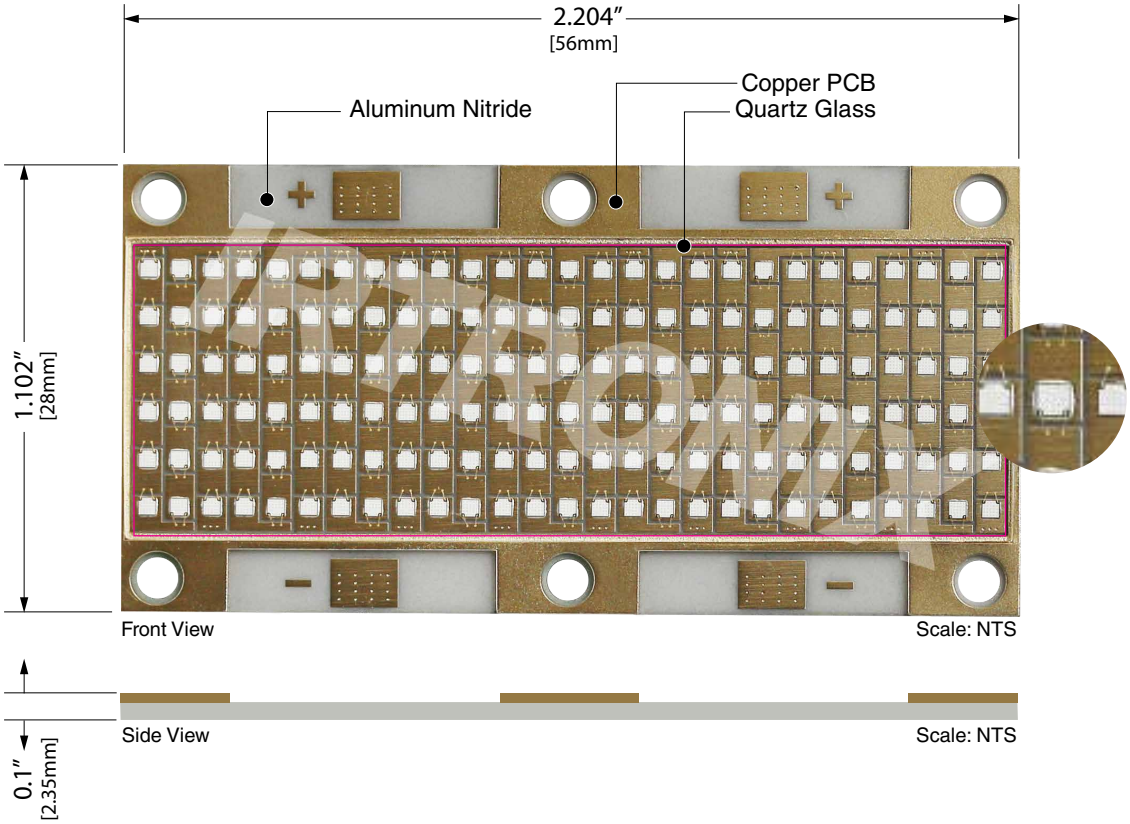
T. 310.787.1100 F. 310.787.1166
20900 Normandie Avenue Bldg. B, Torrance, CA 90502

www.irtronix.com

[Preliminary Data Sheet]

UV-A COB EMITTER

Model No. : **UV1006C**



Scale: 1:1 [Full Size]

[Preliminary Data Sheet]

UV-A COB EMITTER

Model No. : **UV1006C**

Using UV-A 385nm or 395nm

1. Description

This emitter is a high-powered, UV-A COB (chip-on-board). In a 56x28mm package, this COB has 162 of LG Innotek's UV-A LED chips which add up to 90W typical of optical power. This allows for very high density UV exposure for curing and sanitizing applications and comes in your choice of 385nm, 395nm and 405nm wavelength.

2. Features

1) Emitted Color: 385nm or 395nm
2) Lens : Quartz Glass
3) 56mm x 28mm x 2.35mm standard package.
4) Suitable for all SMT assembly methods.
5) Compatible with automatic placement equipment.
6) Aluminum Nitride substrate
7) Very low Thermal Resistance (R_{JC}=0.1°C/W)
8) Very high Radiant Flux density
9) Compliant of ROHS standards

3. Typical Applications

• Ink Curing • Glue Curing • Coating Curing

4. Characteristics

Parameter	Symbol	Value			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	Vf	57	59	61	V	I_F= 3500mA
Peak Wavelength	λ	390	-	395	nm	I_F= 3500mA
		380	-	385		
Radiant Flux	Po	77	90	104	W	I_F=3500mA
Viewing angle	2θ ½	-	120	-	Deg	I_F=3500mA
Reverse Current	IR	-	-	10	μ A	Vr= 5V

[Preliminary Data Sheet]

5. Parameter Description

Item	Symbol	Value	Unit
Input Power	Pin	210	W
Power Dissipation	PD	125	W
DC Forward Current	I_F	3500	mA
Single Pulsed Forward Current	IFP	9000	mA
Reverse Voltage	V_R	5	V
Operating Temperature	Topr	-30 to +80	°C
Storage Temperature	Tstg	-40 to +120	°C
Soldering Temperature	Tsol	260 for 5	°C

- Duty 1/ 10 Pulse Width 0.1ms.
- Soldering time max 10sec
- Please refer to I_F-T_a diagram of curves for the temperature during application

6. Test items and Results of Reliability

Type	Test Item	Test Conditions	Note	Number of Damaged	Description
Operation	Life Test	T_a=25°C I_F= 3.5[A]	1000 hrs	0/16	
	High Humidity Heat Life Test	85°C RH=85% I_F= 3.5[A]	500 hrs	0/17	
	Low Temperature Life Test	T_a=-20°C I_F= 3.5[A]	1000 hrs	0/18	
Environmental	Temperature Cycle	0B -45°C 30min 1B↑ ↓20 min 105°C 30min	100 cycle	0/19	0B: Storage 30min at -45°C 1B: Storage 30min at 105°C after 20min of temperature increase (-45 to 105°C)
	Thermal Shock	2B -10°C 15min 3B↑ ↓5sec 100°C 15min	100 cycle	0/20	2B: Storage15min at -10°C 3B: Storage 15min at 100°C after 5sec of temperature increase (-10 to 100°C)
	High Temperature Storage	T_a=100°C	1000 hrs	0/21	
	Humidity Heat Storage	T_a=85°C RH=85%	500 hrs	0/22	

[Preliminary Data Sheet]

7. Average Radiant Flux Maintenance Projections

Based on long-term WHTOL testing, IRTronix, Inc. projects that this series will deliver, on average, 70% Radiant Flux Maintenance at 20000 hours of operation at a forward current of 350mA per die. This projection is based on constant current operation with junction temperature maintained at or below 125°C.

1) Mechanical Dimensions (mm)

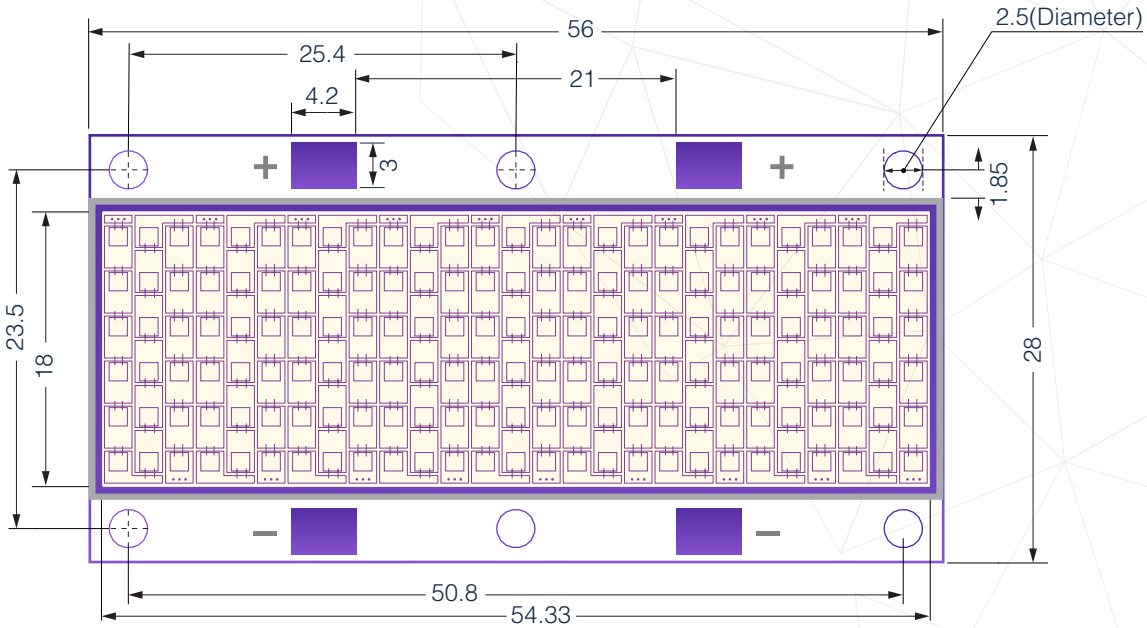


*Figure1: Unless otherwise noted, the tolerance = ±0.20mm.
Thermal contact, Pad 9, is electrically neutral.

2) Reflow Soldering Profile

- Preheating : 284°F~320°F±41°F,within 2 minutes.
- Operation heating : 500°F(Max.) within 10 seconds.(Max)
- Gradual Cooling (Avoid quenching).

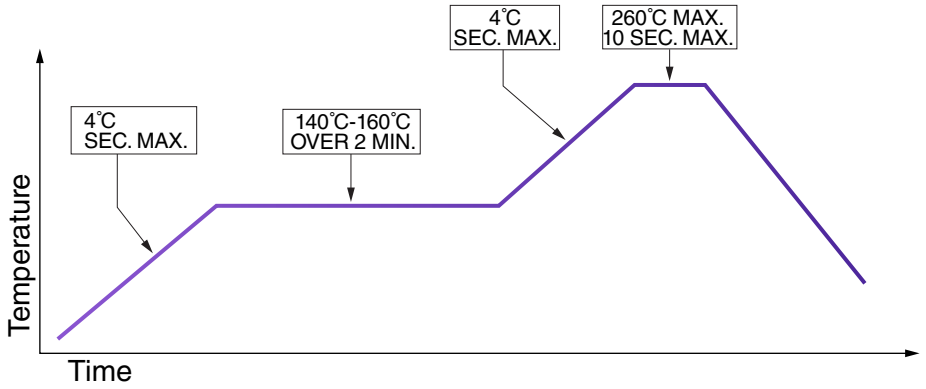


*Figure2: Reflow soldering profile for lead free soldering.

3) Typical Radiation Pattern

Fig.1 RADIATION DIAGRAM

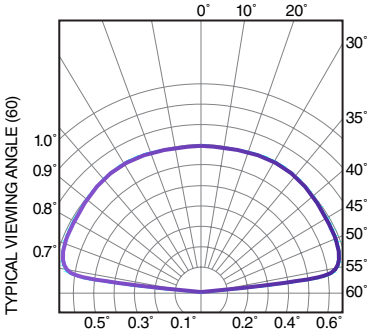


Fig.2 RADIATION DIAGRAM(A)

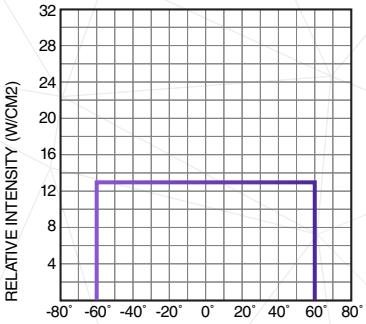


Fig3 FORWARD CURRENT VS. FORWARD VOLTAGE

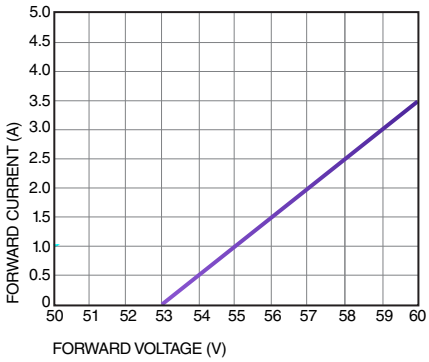


Fig4 RELATIVE INTENSITY VS. WAVELENGTH

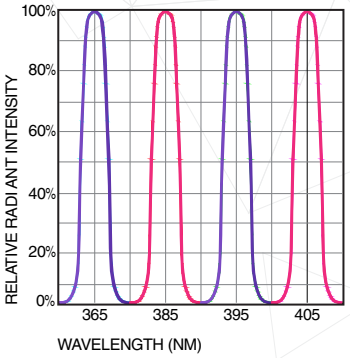


Fig.5 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

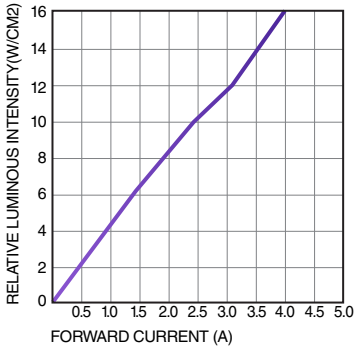
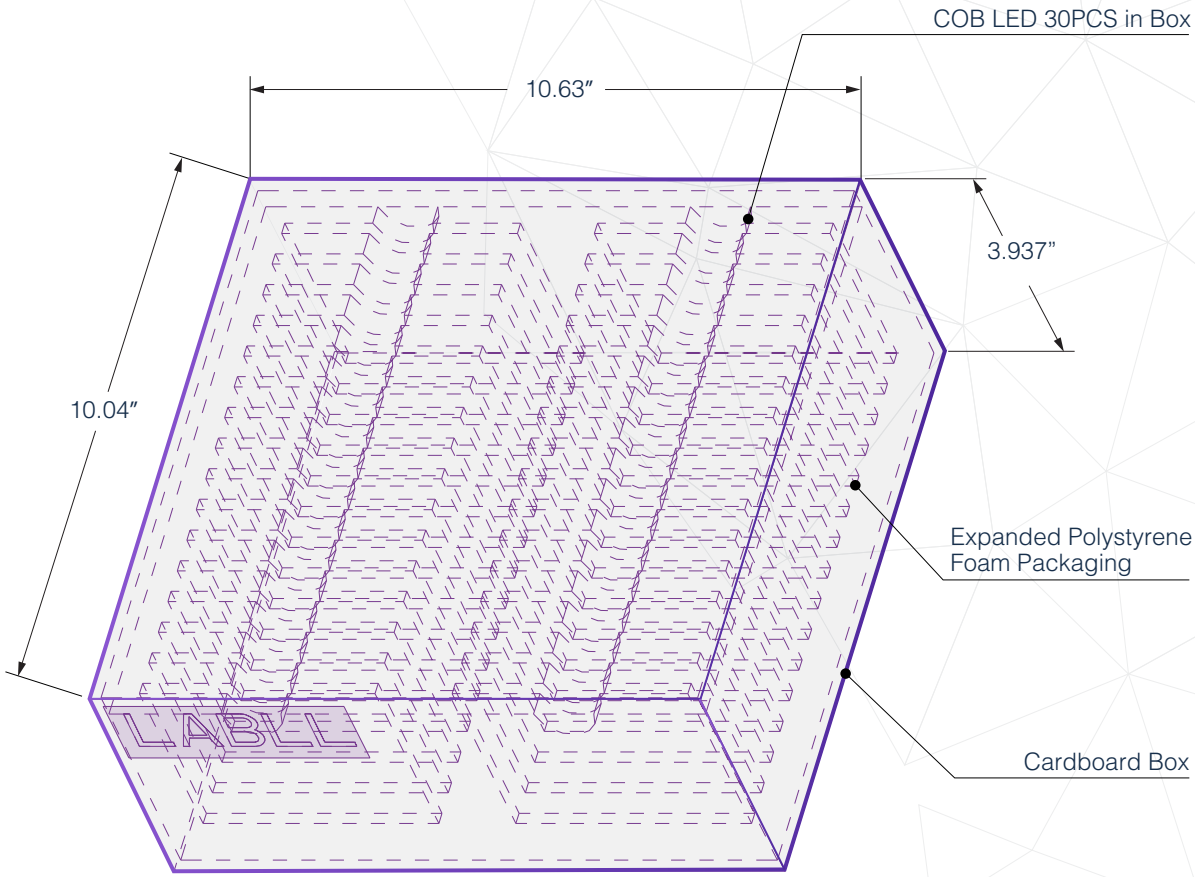


Figure 3 Typical representative spatial radiation pattern.

[Preliminary Data Sheet]

8. Tapping and Packaging Specifications



9. Cautions on Use

- IRTronix is not responsible for any damages or accidents caused if the operating or storage conditions exceed the absolute maximum ratings recommended in this document.
- The LEDs described in this document are intended to be operated by ordinary electronic equipment.
- The LEDs should not be used at any lighting products together with the other LEDs, which has a different part number. If required, please contact any salesperson.
- It is recommended to consult with IRTronix when the environment or the LED operation is nonstandard in order to avoid any possible malfunctions or damage to product or risk of life or health.
- Disassembly of the LED products for the purpose of reverse engineering is prohibited without prior written consent from IRTronix. All defected LEDs must be reported to IRTronix and are not to be disassembled or analyzed.
- The product information can be modified and upgraded without prior notice.

10. Disclaimers: Safety Guidelines

- High-intensity ultraviolet light
- Eye and skin hazard - avoid exposure to eyes/skin.
- Do not look directly at light - use eye protection.
- Use warning labels on systems containing UV LEDs.