IRTRONIX
Global Partner in UV LED Solutions

Preliminary

UV PCO MODULE SPECIFICATIONS

Model No. : UV1011M

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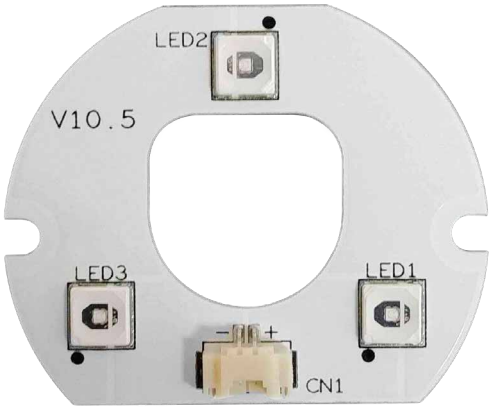
www.irtronix.com

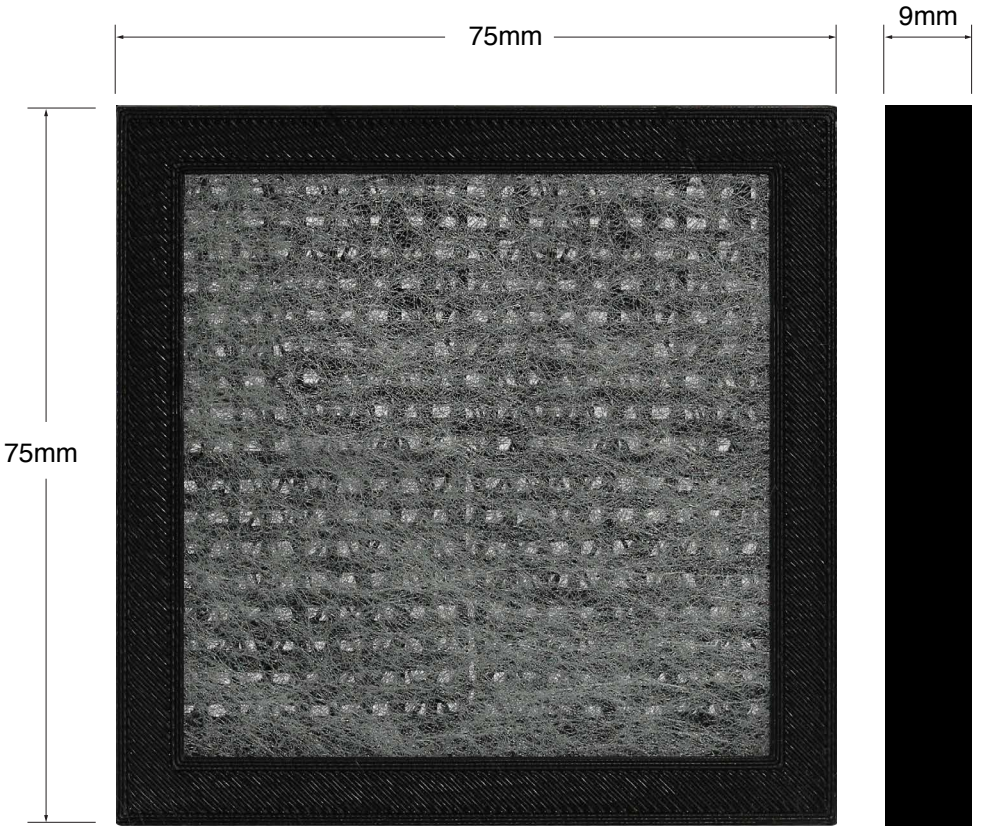
UV PCO Module

Model No. : UV1011M

(Part No: IRT1x351AR-365KT)



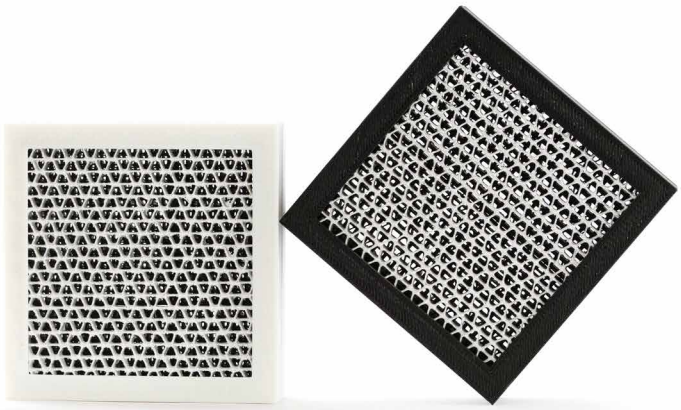
LED Module



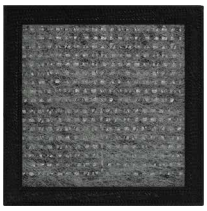
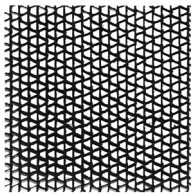
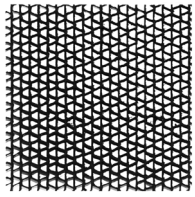
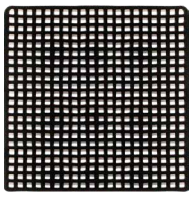
Filter

Scale: 1/2 (Half Size)

Side View



BLACK AND WHITE FILTER FRAME

Filtration	Filter Name	Black Frame (B-100)	White Frame (W-250)
1st Filter	**Front Side View** - Pre Filter		
2nd Filter	**Inside:** - Carbon Filter		
3rd Filter	**Inside** - Ceramic Honeycomb Filter	 100 cpsi	 250 cpsi
4th Filter	**Back Side View** - Photocatalystic Oxidation Filter		

Scale: NTS

UV PCO Module

Model No. **: UV1011M**

1. Features and Applications

- Photo Catalytic Reaction to remove / reduce VOCs, Pollutant, Bacteria, Virus.
- Great Deodorization and Disinfection.
- Designed for stable immobilizing TiO2.
- Toxic residue free and RoHS chemical free.

2. Electrical / Optical Characteristics (Ta = 25°C / @250mA)

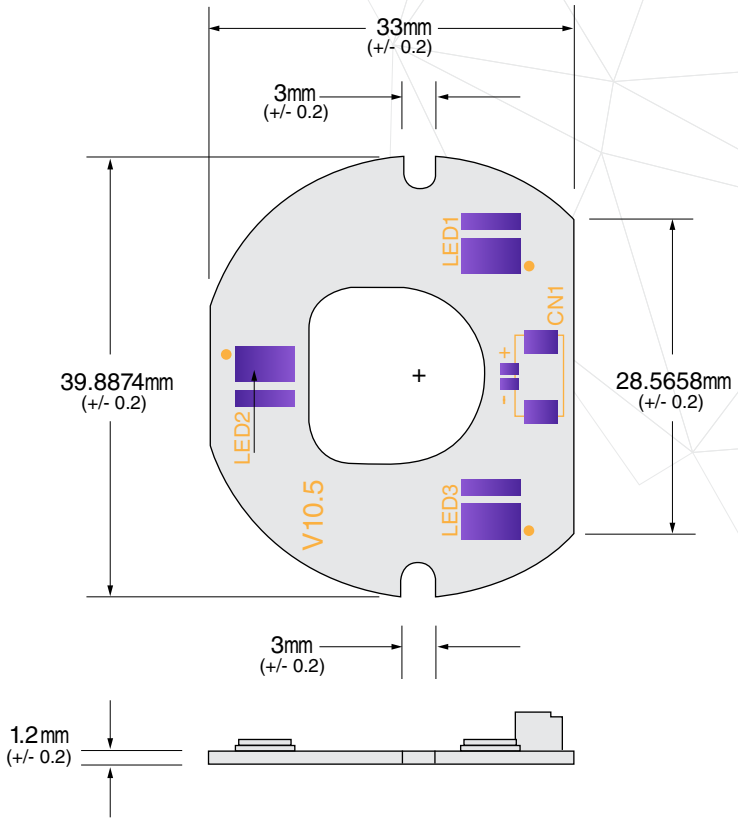
Items	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage	Vf	9.5	10.5	11.4	V
Power Consumption	P	2.4	2.7	2.9	W
Peak Wavelength	Wp	360	365	370	nm
Viewing Angle	2θ½		120		deg
Spectrum Half Width	Δλ		13		nm

3. LED Absolute Maximum Rating (Ta = 25°C)

Items	Symbols	Rating	Unit
Forward Current	If	300	mA
Operating Temperature	Topr	-30 ~ +45	°C
Storage Temperature	Tstg	-40 ~ +85	°C
Junction Temperature	Tj	< 120	°C

4. Dimensions

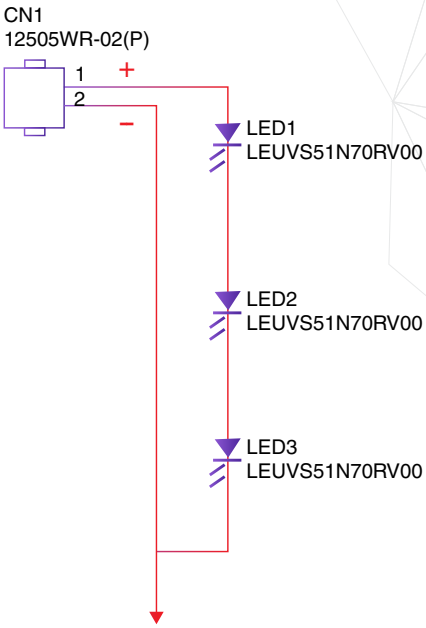
1) LED Module Mechanical Dimensions



2) Filter

Size	Coating Material	Weight (Before Coating)	Loading Weight
75x75x5mm	TiO2	22g	1g

5. Circuit Drawing



6. System Performance

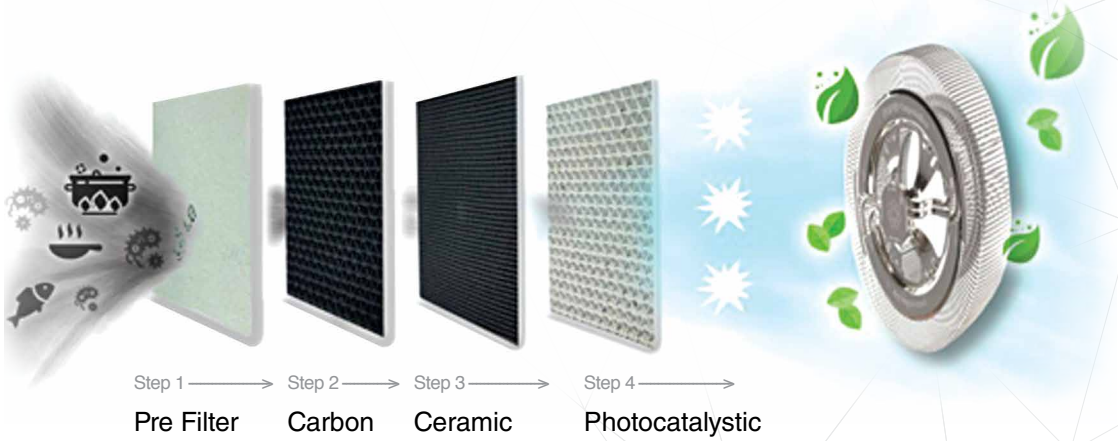
Gas	Efficiency	Condition	Module
Ammonia	↑35%	• 1m3 Chamber (hermetic chamber) • Test Time: 2hr • Gas concentration (PPM): 14-18 • Temp: °C • Detector : Detector tube	IRT 1x3 PCO Module
Toluene	↑20%		
Formaldehyde	↑30%		

7. Filter Material and Instruction

1) Ceramic Honeycomb
   • SiO2, Al2O3, MgO, etc

2) Photocatalysis coating agent
   • Titanium isopropoxide, silica sol, ethanol

3) 4 Step Filtration



NO.	Name	Description
1	Pre Filter	Catch most large particles
2	Carbon Filter	Reduce Basic gas
3	Ceramic Honeycomb Filter	Reduce Acidic gas
4	Photocatalytic Oxidation Filter +UV LED	Reduce Staphylococcus aureus, e-coli, salmonella

4 Step filters to reduce / remove Methyl Mercaptan, Trimethylamine and Ethylene Gas which cause bad odors.

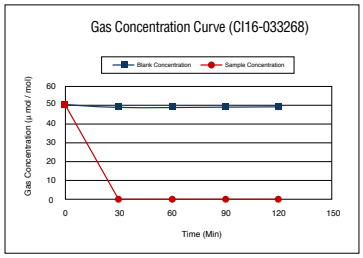
8. Certified Testing Laboratories

Lab Test Number: CT16-033268

Ammonia (NH3)

Time (minute)	Blank (μ mol/ mol)	Sample (μ mol/ mol)	Rate (%)
0	50	50	0
30	49	< 0.2	99.6
60	49	< 0.2	99.6
90	49	< 0.2	99.6
120	49	< 0.2	99.6

* Test Condition °C: 23.4 ± 0.5 / % R.H. : 42.2 ± 1.6
* Limit of Detection: 0.2 μ mol / mol

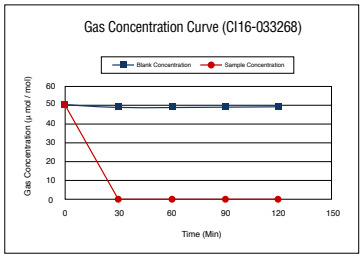


Lab Test Number: CT16-033268

Trimethylamine (C3H9N))

Time (minute)	Blank (μ mol/ mol)	Sample (μ mol/ mol)	Rate (%)
0	50	50	0
30	49	1	98
60	49	< 0.2	99.6
90	49	< 0.2	99.6
120	49	< 0.2	99.6

* Test Condition °C: 23.4 ± 0.5 / % R.H. : 42.2 ± 1.6
* Limit of Detection: 0.2 μ mol / mol

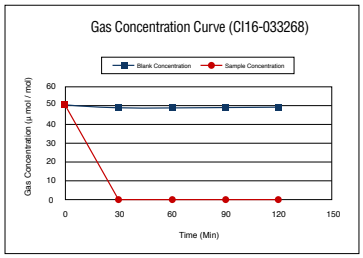


Lab Test Number: CT16-033268

Hydrogen Sulfide (H2S)

Time (minute)	Blank (μ mol/ mol)	Sample (μ mol/ mol)	Rate (%)
0	50	50	0
30	49	< 0.1	99.8
60	49	< 0.1	99.8
90	49	< 0.1	99.8
120	49	< 0.1	99.8

* Test Condition °C: 23.4 ± 0.5 / % R.H. : 42.2 ± 1.6
* Limit of Detection: 0.1 μ mol / mol

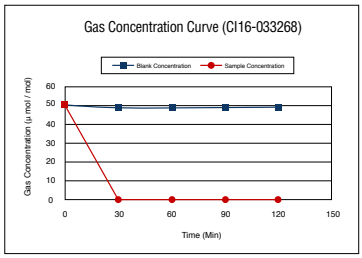


Lab Test Number: CT16-033268

Methanethiol (AKA methyl mercaptan) (CH3SH)

Time (minute)	Blank (μ mol/ mol)	Sample (μ mol/ mol)	Rate (%)
0	50	50	0
30	49	< 0.1	99.8
60	49	< 0.1	99.8
90	49	< 0.1	99.8
120	49	< 0.1	99.8

* Test Condition °C: 23.4 ± 0.5 / % R.H. : 42.2 ± 1.6
* Limit of Detection: 0.1 μ mol / mol



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.