

Integrated UV LED Solution

WOB_16A
CMD-FSC-COGA



Product Brief

Description

- SVC UVC module is optimized to replace mercury lamp with high efficiency
- Specially designed single wavelength is ideal for disinfection
- There's no harmful substances in UV LED module. SVC product is eco-friendly product.

Features and Benefits

- Lead Free Product
- RoHS Compliant
- Eco-friendly

Key Applications

- Disinfection

Table 1. UVC Module Product

Product type	Voltage [V]	Current [mA]	Radiant Power [mW]	Peak wavelength λ_p [nm]	Remark
UVC Module	23.0	400	145	275	Typ
	24.5	800	288	275	Maximum

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Performance Characteristics

Table 2. Electro Optical Characteristics of UVC LED Module <Ts=25°C, Constant current @400mA>

Parameter	Symbol	Value			Unit
		Min.	Typ.	Max.	
Forward Voltage	V_F	20.0	23.0	28.0	Vdc
Power Consumption	P_d	8.0	9.2	11.5	W
Radiant Power	Φ_e		145		mW
Spectrum Half Width	$\Delta\lambda$		10		nm
Peak Wave length	λ_p	270	275	280	nm

Note :

- [1] P_d can be changed by surrounding temperature and current.
- [2] Peak Wavelength Measurement tolerance : $\pm 3\text{nm}$
- [3] Radiant Flux Measurement tolerance : $\pm 10\%$
- [4] Φ_e is the Total Radiant Flux as measured with an integrated sphere.
- [5] Forward Voltage Measurement tolerance : $\pm 3\%$
- ※ **Operating temperature was tested at the assigned Tc point on the PCB.**
- ※ **It is recommended to drive under conditions of Tc = 65 °C or less.**



Table 3. Absolute Maximum Ratings <Ts=25°C, Constant current @800mA>

Parameter	Symbol	Value			Unit
		Min.	Typ.	Max.	
Forward Voltage	V_F	21	24.5	30	Vdc
Power Consumption	P_d	16.8	19.3	23.5	W
Radiant Power	Φ_e		288		mW
Spectrum Half Width	$\Delta\lambda$		10		nm
Peak Wave length	λ_p	270	275	280	nm

Notes :

- (1) Maximum Voltage doesn't indicate the operating voltage which customers use but means tolerable voltage according to voltage variation rate among the power sources.

Mechanical Dimension

Unit : mm

NO.	TITLE	NOTE	MANGER
1	PCB	Material : Al (Metal) PCB Size : 20 X 20 X 2.27 ± 0.11mm Copper : 3oz, OSP FSR : White color(standard), SILK : Black color	
2	UV LED	QUD7W0560A	SVC
3	Connector	pin:home : single horizontal contact 12-28 AWG : WTS 70-8256-001-017-006	MOX linear contact
5	TVS	SMF100A	

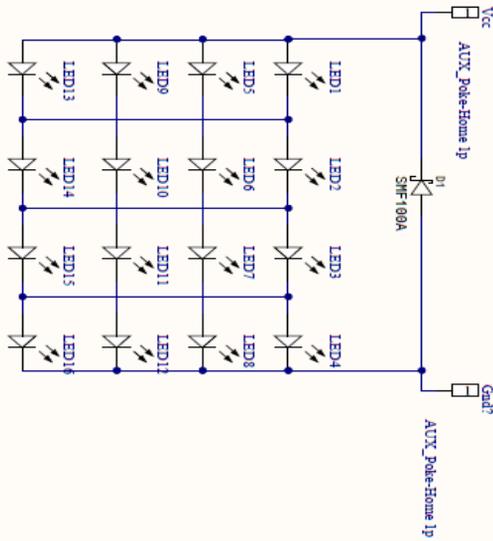
이 도면은 서울비오시스사의 재산이므로
본인 용량과 본인 목적시 관계없고
회사규정에 의하여 처벌됨.

NO.	DESCRIPTION	DATE	NAME

CUSTOMER		DRAWING		TOLERANCE		DATE		DRAWN		CHECKED		APPROVED	
TITLE	WOB_16A	SCALE	MM	TOLERANCE	B	DATE	2020.04.11	NAME	BOJUB	DATE	2020.04.11	NAME	JYCHAL
CMD-FSC-COGA		N.S											

RANGE	CLASS		
	A	B	C
5 OVER ~ 5 BELOW	±0.05	±0.1	±0.2
10 OVER ~ 10 BELOW	±0.1	±0.2	±0.3
15 OVER ~ 15 BELOW	±0.2	±0.3	±0.4
20 OVER ~ 20 BELOW	±0.3	±0.4	±0.5
30 OVER ~ 30 BELOW	±0.4	±0.5	±0.6
50 OVER ~ 50 BELOW	±0.5	±0.6	±0.8
100 OVER ~ 100 BELOW	±0.6	±0.8	±1.0
200 OVER ~ 200 BELOW	±0.8	±1.0	±1.2
300 OVER ~ 300 BELOW	±0.8	±1.0	±1.2

Circuit Diagram



Title		Revision	
Size	Number	Revision	
A4			
Date:	2020-04-11	Sheet of	
File:	C:\Users\COGA_ESC\COGA_A12\A11	5/5	

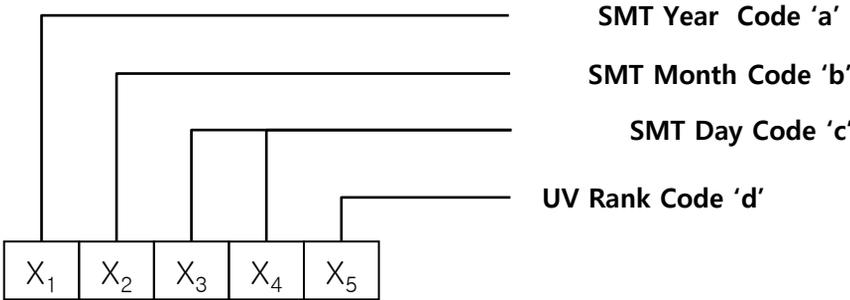
Marking Information

- .QR Code & Lot marking information for Label

PCB Bottom

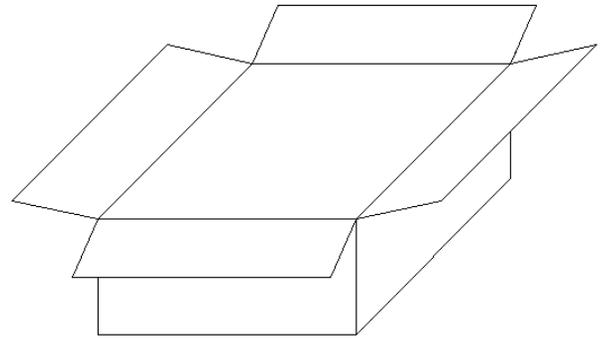
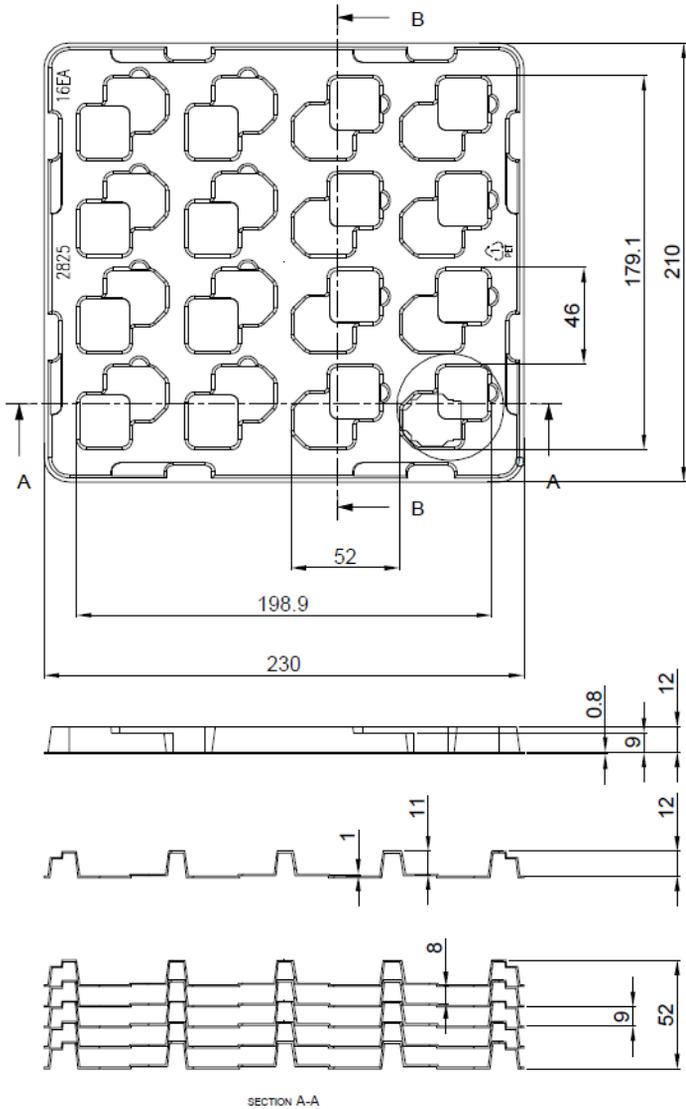


Lot Marking



Ex) SMT Lot No : 200409 -> E409
 Rank Information : H01 -> H01

Packing



■ If quantity is over 112ea

Box size : 220 mm X 240 mm X 145 mm
(W X D X H)

*1BOX : 16ea(1tray) x 14 trays (including 1 dummy)

*Total : 208ea per 1Box

■ If quantity is less than 112ea

Box size : 220 mm X 240 mm X 85 mm
(W X D X H)

*1BOX : 16ea(1tray) x 8 trays (including 1 dummy)

*Total : 112ea per 1Box

* If it is not a full box, apply the buffer material to fix the product

Precaution for Use

1) Storage

- To avoid moisture penetration, we recommend storing products in a dry box with a desiccant. The recommended temperature and Relative humidity are between 5 °C and 30 °C and below 50% respectively.
- Products must be stored properly to maintain the device. If the products are stored for 3 months or more after being shipped from SVC, a sealed container with a nitrogen atmosphere should be used for storage.
- Prolonged exposure to moisture can adversely affect the proper functioning of the Products.
- Keep the products away from the kid

2) Handling Precautions

- VOCs (Volatile organic compounds) emitted from materials used in the construction of fixtures can penetrate products and discolor them when exposed to heat and photonic energy. The result can be a significant loss of light output from the fixture. Knowledge of the properties of the materials selected to be used in the construction of fixtures can help prevent these issues.
- In case of using the products, do not use adhesives that outgas organic vapor.
- Please do not use together with the materials containing Sulfur.
- Please do not assemble in conditions of high moisture and/or oxidizing gas such as Cl, H₂S, NH₃, SO₂, NO_x, etc.
- Do not apply mechanical force or excess vibration during the cooling process to normal temperature after soldering.
- Do not use inflammable material nearby the products.
- Do not touch the products with wet hand
- Do not fix or remodel the products.
- Do not drop the machine, or give strong impact on the products.
- Cover needs to be handled carefully as below
 - Avoid touching cover parts especially with sharp tools such as pincettes(Tweezers)
 - Avoid leaving fingerprints Cover parts.
 - Cover will attract dust so use covered containers for storage.
 - It is not recommend to cover of the Lamp with other materials (epoxy, urethane, etc)

3) Safety for eyes and skin

- The Products emit high intensity ultraviolet light which can make your eyes and skin harmful, So do not look directly into the UV light and wear protective equipment during operation.

4) Operation

- The module should be operated under the given forward voltage and current. When the module is operated in the excessive voltage or current conditions, the LEDs mounted on the product could be burned out.
- This module is not allowed to be used in any type of fluid such as water, oil, organic solvent , etc

Precaution for Use

5) Others

- The appearance and specifications of the product may be modified for improvement without notice.
- The driving circuit must be designed to allow forward voltage only when it is ON or OFF. If the reverse voltage is applied to LED, migration can be generated resulting in LED damage.
- Do not handle this product with acid or sulfur material in sealed space
- Please handle using equipment that prevents static electricity.
- Do not touch unless ESD protection is used.
- Ionizer, earthing and keeping appropriate humidity are necessary for work environment.

	 CAUTION
	<p>•UV LEDs emit high intensity UV light. •Do not look directly into the UV light during operation. This can be harmful to your eyes and skin. •Wear protective eyewear to avoid exposure to UV light. •Attach caution labels to your products which contain UV LEDs.</p> <p style="text-align: center;">Avoid direct eye and skin exposure to UV light. Keep out of reach of children.</p>