HONGLIZHIHUI 鸿利智汇 BYTECH

Technical Data Sheet

Specification

CMH268A2V119Z6V2-S2P2

（385nm）

RoHS

BYTECH

Bytech Electronics CO., Ltd is the first company in China to launch the real inorganic package UV LED devices and core components for application based on CMH technology.

CMH technology platform is a kind of package technology which adopts ceramic, metal, hard glass as package materials. CMH technology platform originates independent intellectual property owned by Bytech Electronics CO., LTD, which is suitable for vacuum encapsulation, especially suitable for ensuring reliability of deep UV products.

DESIGN	CHECKED	APPROVED
2018.03.05	2018.03.05	2018.03.05
XIONG	HE	CHEN

研发专用章

High Power UV LED
CMH268A2V119Z6V2-S2P2

Under Development	
Mass Production	●

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

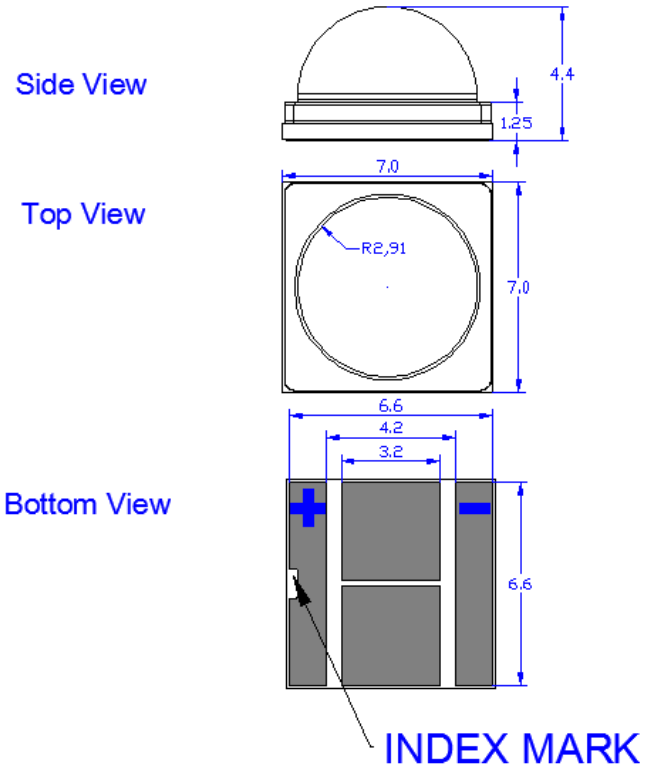
Features

- CMH real inorganic package
- Dimension 7.0mm×7.0mm×4.4mm
- Long operating life
- High reliability
- Superior ESD protection
- RoHS compliant

Applications

- Fluorescent spectroscopy
- Sensors and monitors
- Bio-analysis/detection
- Phototherapy
- UV curing
- Printing
- Coating

Package Dimensions（Unit: mm）

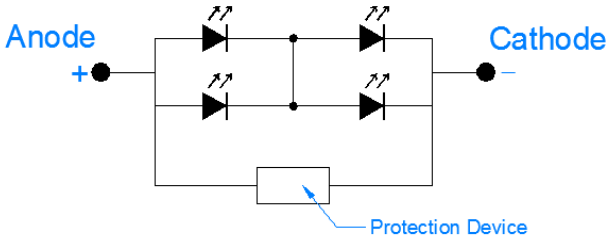


Tolerance： ± 0.20mm

Product ID:

385nm: CMH268A2V119V2Z6-S2P2

Circuit:



Characteristics of UV LED

1. Electrical / Optical Characteristics（Ta=25℃,RH=40%）

Parameter	Symbol	Units	CMH268A2V119Z6V2-S2P2 (IF=3000mA)
Peak Wavelength [1]	λ_p	nm	380-390
Radiant Flux [2]	Φ_e [3]	mW	10000-11000
Forward Voltage [4]	VF	V	7-9
Thermal Resistance [5]	R_{th}	°C/W	1.0-2.0
Spectrum Half Width	Δλ	nm	11
View Angle	$2\theta_{1/2}$	deg	60

Notes:

[1].Peak wavelength measurement tolerance:±3nm

[2].Radiant flux measurement tolerance:±10%

[3].Φ_e is the total radiant flux as measured with an integrated sphere

[4].Forward voltage measurement tolerance:±3%

[5].R_{th} is the thermal resistance between junction to substrate.

2. Absolute Maximum Ratings (T_a=25°C,RH=40%)

Parameter	Symbol	Units	CMH268A2V119Z6V2-S2P2
Maximum Rating Forward Current	I_{Fmax}	mA	3250
Maximum Rating Junction Temperature	T_{jmax}	°C	125
Operating Temperature Range	T_{opr}	°C	-10 ~ +85
Storage Temperature Range	T_{stg}	°C	-40 ~ +100

Notes:

Operating the LED beyond the listed maximum ratings may affect device's reliability and cause permanent damage.

These or any other conditions beyond those indicated under recommended operating conditions are not implied.

The exposure to the absolute maximum rated conditions may affect device reliability.

3.Ranks（ IF=3000mA, Ta=25℃,RH=40%)

波长(nm)	电压(V)	光功率(mw)					
		5000-6000	6000-7000	7000-8000	8000-9000	9000-10000	10000-11000
380-385	7.0-7.2	A2101	A2102	A2103	A2104	A2105	A2106
	7.2-7.4	A2107	A2108	A2109	A2110	A2111	A2112
	7.4-7.6	A2113	A2114	A2115	A2116	A2117	A2118
	7.6-7.8	A2119	A2120	A2121	A2122	A2123	A2124
	7.8-8.0	A2125	A2126	A2127	A2128	A2129	A2130
	8.0-8.2	A2131	A2132	A2133	A2134	A2135	A2136
	8.2-8.4	A2137	A2138	A2139	A2140	A2141	A2142
	8.4-8.6	A2143	A2144	A2145	A2146	A2147	A2148
	8.6-8.8	A2149	A2150	A2151	A2152	A2153	A2154
	8.8-9.0	A2155	A2156	A2157	A2158	A2159	A2160
385-390	7.0-7.2	A2299	A2300	A2301	A2302	A2303	A2304
	7.2-7.4	A2305	A2306	A2307	A2308	A2309	A2310
	7.4-7.6	A2311	A2312	A2313	A2314	A2315	A2316
	7.6-7.8	A2317	A2318	A2319	A2320	A2321	A2322
	7.8-8.0	A2323	A2324	A2325	A2326	A2327	A2328
	8.0-8.2	A2329	A2330	A2331	A2332	A2333	A2334
	8.2-8.4	A2335	A2336	A2337	A2338	A2339	A2340
	8.4-8.6	A2341	A2342	A2343	A2344	A2345	A2346
	8.6-8.8	A2347	A2348	A2349	A2350	A2351	A2352
	8.8-9.0	A2353	A2354	A2355	A2356	A2357	A2358

Notes:

*Forward voltage measurement tolerance:±3%

*Radiant flux measurement tolerance:±10%

*Φ_e is the total radiant Flux as measured with an integrated sphere

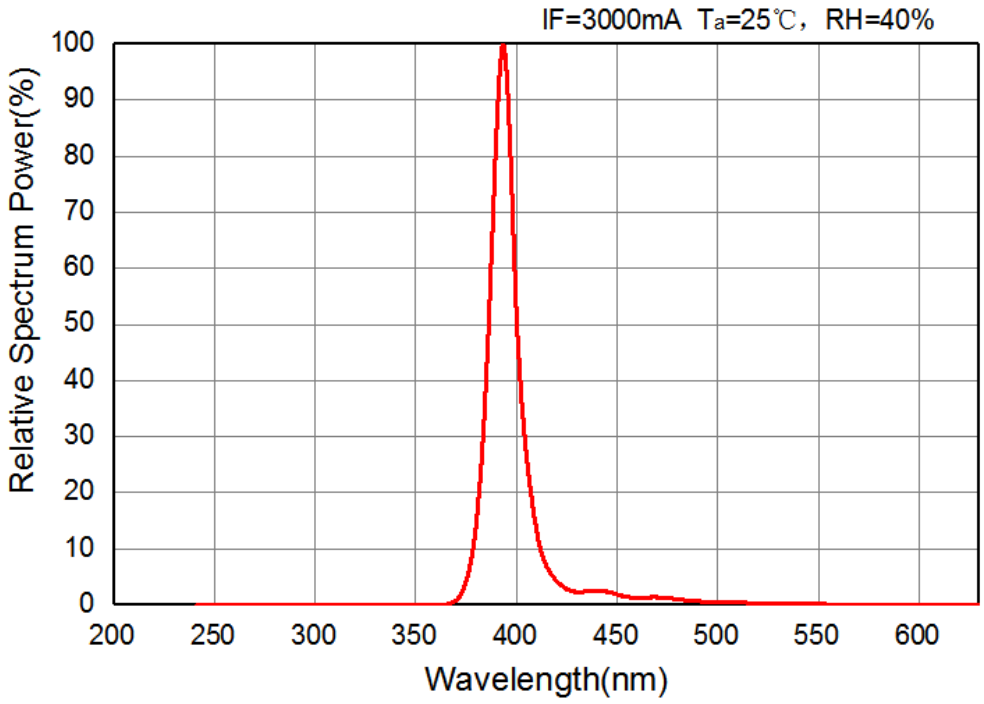
*LEDs from the above ranks will be shipped.

*The rank combination ratio per shipment will be decided by Bytech.

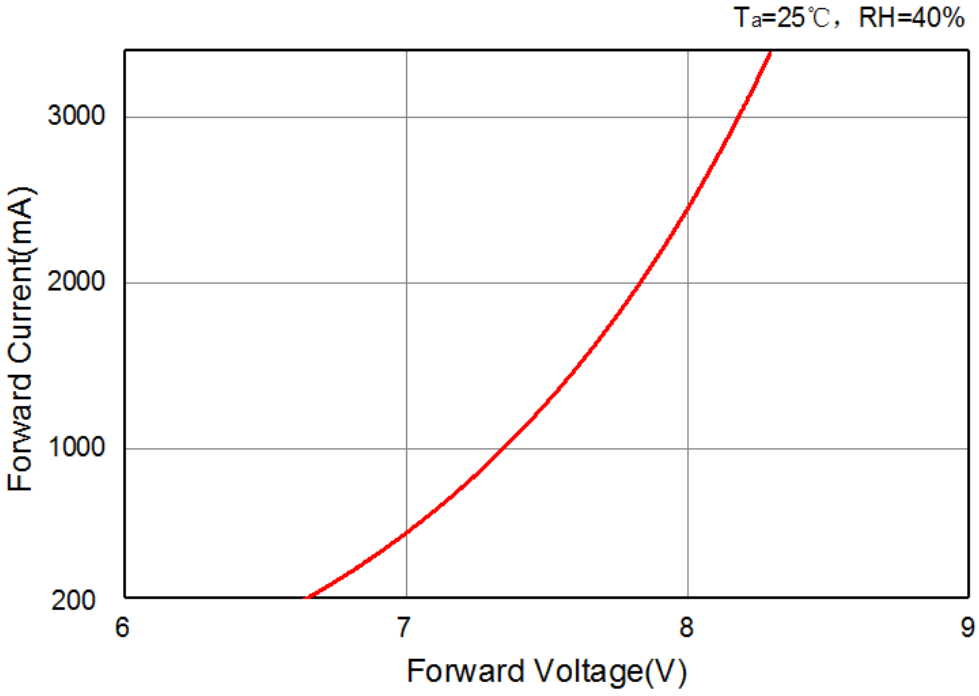
*Peak wavelength measurement tolerance:±3nm

Characteristics Diagrams

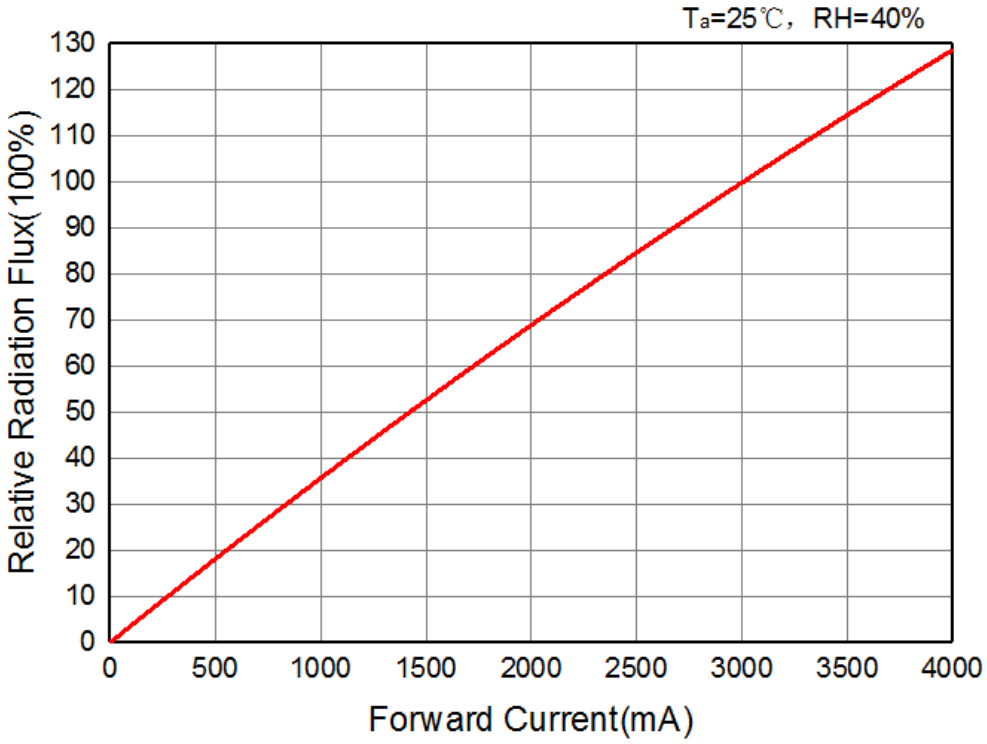
1.Relative Spectrum Power Distribution



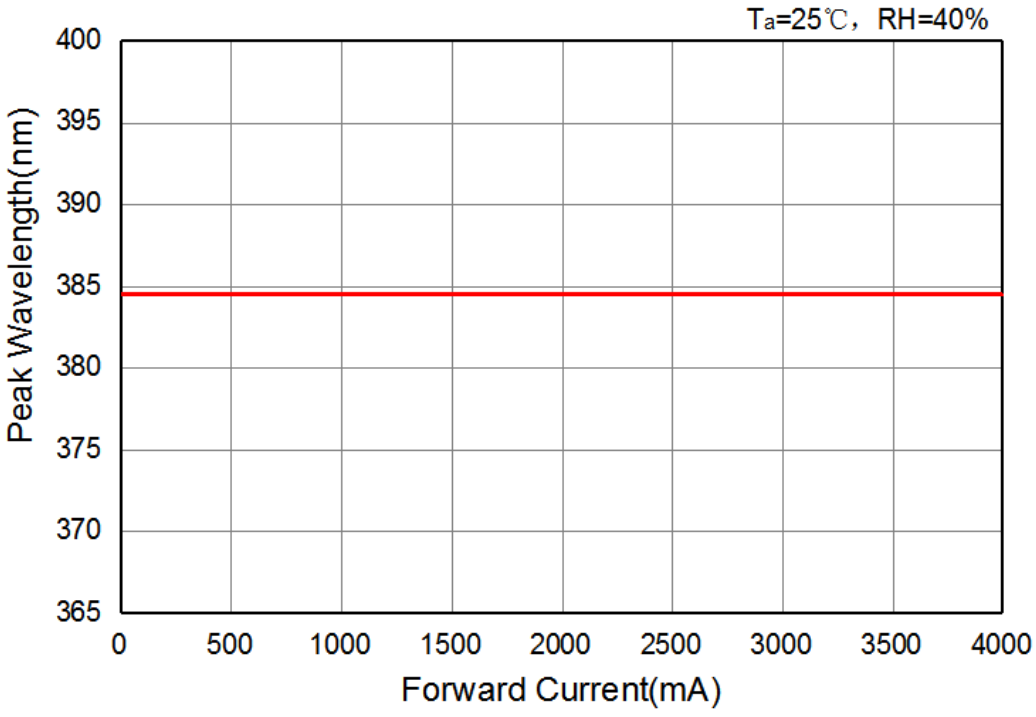
2.Forward Voltage vs Forward Current



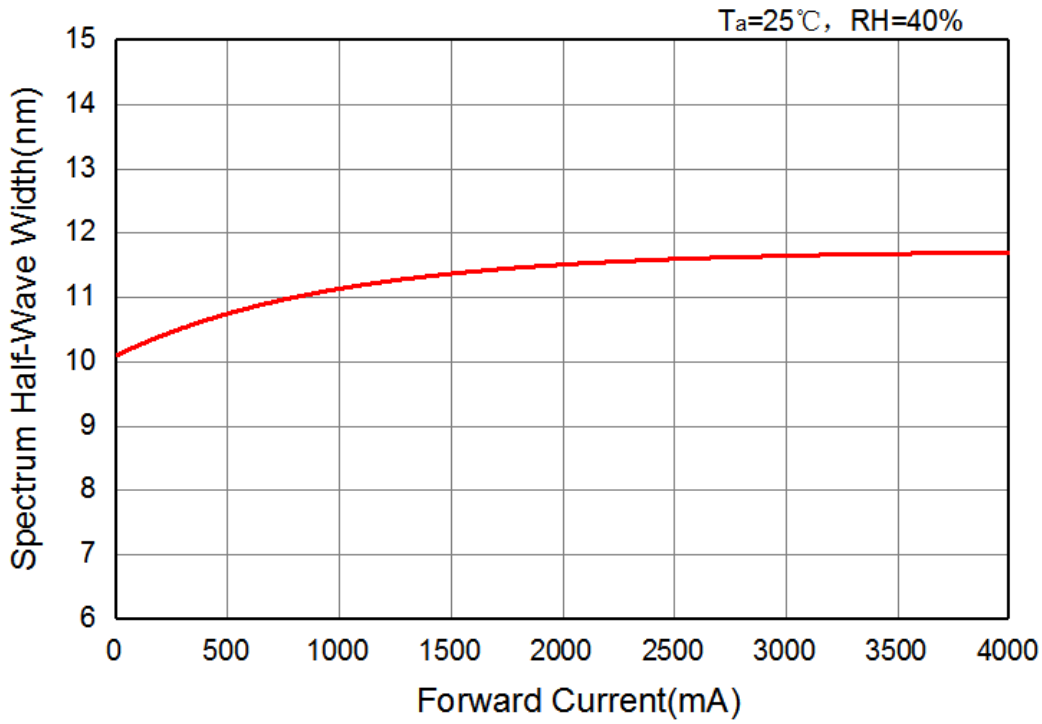
3.Relative Radiation Flux vs Forward Current



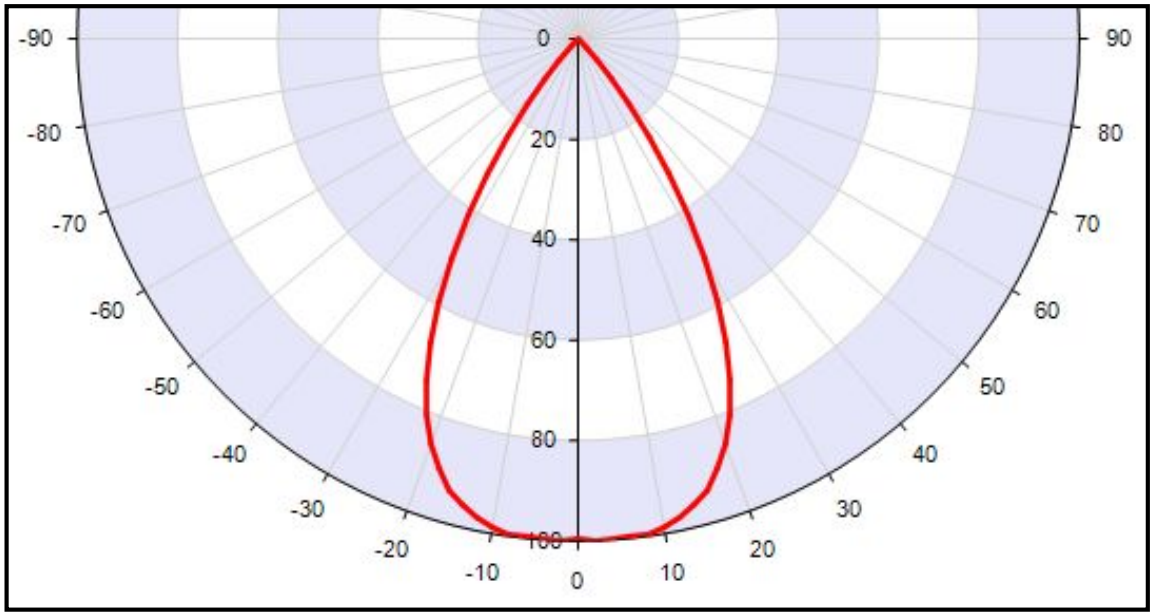
4.Peak Wavelength vs Forward Current



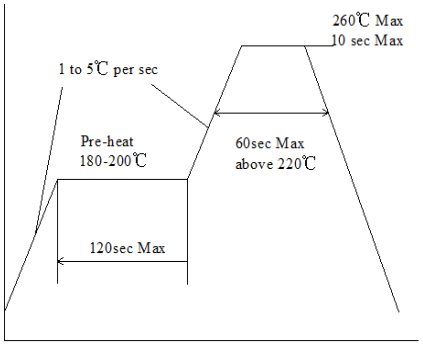
5.Spectrum Half-Wave Width vs Forward Current



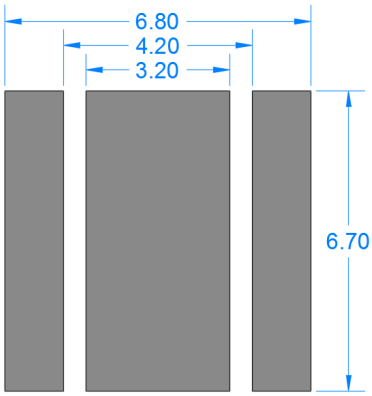
6.Spatial Distribution Graph



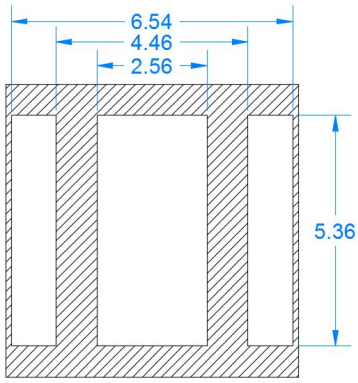
Product Application Information



Recommended Reflow Soldering Condition
（Lead-free solder）



Recommended Soldering pad Layout
（Unit: mm）



Recommended Soldering Mask Layout
Thickness:0.12mm
（Unit: mm）

Notes:

*This LED is designed to be reflow soldered on to a PCB. If dip soldered or hand soldered,Bytech cannot guarantee its reliability.

*The voidage need to less than 10%,or Bytech cannot guarantee its reliability.

*Reflow soldering must not be performed more than twice.

*Avoid rapid cooling. Ramp down the temperature gradually from the peak temperature.

*Nitrogen reflow soldering is recommended. Air flow soldering conditions can cause optical degradation, caused by heat and/or atmosphere.

*Since the glass used in the encapsulating glass is fragile, do not press on the encapsulant glass. pressure can cause nicks, chip-outs, encapsulant delamination and deformation, and wire breaks, decreasing reliability

*Repairing should not be done after the LEDs have been soldered. It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.

*The Die Heat Sink should be soldered to customer PCB. If it is difficult or impossible, use high heat-dissipating adhesive.

*When soldering, do not apply stress to the LED while the LED is hot.

*When using a pick and place machine, choose an appropriate nozzle for this product.

*When flux is used, it should be a halogen free flux. Ensure that the manufacturing process is not designed in a manner Where the flux will come in contact with the LEDs.

*Make sure that there are no issues with the type and amount of solder that is being used.

CAUTIONS

1. Handling Precautions

● Do not handle the LEDs with bare hands as it will contaminate the LEDs surface and may affect the optical characteristics.

● When handling the product with tweezers, be careful not to apply excessive force to the glass. Otherwise, the glass can be cut, chipped, delaminate or deformed, causing wire-bond breaks and catastrophic failures.

■ Dropping the product may cause damage.

2. Electrostatic Discharge (ESD)

● The product are sensitive to static electricity or surge voltage. ESD can damage a die and its reliability. When handling the products, the following measure against electrostatic discharge are strongly recommended:

Eliminating wrist strap, ESD footwear, clothes, and floors

Grounded workstation equipment and tools

ESD table/shelf mat made of conductive materials

● Ensure that tools, jigs and machines that are being used are properly grounded and that proper grounding techniques are used in work areas. For devices/equipment that mount the LEDs, protection against surge voltages should also be used.

● The customer is advised to check if the LEDs are damage by ESD When performing the characteristics inspection of the LEDs in the application.

Damage can be detected with a forward voltage measurement at low current(≤1mA).

3. Eye Safety

● Please proceed with caution when handling any UVLEDs driven at low or high current. Since UV light can be harmful to eyes, do Not look directly into the UV light, even through an optical instrument.

● UV protective glasses are required to use in order to avoid damage by UV light in case of viewing UV light directly.

History of Revision

Revision	Date	Contents of Revision Change	Remark
REV NO: 1.0	2018.03.05	New Establishment	