GT-DUVTK35-XX

Product Description

Getian 3535 DUV series (Deep Ultraviolet), high reliable and grade Aluminum nitride ceramic substrate, is widely applied to sterilization and purification in the field of industry and medical with very low calorific value and high optical power. Its light efficacy is up to 10 mw with higher forward currents(max 100mA). This series is optimized for UV Sterilizers, UV curing, and Germicidal lamps, etc.

Features

- Extremely wide viewing angle
- Suitable for all SMT assembly and Solder process
- Available on tape and reel
- Ceramic Substrate
- RoHS compliant
- Super Effective; Energy Saving; Environment Friendly.

Application

- Air&Water Purification;
- Disinfection/Sterilization;
- Medical treatment and Personal Care;;
- Ink Curing&Nail Curing;
- Bio-analysis/detection;

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Characteristics

Characteristics	Unit	Min	Typical	Max
Dimension L*W	mm		3.5*3.5*1.3	
Beam Angle θ	deg.		120	
Half-wavelength Δλ	nm	9	11	13
Wavelength λp	nm	270	/	280
Optical Power	mW	2.0	3.0	4.0
Power Dissipation	W		0.2	
DC Forward Current IF	mA		40	
Forward Voltage VF	V	5.0		7.0
Thermal Resistance Rjs	K/W		15	
Operating Temperature Top	°C	-30		+60
Storage Temperature Tst	°C	-40		+100
Testing Point Tc	°C			60
ESD (HBM)	V			8000
Reflow Soldering (Lead-Free) ST	°C			180

Coding Rules

Model	GT	DUV	35	X	XX	X
Code	GT	DUV	Type	C	Wavelength	Optical Power
Meaning	Getian	Deep UV LED Series	3535 package	Ceramic Substrate	275: 270-280	B20: 2.0-4.0mW

Specifications （Tc = 25°C)

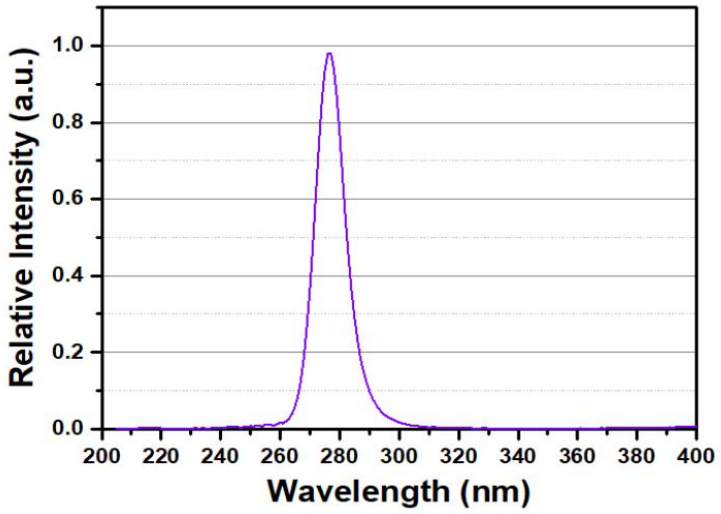
Standard If: 40mA **Typ Vf: 6V** **Max Current: 50mA** **Max Optical Power: 2.0-4.0mW**

Product Type	Part Number	Viewing Angle (°)	Wavelength (λp nm)	Δλ (nm)	Optical Power (mW)	VF (V)	IF (ma)
Deep UV LED	GT-DUVTK35-275-B20	120	275±5nm	11±2nm	2.0-4.0	5.0-7.0	40

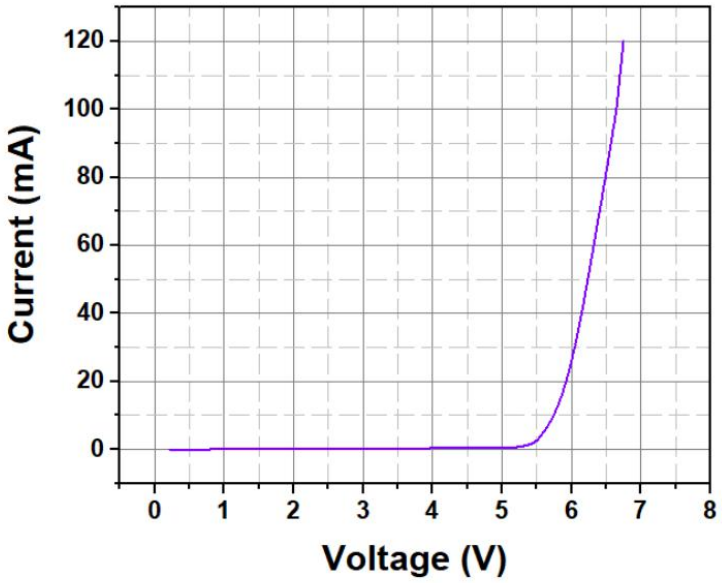
Notes：

Above charts include the most regular specs for DUV led series for reference.Please consult sales representative for specs that are not listed or please visit www.getiangroup.com.

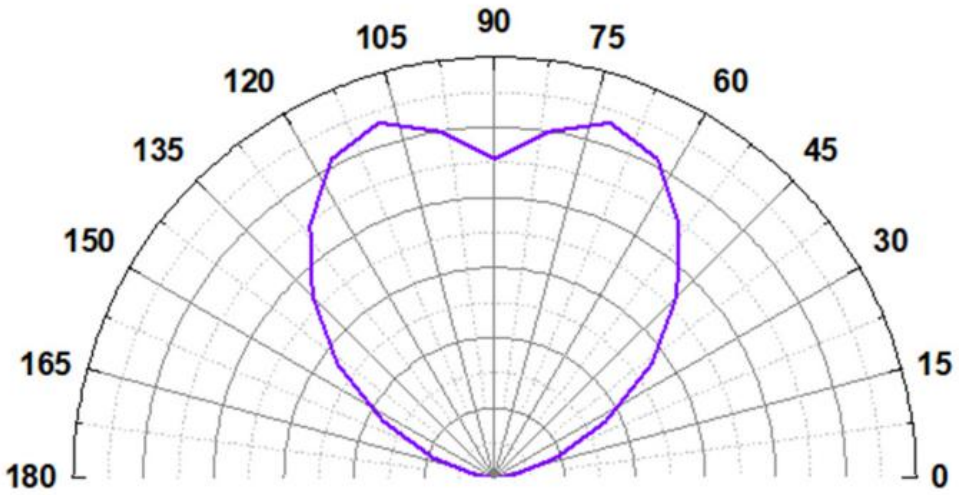
Spectral Features (Tc = 25°C)



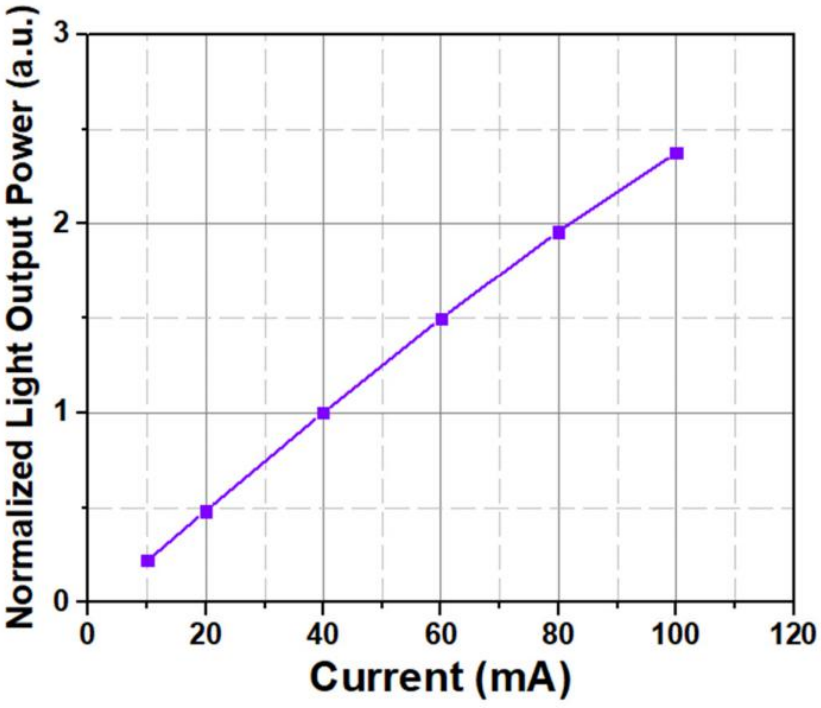
Electrical Features (Tc = 25°C)



Typical Spatial Distribution (Tc = 25°C)



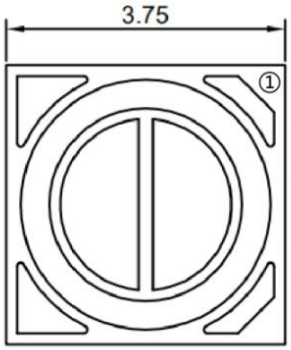
Relative Power VS Current (Tc = 25°C)



Dimensions (Unit:mm)

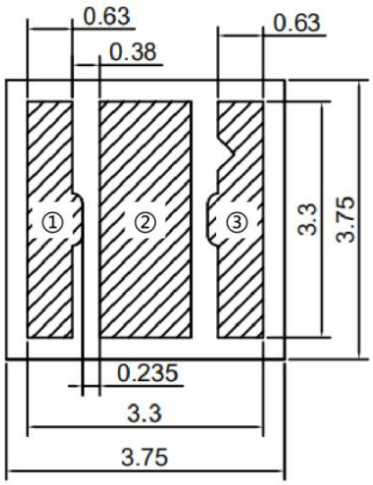
Tolerance +/-0.1mm

正面

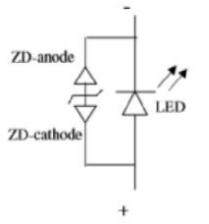


Front View

背面



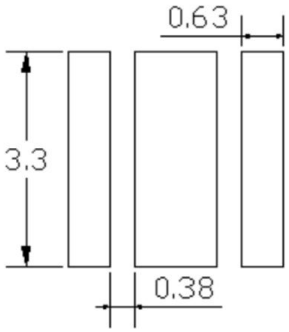
Back View



编号	功能
①	正极焊盘
②	导热焊盘
③	负极焊盘

① Anode Bonding Pad
② Die Heat Sink Pad
③ Cathode Bonding Pad

Bonding Pad Design



Reliability Tests

Test Items	Test Conditions
Aging Test	0.2W/IF=40mA Ta=25°C×1000hrs
Aging Test	0.2W/IF=40mA Ta=85°C×1000hrs
High Temperature Storage	100°C × 1000 hours
Low Temperature Storage	-40°C × 1000 hours
High Temp & Humidity	IF=40mA 85°C, 85 %RH for 1000 hours
Temperature Shock/Cycle	-40°C × 30 minutes – +100°C × 30 minutes, 100 cycle
ESD (HBM)	4000V HBM/Time

Criteria for Judging LED Failure(Tc=25°C)

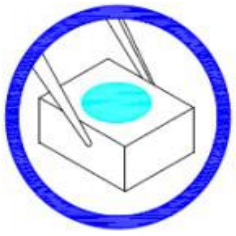
Items	Symbol	Test Conditions	Criteria for Judging LED Failure
Forward Voltage	VF	0.2W/IF=40mA	>U × 1.1
Optical Power	Φv	0.2W/IF=40mA	<S × 0.7

Handling Precautions

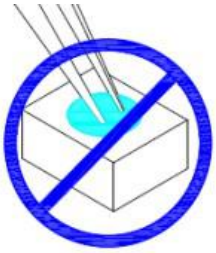
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic Significantly reduces thermal stress, it is more susceptible to damage by external mechanical force . As a result, Special handling precautions need to be observed during assemble using silicone encapsulated LED products.

Failure to comply might leads to damage and premature failure of the LED.

1. Handle the component along the side surface by using forceps or appropriate tools

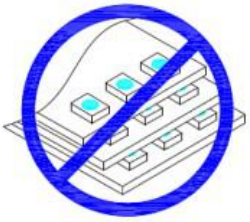


2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry



3. Do not stack together assembled PCBs containing LEDs. Not available in the situation of acidity for PH Impact may scratch the silicone lens or damage

The internal circuitry



Notes

1) **LED storage conditions:** temperature -30°C ~ 100°C, humidity 30% ~ 65%, the package is sealed and stored;

2) **Handling method:** Wear gloves or finger cots when touching the LED; The work surface should also be grounded; Seal the bag in time after open it to prevent pin oxidation; After unpacking, the operator should use tweezers to hold the sides of the LED to avoid direct use of bare hand contact with the front of the LED;

3) **Installation:** This process is mainly for the protection of static electricity;

a. Check whether the grounding wire of the equipment is normal before production.

b. Check if the static ring of the personnel is normal and check whether the metal of the static ring is in close contact with the human skin.

c. The operators are highly recommended to wear static gloves or electrostatic finger cots during installation.

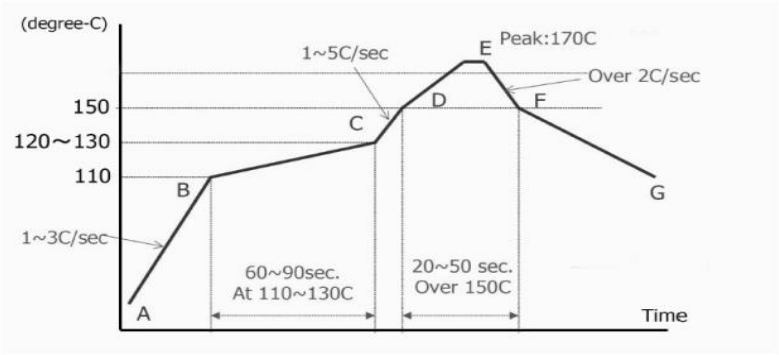
d. The work surface is required to be laid with electrostatic tape; The tapes should be connected to each other.

e. After opening, it is better to use up within 24 hours, otherwise it may cause oxidation and rust of the pins of led.

4) It is recommended to use low temperature solder paste for reflow soldering. The temperature curve is shown below:

The chip should be reflow soldered with low temperature solder paste, the peak temperature should not be greater than 170 ℃, and the peak time should be controlled at about 20 seconds.

The reflow time should not be greater than 5 minutes. We recommend tin-bismuth / tin-silver-bismuth solder pastes, such as Sn42 / Ag1.0 / Bi57, SMIC L23-BLT5-T8F



5) As the current increases and the temperature rises, the LED's service life will decrease in a certain curve, resulting in faster LED attenuation.

6) It is recommended to have a grounding circuit when designing the PCB. Pay great attention to the LED working environment: the temperature is between --30°C and 60°C, and the humidity is between 30% and 65%. Otherwise, there will be electrostatic breakdown and high current breakdown leading to dead light.

7) The photoelectric performance level of the products is determined by our company. The photoelectric performance of the products of different levels is different. Please take the method according to the conditions of use.

8) We are constantly working to improve the performance of LED products, specifications are subject to change without notice.

Important safety tips

This product is a deep-UV LED that generates deep ultraviolet rays after being properly energized.

The ray is harmful to the skin and eyes of the human body. Directly exposed to deep ultraviolet light without any protective measures should be avoided;

It is strictly forbidden to directly contact ultraviolet rays without protective measures. It is strictly forbidden to look directly at ultraviolet rays without wearing protective glasses;

It is recommended to wear protective clothing, protective gloves and safety glasses through all the process of operation.