

GT-DUVST35-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 8.0 mw with higher forward currents(max 50mA). 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		3.45*3.45*1.78	
Beam Angle θ	deg.		120	
Half-wavelength $\Delta\lambda$	nm		10	
Wavelength λ_p	nm	265	275	285
Optical Power	mW	2.0	6.0	8.0
Power Dissipation	W		0.3	
DC Forward Current IF	mA		50	
Forward Voltage VF	V	5.0		7.0
Thermal Resistance Rjs	K/W		40.3	
Operating Temperature Top	°C	-40		+60
Storage Temperature Tst	°C	-40		+100
Testing Point Tc	°C			85
ESD (HBM)	V			2000
Reflow Soldering (Lead-Free) ST	°C			260

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	S60: 6.0-8.0mW

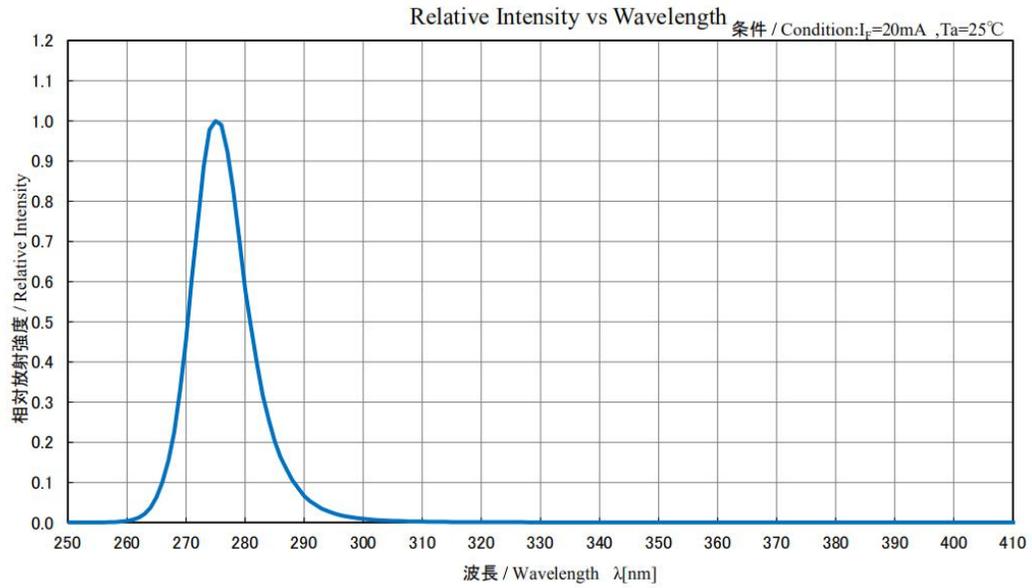
Specifications (Tc = 25°C)

Standard If: 50mA		Typ Vf: 6V		Max Current: 50mA		Max Optical Power: 6.0-8.0mW	
Product Type	Part Number	Viewing Angle (°)	Wavelength (λp nm)	Δλ (nm)	Optical Power (mW)	VF (V)	IF (ma)
Deep UV LED	GT-DUVST35-275-S60	120	275±5nm	10±2nm	6.0-8.0	4.0-6.5	50

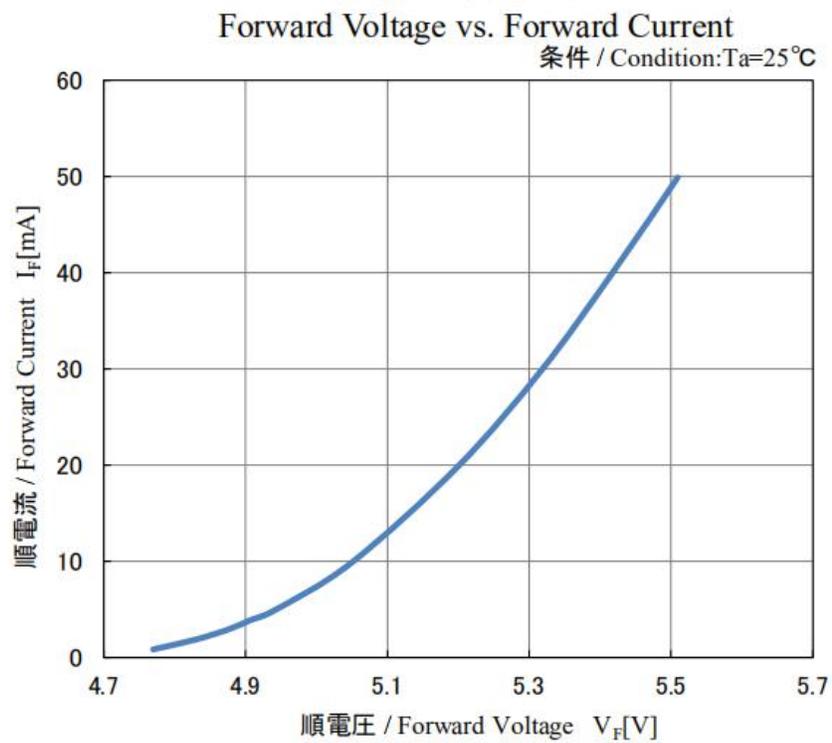
Notes:

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)

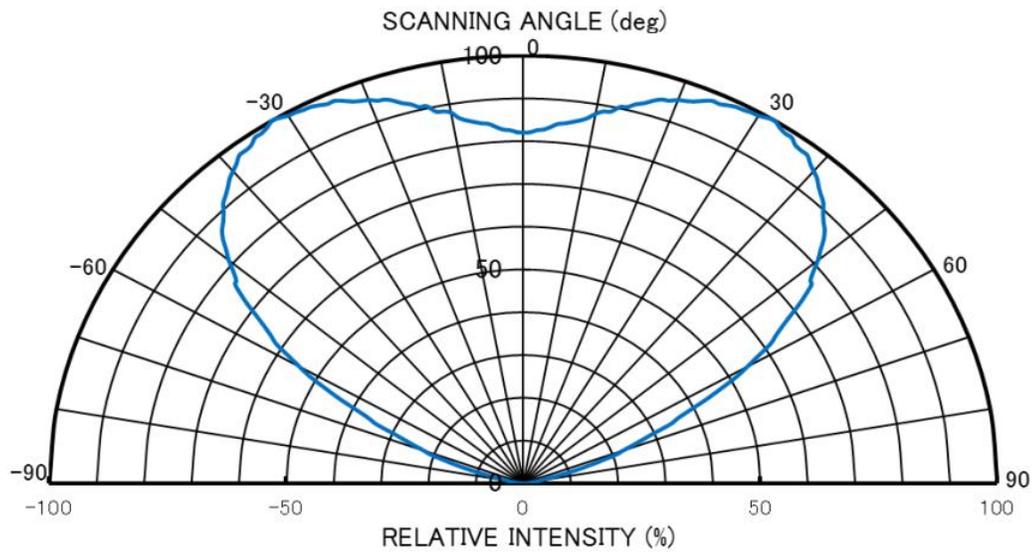


Electrical Features (Tc = 25°C)



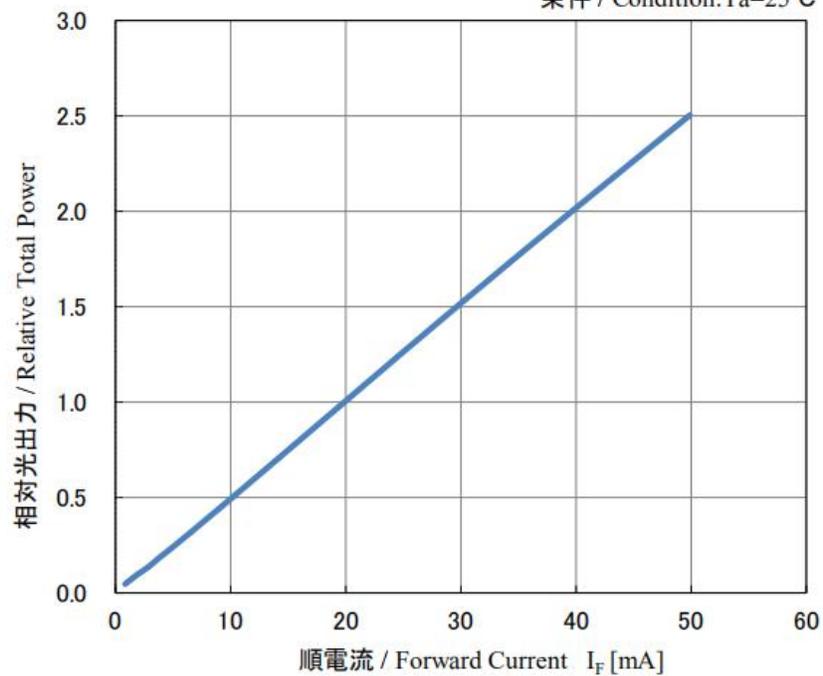
Typical Spatial Distribution (Tc = 25°C)

Spatial Distribution Example



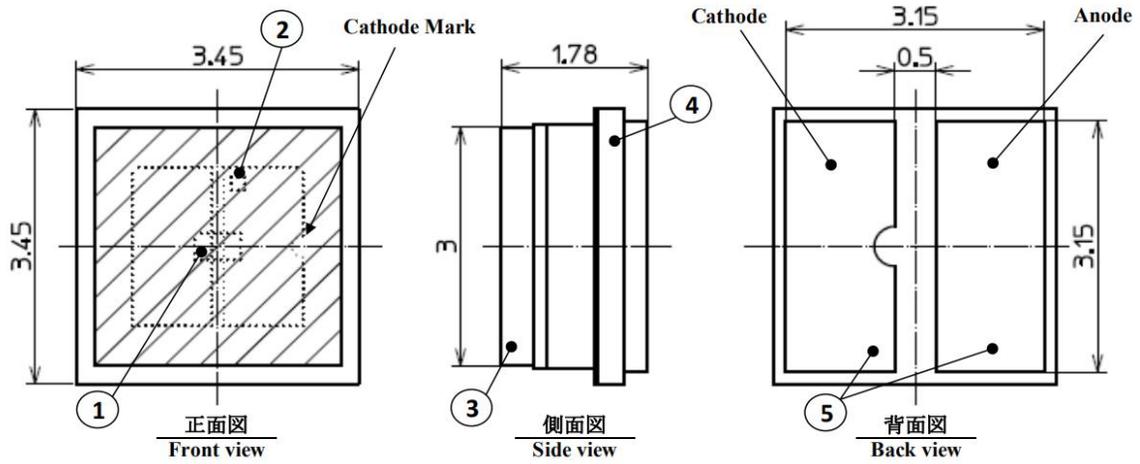
Relative Power VS Current (Tc = 25°C)

Forward Current vs. Relative Total Power
条件 / Condition: Ta=25°C

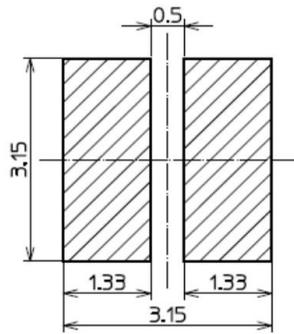


Dimensions (Unit:mm)

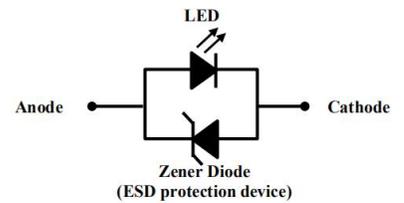
Tolerance +/-0.2mm



Bonding Pad Design



Internal Circuit



Reliability Tests

Test Items	Test Conditions
Room Temperature Operating Life	0.3W/IF=50mA Ta=25°C × 1000hrs
Aging Test	0.3W/IF=50mA Ta=60°C × 1000hrs
High Temperature Storage	100°C × 1000 hours
Low Temperature Storage	-30°C × 1000 hours
High Temp & Humidity	IF=50mA 60°C, 90 %RH for 1000 hours
Temperature Shock/Cycle	-30°C × 15 minutes - +100°C × 15 minutes, 100 cycle
ESD (HBM)	2000V 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=20mA	>U × 1.1
Optical Power	ϕv	0.2W/IF=20mA	<S × 0.4
Cosmetic Appearance	-	-	Notable deformation and cracking

Handling Precautions

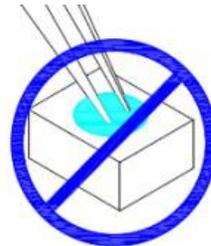
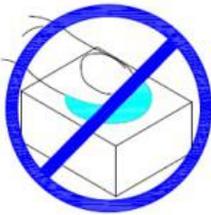
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force. As a result, special handling precautions need to be observed during assembly using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

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

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

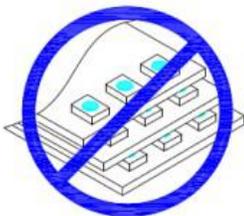


2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry



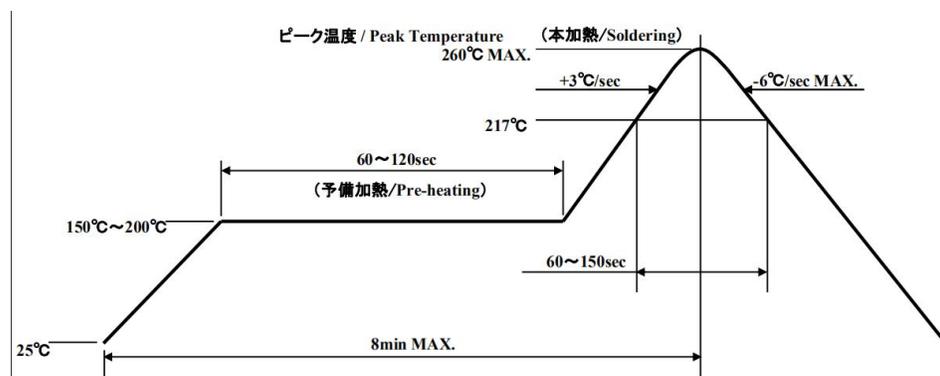
3. Do not stack together assembled PCBs containing LEDs. Not available in the situation of acidity for PH Impact may scratch the silicone lens or damage

The internal circuitry



Soldering Precautions

- 1) Heat stress during soldering will influence the reliability of LEDs, however that effect will vary with heating method. Also, if components with different shapes need to be mounted together, it is recommended to set the soldering pad temperature according to the component most vulnerable to heat stress (ex. chip type LED)
- 2) The LEDs constituent parts, including the resin, do not stabilize immediately after the soldering. Any mechanical stress may cause damage to the products. Please avoid stacking the PCBs, or any other storage method which may cause the PCBs to bend, also, prevent contact of LED with any materials.
- 3) The recommended temperature profile for reflow soldering is listed as the top surface temperature. This is due to the fact that temperature distribution varies on heating method, PCB material, other components in the assembly, and concentration of the parts mounted. Typically, when FR-4 PCB is mounted with one single LED and heated via far infrared and hot air, the difference in temperature between PCB and LED resin will be around 5-10°C. Please do not repeat the heating process during reflow more than three times.



Notes1: Temperature Profile for the reflow should be set to LED top resin surface temperature, which is the maximum temperature for Soldering

Notes2: The reflow soldering process should be done max2 times. The interval between first and second process should be as short as possible to prevent absorption of moisture to LED resin.

Please cool down the LED temperature at room temperature after soldering, then start the second process.

4) When using a metal PCB, the solder may crack and problems may occur due to major stress on the soldered portion caused by thermal shock. Please carry out a thorough advance verification before use. For the metal PCB's insulation, it is recommended to use stress-reducing materials.

5) The products can not be used for hand soldering and dipping (Through the Wave) soldering

6) When cleaning, using isopropyl alcohol is recommended. Some chemicals, including Freon substitute detergent could corrode the surface or the products, which cause discoloration, clouding, crack and so on.

If water is used to clean (including the final cleaning process), please use pure water (not tap water), and completely dry the LED before using. Cleaning with ultrasonic is not recommended.