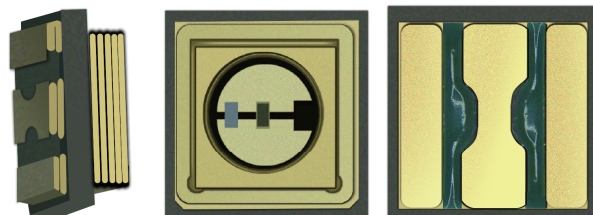




## UVC EMITTING DIODE IN SMD PACKAGE

### DESCRIPTION

3535UVC-B5 is ceramic based mid power UVC LEDs with quartz window for long life time. The package size is 3.5mm x 3.5mm x 1.6mm and the radiant power typically 10mW at 40mA in a wavelength range of 270nm to 280nm.



### FEATURES

- Ceramic SMT package with quartz window
- Dimension (L x W x H) in mm: 3.5 x 3.5 x 1.6
- DC forward current: up to 60mA
- Radiant power (typ.): 10mW at 40mA
- Leads / terminations finish: gold plated (Au)
- Reflow soldering method
- MSL 5 according to J-STD-020



### PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Angle of half intensity:  $\pm 60^\circ$
- Package: SMD ceramic
- Lead-finishing: Au
- Product series: mid power UV LED

### APPLICATIONS

- Sterilization
- Medical application
- Sensing of gases, germs, DNA, ...

### SAFETY ADVICES

These LEDs emit very strong UV radiation during operation.

Do not look directly into the LED light when in operation as UV radiation can harm your eyes. To prevent inadequate exposure, wear protective eyewear. If LEDs are embedded in devices, please indicate warning labels. Avoid exposure to skin or other tissue during operation. Keep out of the reach of children.

Take appropriate precautions around pets and other living organisms to avoid UV exposure.

### PARTS TABLE

COLOR	RADIANT POWER (mW)			at IF (mA)	WAVELENGTH (nm)			at IF (mA)	FORWARD VOLTAGE (V)			at IF (mA)	TECHNOLOGY
	MIN	TYP	MAX		MIN	TYP	MAX		MIN	TYP	MAX		
Ultraviolet	6	10	13	40	270	275	280	40	5.0	6.0	7.0	40	AlGaIn

### ABSOLUTE MAXIMUM RATINGS (Tamb=25°C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
DC forward current		IF	60	mA
Power dissipation		PD	0.5	W
Reverse voltage		Not designed for reverse operation		
Electrostatic discharge	HBM: MIL-STD-883	ESD	2000	V
Junction temperature		Tj	85	°C
Operating temperature range		Tamb	-40 to +80	°C
Storage temperature range		Tstg	-40 to +100	°C
Solder temperature		Tsol	260	°C



## OPTICAL AND ELECTRICAL CHARACTERISTICS (Tamb=25°C, unless otherwise specified)

Parameter	Symbol	TEST	Min	Typ	Max	Unit
Reverse Current	IR	VR=5V	-	-	5.0	μA
Forward Voltage	V	IF= 40mA	5.0	6.0	7.0	V
Total Radiant Flux	Φe	IF= 40mA	6	10	13	mW
Peak wavelength	λp	IF= 40mA	270	275	280	nm
Spectral Line Half Width	Δλ	IF= 40mA	-	10	-	nm
Half Intensity Angle	$\frac{2\theta}{1/2}$	IF= 40mA	-	120	-	deg
Thermal resistance junction to solder-point			-	17	-	K/w

**NOTE** Tolerances: ±11% for Φe, ±0.1 V for VF, ±3nm for λp

## RADIANT POWER CLASSIFICATION (IF = 40mA)

Bin code	Minimum Radiant Flux(mw)	Maximum Radiant Flux(mw)
D	6	10
E	10	13

## PEAK WAVELENGTH CLASSIFICATION (IF = 40mA)

Bin code	Minimum Peak wavelength(mw)	Maximum Peak wavelength(mw)
W70	270	275
W75	275	280

## FORWARD VOLTAGE CLASSIFICATION (IF = 40mA)

Bin code	Minimum Forward Voltage(V)	Maximum Forward Voltage(V)
5055	5.0	5.5
5560	5.5	6.0
6065	6.0	6.5
6570	6.5	7.0

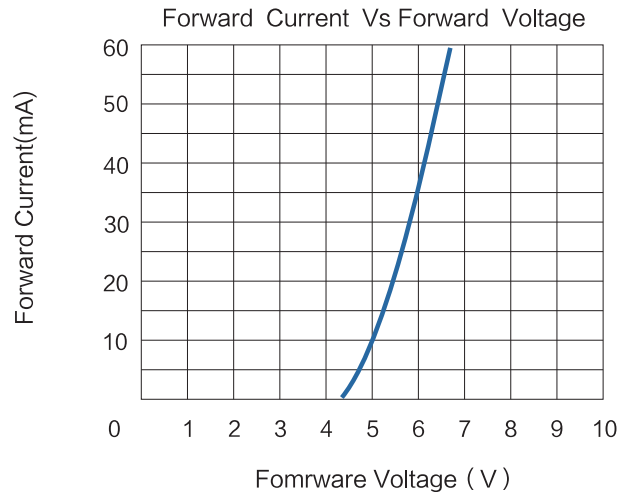
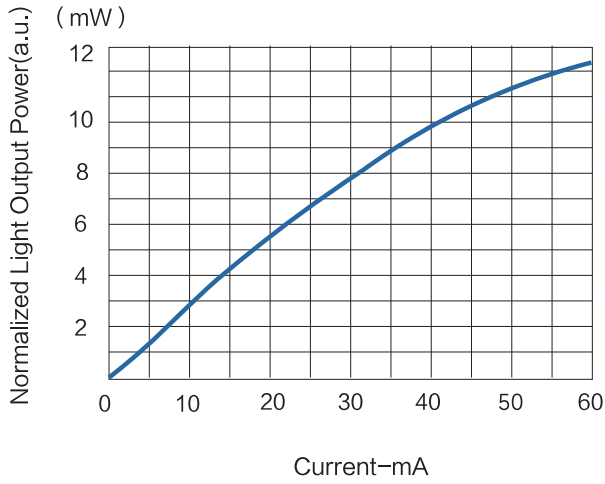
**NOTE**

In order to ensure availability, single groups for radiant intensity, wavelength, and forward voltage will not be orderable. Only one group for radiant intensity, wavelength, and forward voltage will be shipped in any one reel

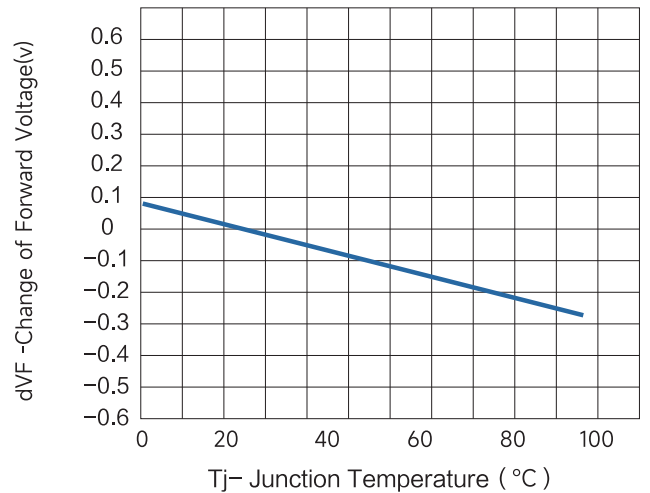
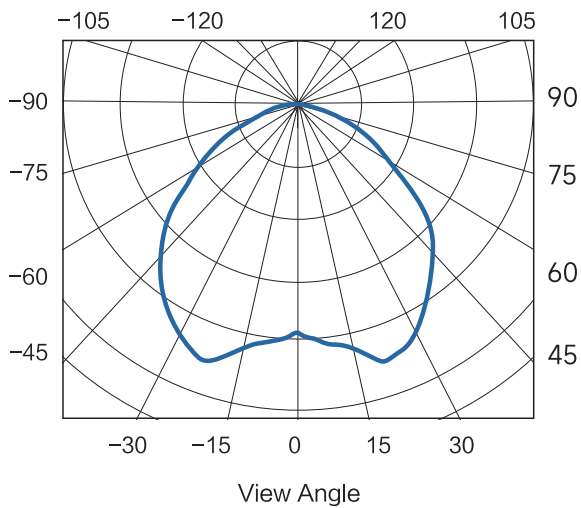
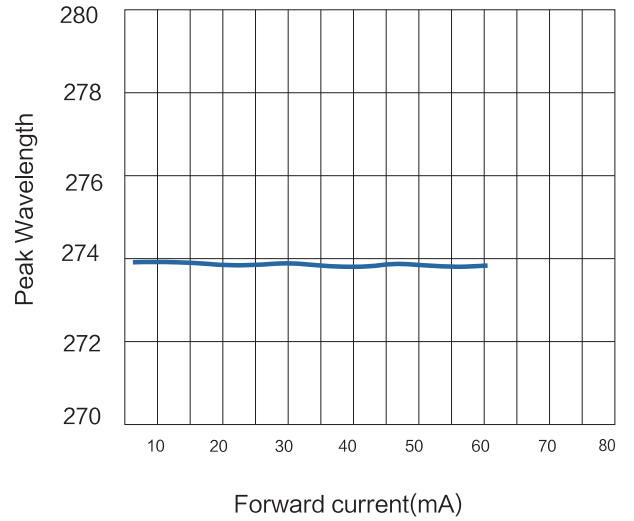
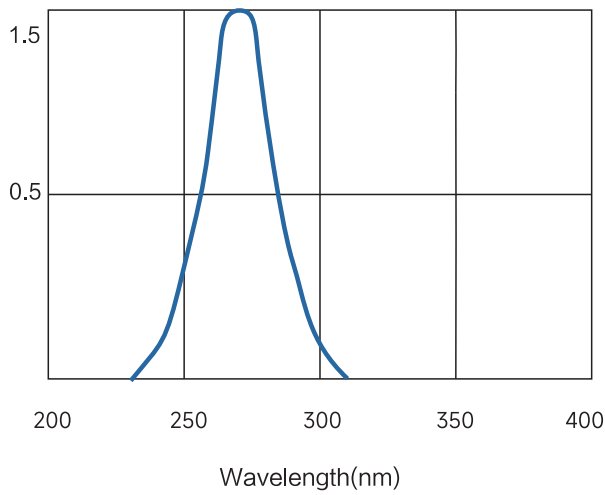


## TYPICAL ELECTRO-OPTICAL CHARACTERISTICS

(Tamb = 25°C, unless otherwise specified)

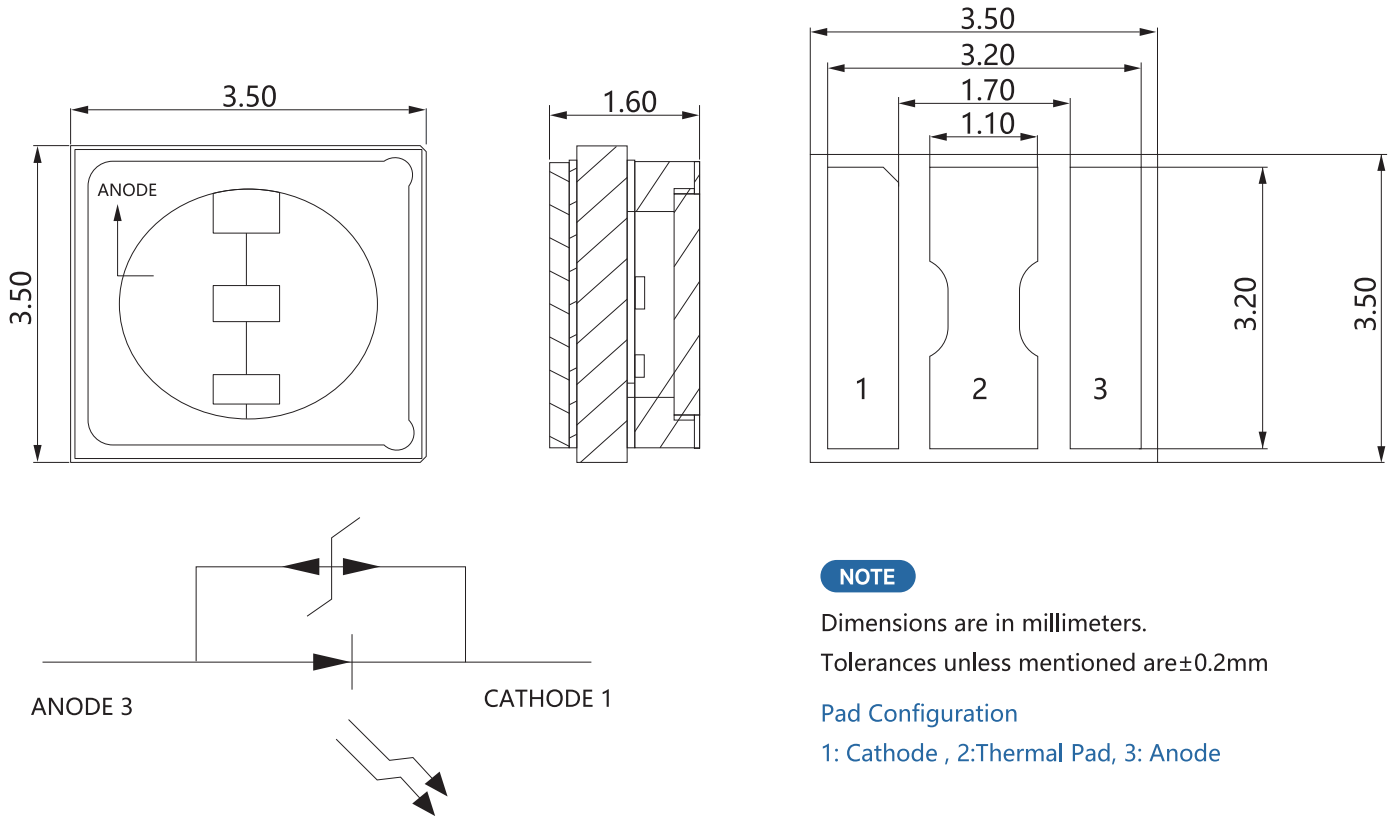


80





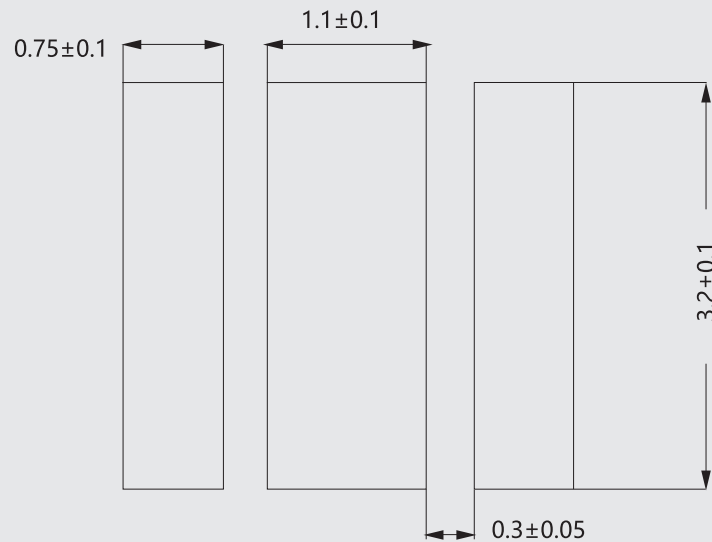
## PACKAGE DIMENSIONS in millimeters



### NOTE

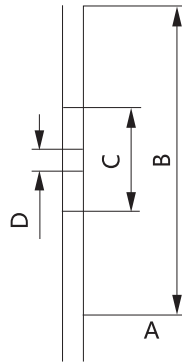
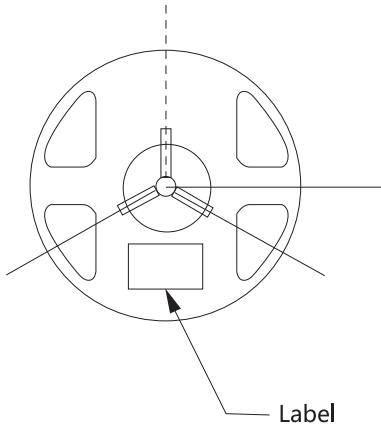
Dimensions are in millimeters.  
Tolerances unless mentioned are  $\pm 0.2$ mm  
**Pad Configuration**  
1: Cathode , 2:Thermal Pad, 3: Anode

## RECOMMENDED SOLDER PAD OPENING



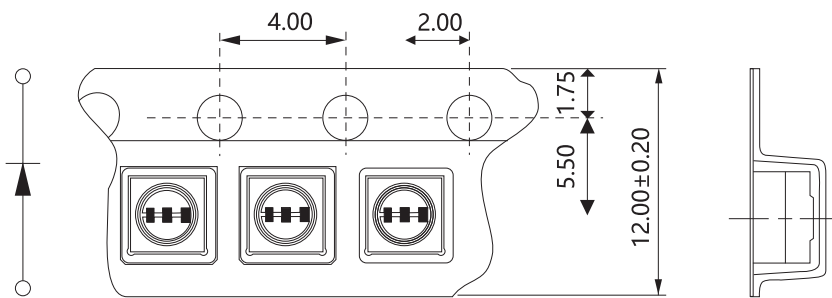


## TAPE AND REEL DIMENSIONS in millimeters



Reel Dimension

A	12±0.1mm
B	178±1mm
C	60±1mm
D	13.0±0.5mm

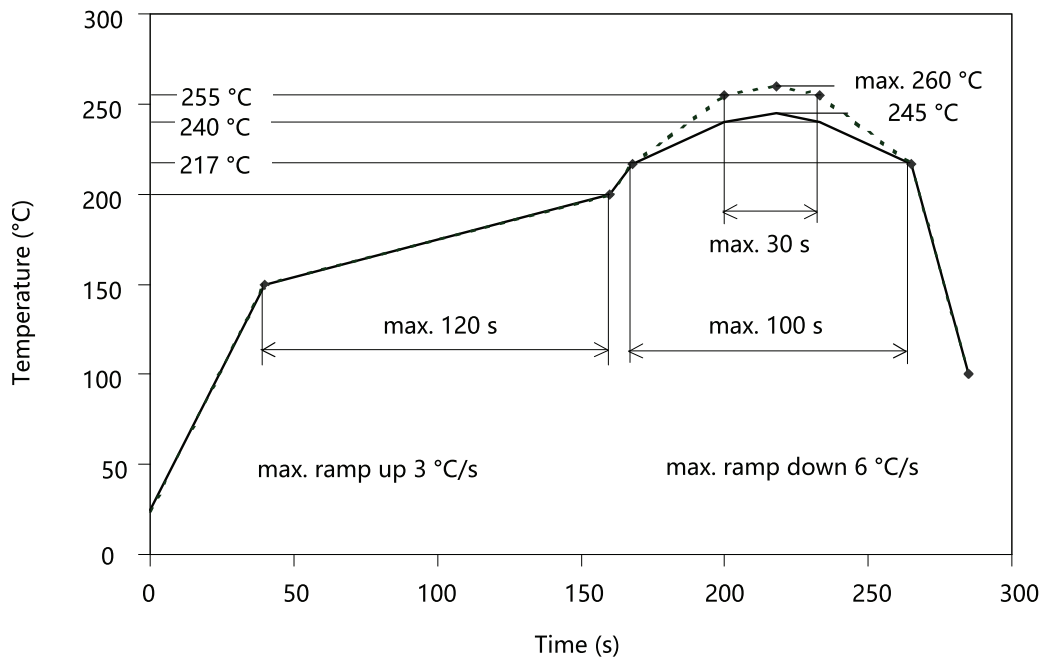


### NOTES

- 1. Size unit is millimeters
- 2. The dimensional tolerance is ±0.1mm
- 3. Package: 1000pcs/reel

## SOLDERING PROFILE

IR Reflow Soldering Profile for Lead (Pb)-free Soldering





## DRY PACKING

The reel is packed in an anti-humidity bag to protect the devices from absorbing moisture during transportation and storage.

## FINAL PACKING

The sealed reel is packed into a cardboard box. A secondary cardboard box is used for shipping purposes.

## RECOMMENDED METHOD OF STORAGE

Before the package is opened: The LEDs should be stored at 30°C or less and 60%RH or less after being shipped from Everlight and the storage life limits are 1 year. The LEDs can be stored up to 3 years if in a sealed container with a nitrogen atmosphere and moisture absorbent material.

After opening the package: The LED's floor life is 24H under 30°C or less and 60% RH or less. If unused LEDs remain, it should be stored in moisture proof packages.

If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions. Baking treatment: 60±5°C for 12 hours.

## ESD PRECAUTION

Proper storage and handling procedures should be followed to prevent ESD damage to the devices especially when they are removed from the antistatic shielding bag. Electrostatic sensitive devices warning labels are on the packaging.

## LIYU SEMICONDUCTORS STANDARD BAR CODE LABELS

The LiYu Semiconductors standard bar code labels are printed at final packing areas. The labels are on each packing unit and contain LiYu Semiconductors specific data.



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