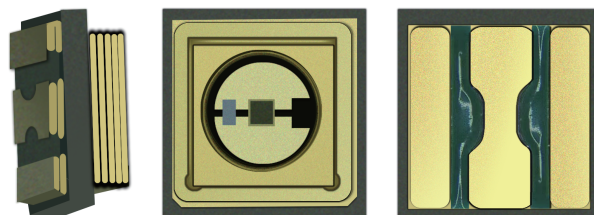




UVC EMITTING DIODE IN SMD PACKAGE

DESCRIPTION

3535UVC-A1 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 20mW at 100mA 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 150mA
- Radiant power (typ.): 20mW at 100mA
- 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	15	20	25	100	270	275	280	100	5.0	6.0	7.0	100	AlGaIn

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
DC forward current		IF	150	mA
Power dissipation		PD	1.0	W
Reverse voltage		Not designed for reverse operation		
Electrostatic discharge	HBM: MIL-STD-883	ESD	2000	V
Junction temperature		Tj	105	°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=100mA	5.0	6.0	7.0	V
Total Radiant Flux	Φe	IF=100mA	15	20	25	mW
Peak wavelength	λp	IF=100mA	270	275	280	nm
Spectral Line Half Width	Δλ	IF=100mA	-	10	-	nm
Half Intensity Angle	$\frac{2\theta}{1/2}$	IF=100mA	-	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 = 100MA)

Bin code	Minimum Radiant Flux(mw)	Maximum Radiant Flux(mw)
A	15	20
B	20	25

PEAK WAVELENGTH CLASSIFICATION (IF = 100MA)

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

FORWARD VOLTAGE CLASSIFICATION (IF = 100MA)

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

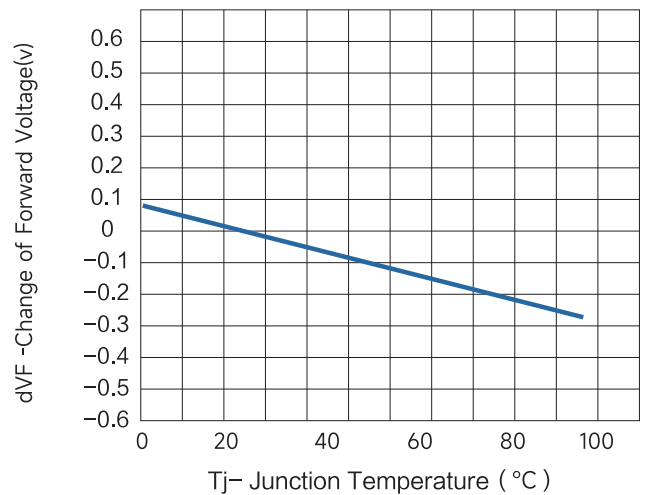
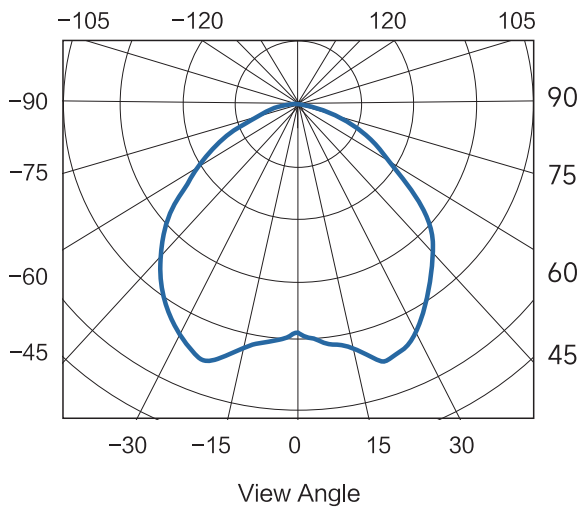
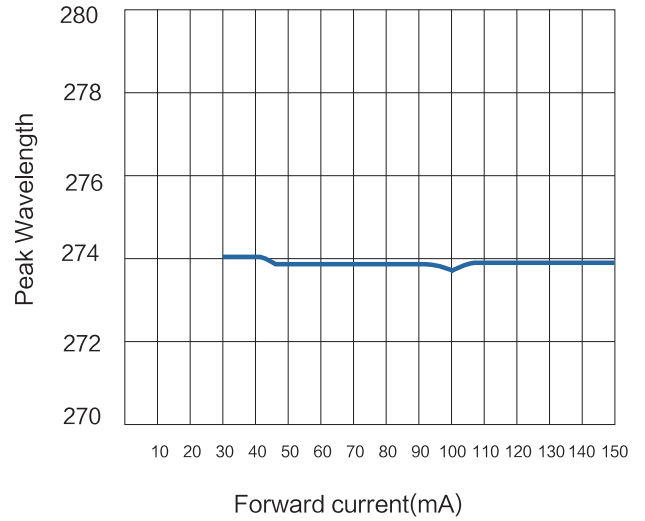
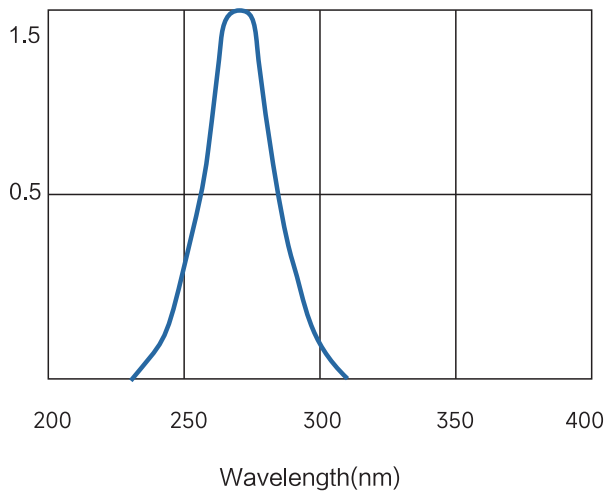
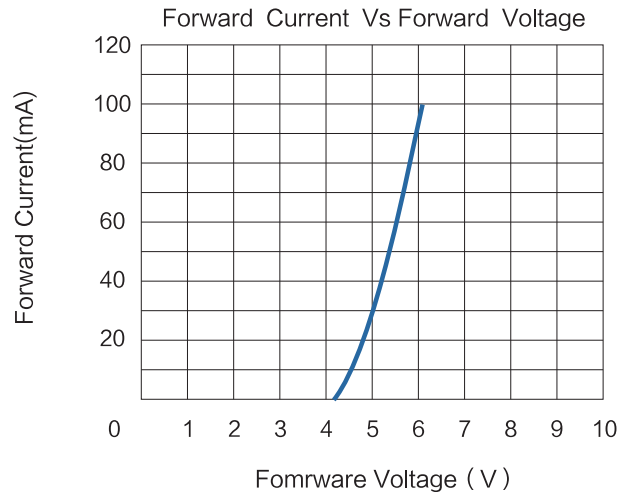
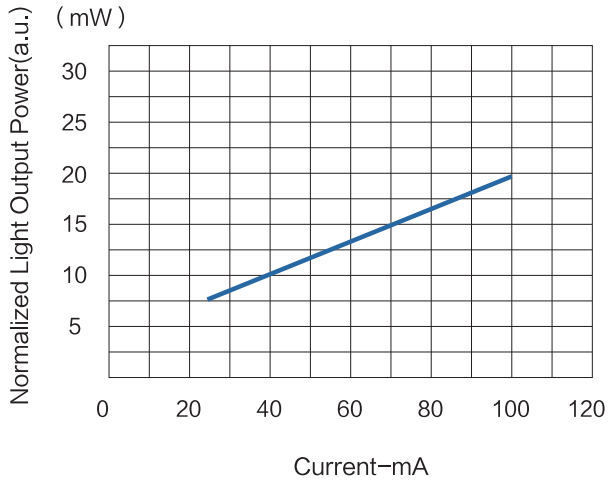
NOTE

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



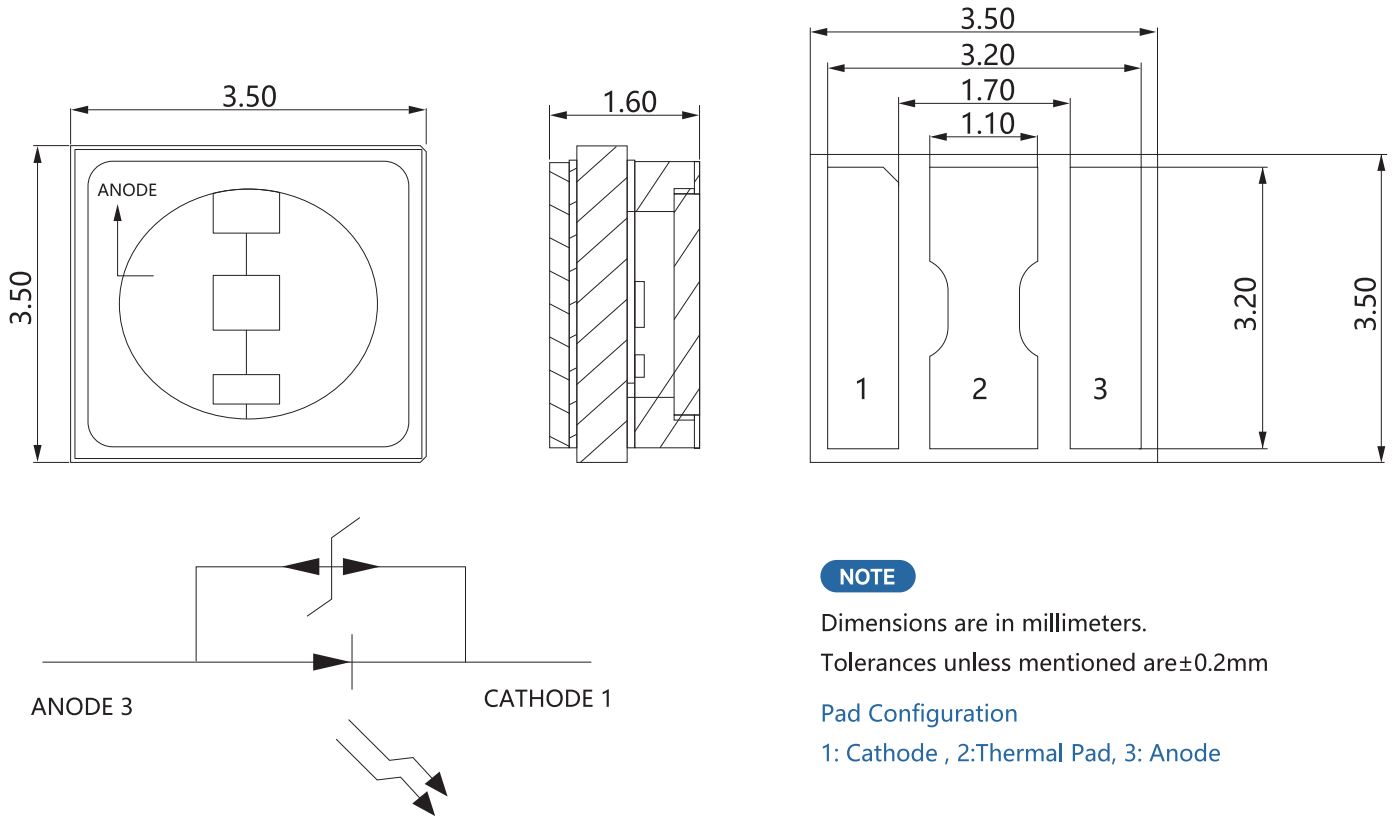
TYPICAL ELECTRO-OPTICAL CHARACTERISTICS

(Tamb = 25°C, unless otherwise specified)





PACKAGE DIMENSIONS in millimeters



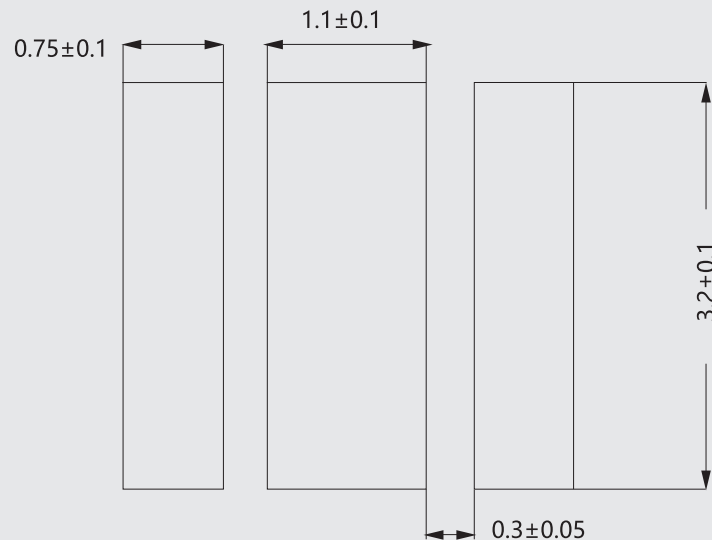
NOTE

Dimensions are in millimeters.
Tolerances unless mentioned are ± 0.2 mm

Pad Configuration

1: Cathode , 2:Thermal Pad, 3: Anode

RECOMMENDED SOLDER PAD OPENING





TAPE AND REEL DIMENSIONS in millimeters

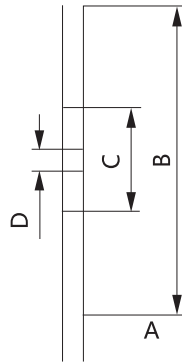
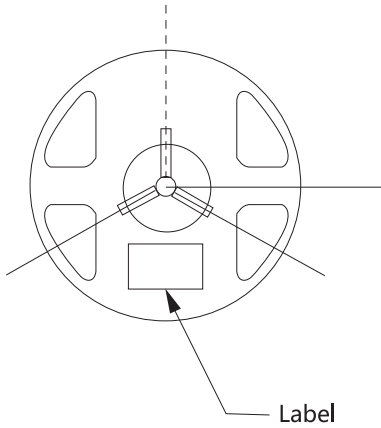
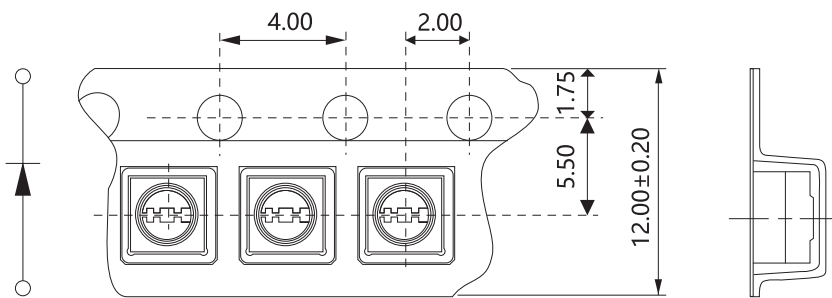


Table 2-1 Reel Dimension

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

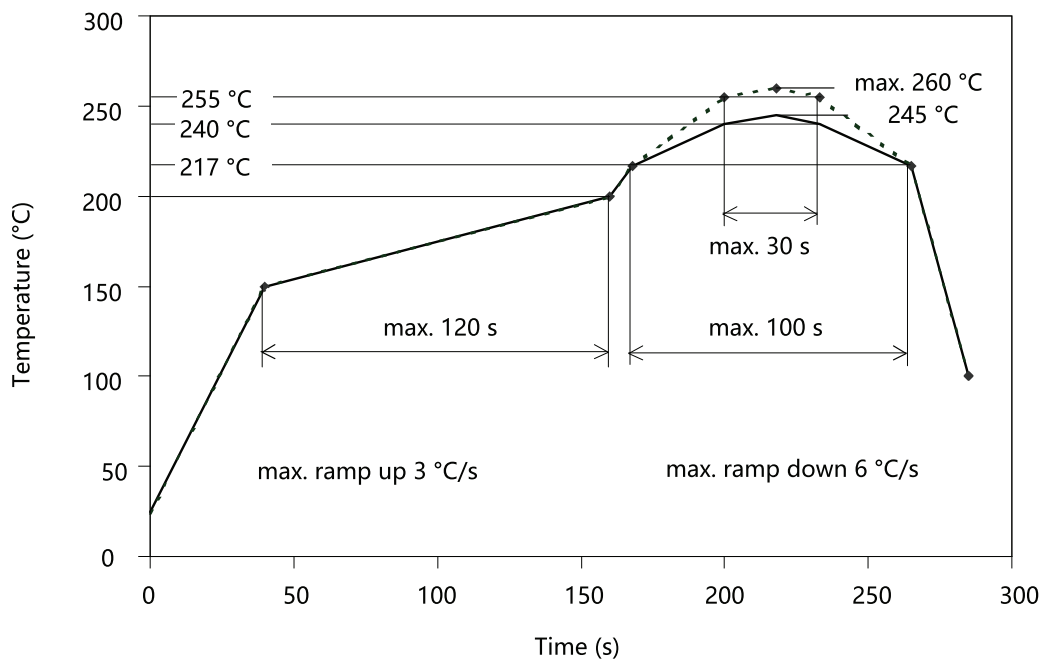


NOTES

- 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.



DISCLAIMER

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

LiYu Semiconductor Co. Ltd., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "LiYu"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

LiYu makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, LiYu disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on LiYu's knowledge of typical requirements that are often placed on LiYu products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify LiYu's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by LiYu of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. LiYu disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

LiYu products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the LiYu product could result in personal injury or death unless specifically qualified in writing by LiYu. Customers using or selling LiYu products not expressly indicated for use in such applications do so at their own risk. Please contact authorized LiYu personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of LiYu. Product names and markings noted herein may be trademarks of their respective owners.

