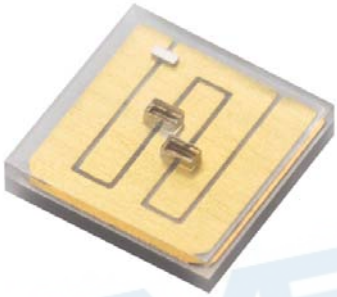
DATASHEET

# UVC3535CZ0215
# 0.7 W Series



## Introduction

The UVC3535CZ0215 product series is a ceramic based LED with high quality and reliability that suitable for UV application.

## Features

- High power UVC LED
- Dimension 3.5mm* 3.5mm* 0.99mm
- ESD protection up to 2KV
- Typical viewing angle: 150°
- RoHS compliant
- Pb free
- Compliance with EU REACH
- Compliance Halogen Free

(Br<900ppm,Cl<900ppm,Br+Cl<1500ppm)

## Applications

- UV Sterilization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## Product Nomenclature

# UVC3535CZ0215- HUC7085008X80100-1T

UVC = UVC

3535 = 3.5mm x 3.5mm Package

C = Package Material:Ceramic

Z = Zener

02 = Chip QTY: 2 chip

15 = Angle:150°

H= Chip type: Horizontal

UC= Color Rendering Index: UVC

7085=Wavelength Range: 270~285nm

008= Minimum Radiant Flux Spec: 8mW

X80 = Forward Voltage Spec: 5.0-8.0V

100 = Forward Current: 100mA

1 = Packaging:1K pcs

T = Tape Packaging:N


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## Absolute Maximum Ratings

| Parameter | Symbol | Ratings | Unit |
|---|---|---|---|
| Max. DC Forward Current (mA) | $I_F$ | 150 | mA |
| Max. ESD Resistance | $V_B$ | 2000 | V |
| Max. Junction Temperature | $T_J$ | 90 | °C |
| Thermal Resistance | $R_{th}$ | 20 | ℃/W |
| Operating Temperature | $T_{Opr}$ | -40 ~ +85 | °C |
| Storage Temperature | $T_{Stg}$ | -40 ~ +100 | °C |

## PN of the UVC3535CZ0215 series: UVC LEDs

| Order Code of UVC3535CZ0215 | Minimum Radiant Flux (mW) | Typical Radiant Flux (mW) | Maximum Radiant Flux (mW) | Peak Wavelength (nm) | Forward Voltage (V) | Forward Current (mA) |
|---|---|---|---|---|---|---|
| UVC3535CZ0215- HUC7085008X80100-1T | 8 | 10 | 15 | 270-285 | 5.0-8.0 | 100 |


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## Product Binning

### Radiant Flux Bins

| Bin Code | Minimum Radiant Flux (mW) | Maximum Radiant Flux (mW) |
|---|---|---|
| Q1 | 8 | 10 |
| Q2 | 10 | 15 |

**Notes:**

1. Radiant flux measurement tolerance: ±10%.
2. Forward voltage bins are defined at $I_F$=100mA operation.

### Peak Wavelength Bins

| Bin Code | Minimum Peak Wavelength (nm) | Maximum Peak Wavelength (nm) |
|---|---|---|
| U27A | 270 | 275 |
| U27B | 275 | 280 |
| U28 | 280 | 285 |

**Notes:**

1. Peak Wavelength measurement tolerance: ±1nm.
2. Forward voltage bins are defined at $I_F$=100mA operation.

### Forward Voltage Bins

| Bin | 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 |
| 7075 | 7.0 | 7.5 |
| 7580 | 7.5 | 8.0 |

**Notes:**

1. Forward voltage measurement tolerance: ±2%.
2. Forward voltage bins are defined at $I_F$=100mA operation.


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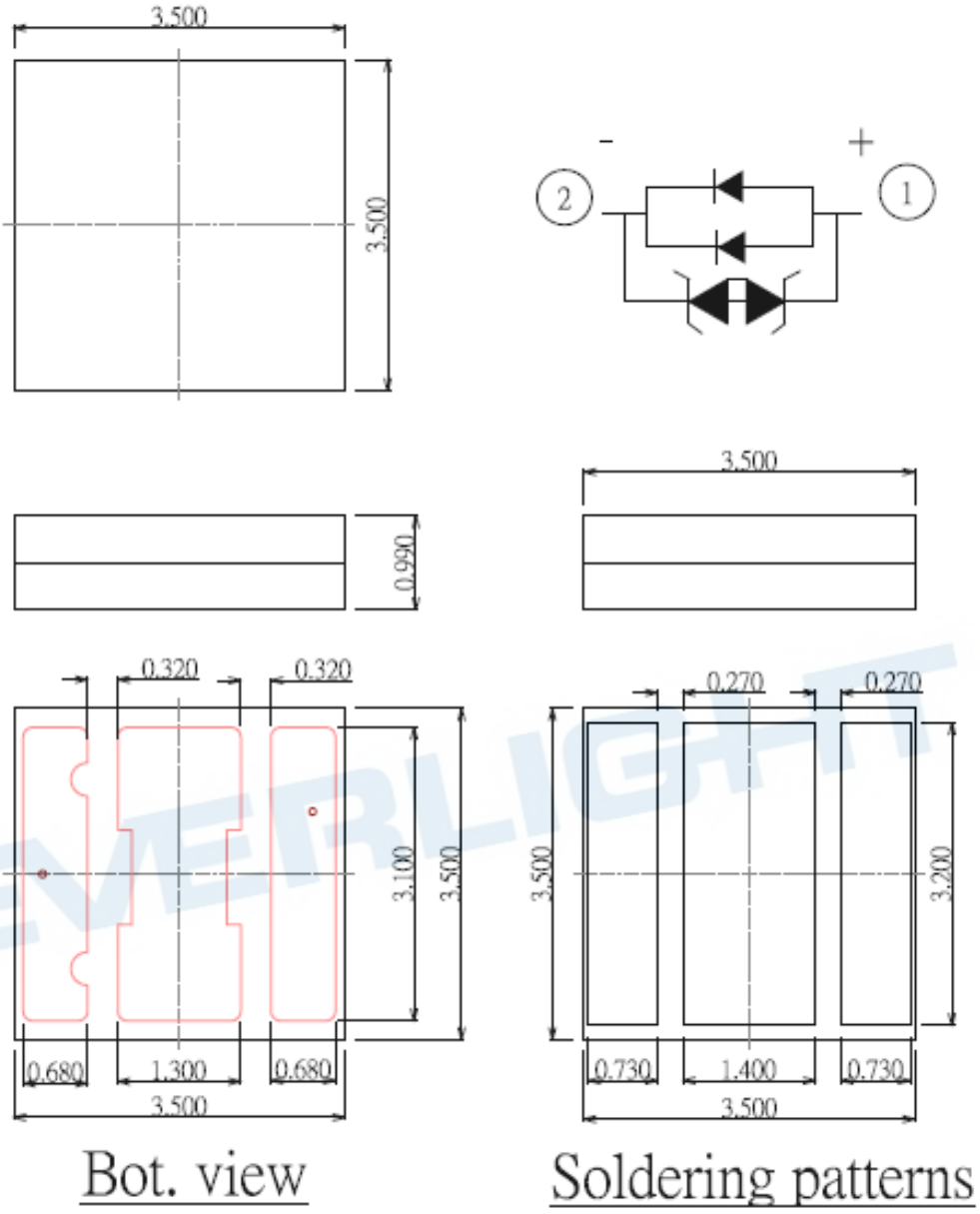
## Mechanical Dimension




**1.** Dimensions are in millimeters.
**2.** Tolerances unless mentioned are ± 0.2mm
**3.** Pad Configuration 1: Anode ,2: Cathode ,3:Thermal Pad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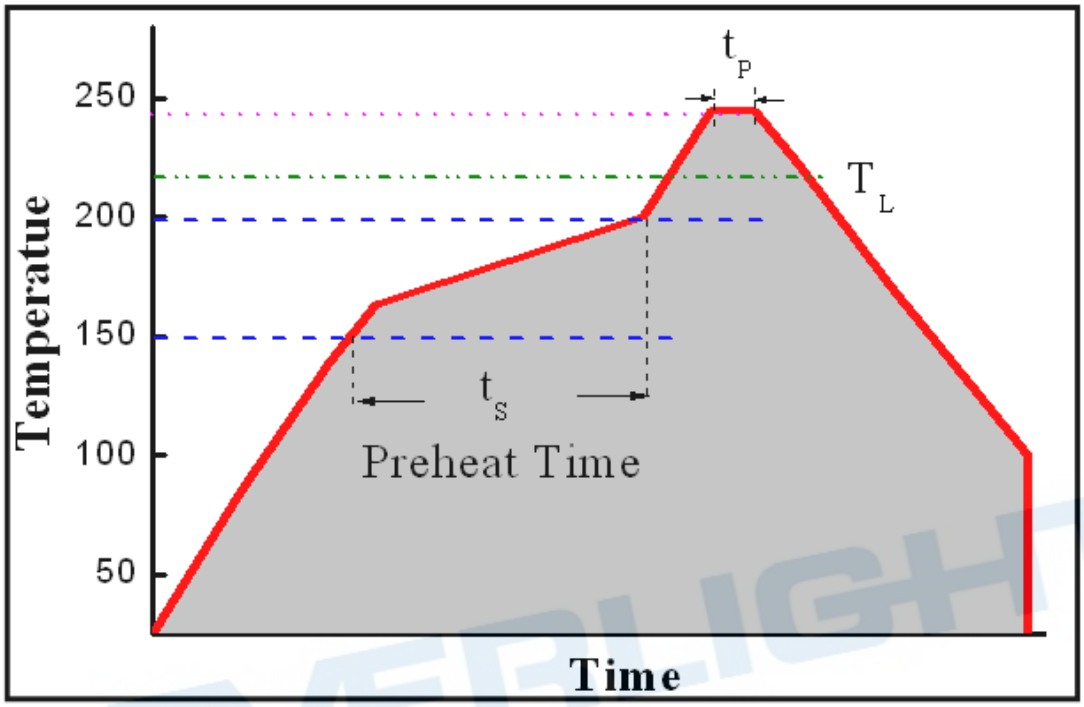
## Reflow Soldering Characteristics

**For Reflow Process**

a. ELUC series are suitable for SMT processes.

b. Curing of glue in oven must be according to standard operation flow processes.




| Profile Feature | Lead Free Assembly |
|---|---|
| Ramp-Up Rate | 2-3 ℃/S |
| Preheat Temperature | 150-200 ℃ |
| Preheat Time ($t_S$) | 60-120 S |
| Liquid Temperature ($T_L$) | 217 ℃ |
| Time maintained above $T_L$ | 60-90 S |
| Peak Temperature ($T_P$) | 240±5 ℃ |
| Peak Time ($t_P$) | Max 20 S |
| Ramp-Down Rate | 3-5 ℃/S |

c. Reflow soldering should not be done more than twice.

d. In soldering process, stress on the LEDs during heating should be avoided.

e. After soldering, do not bend the circuit board.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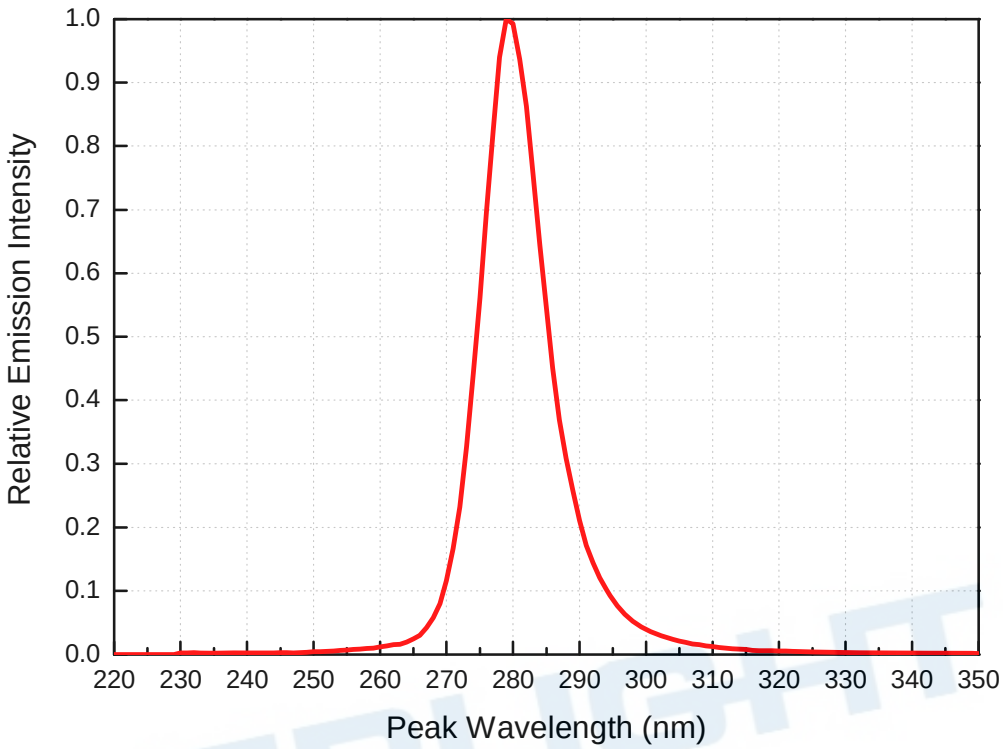
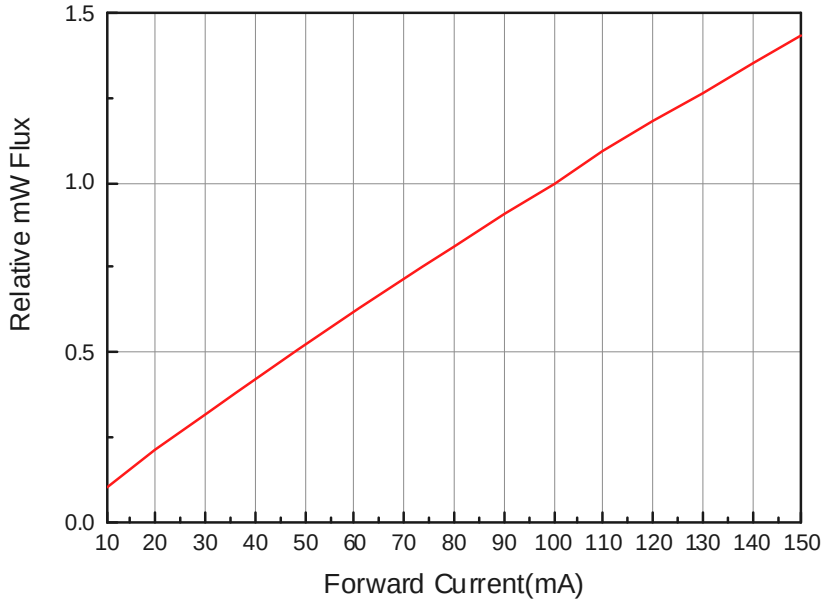
## Typical Characteristics Curves

**Spectrum @ Thermal Pad Temperature = 25℃**




**Typical Relative mW Flux vs. Forward Current**
**@ Soldering Pad Temperature = 25℃**





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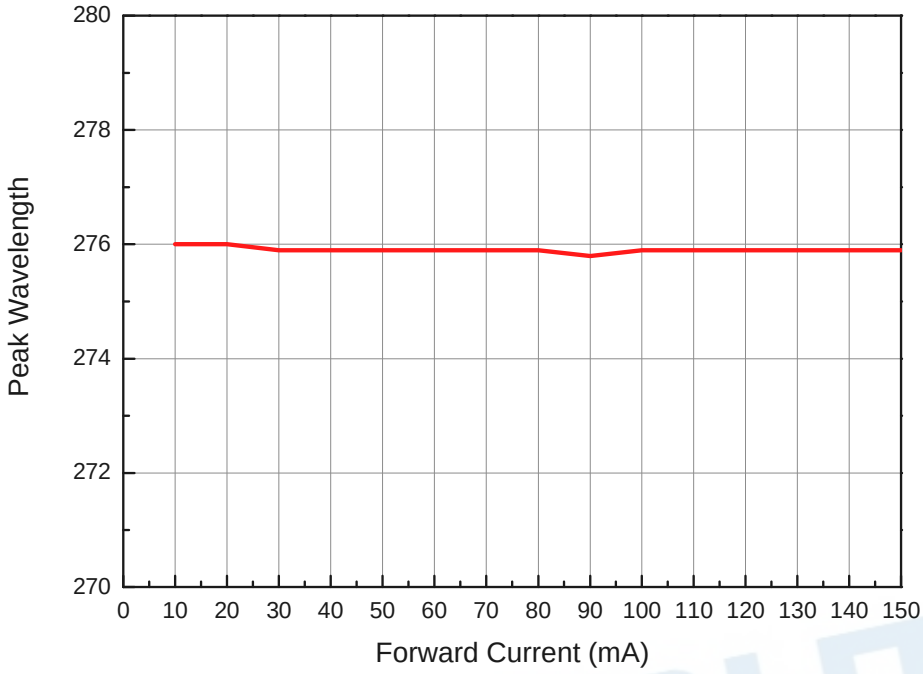
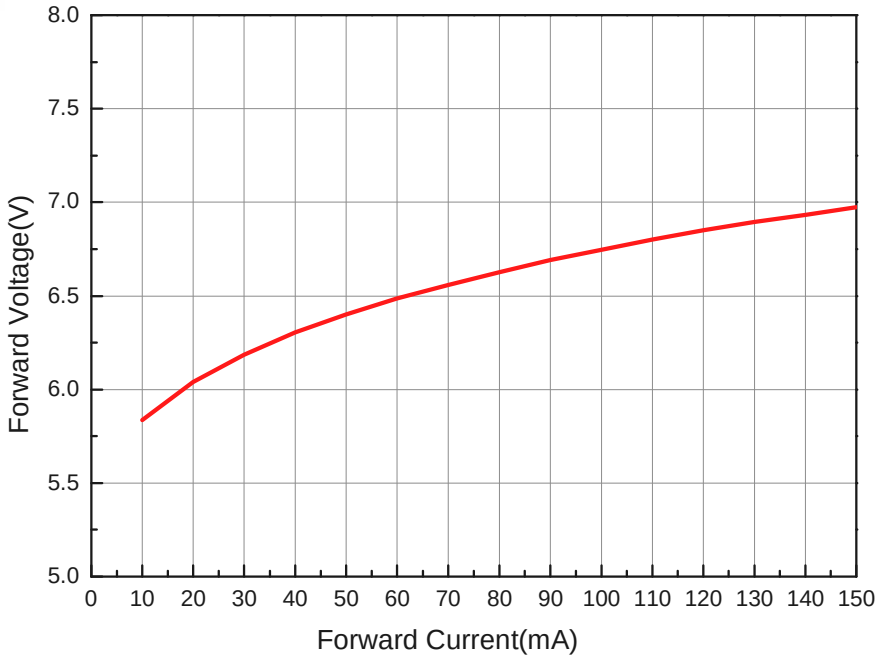
**Peak Wavelength vs. Current**
**@ Soldering Pad Temperature = 25℃**




**Forward Current vs. Forward Voltage**
**@ Soldering Pad Temperature = 25℃**





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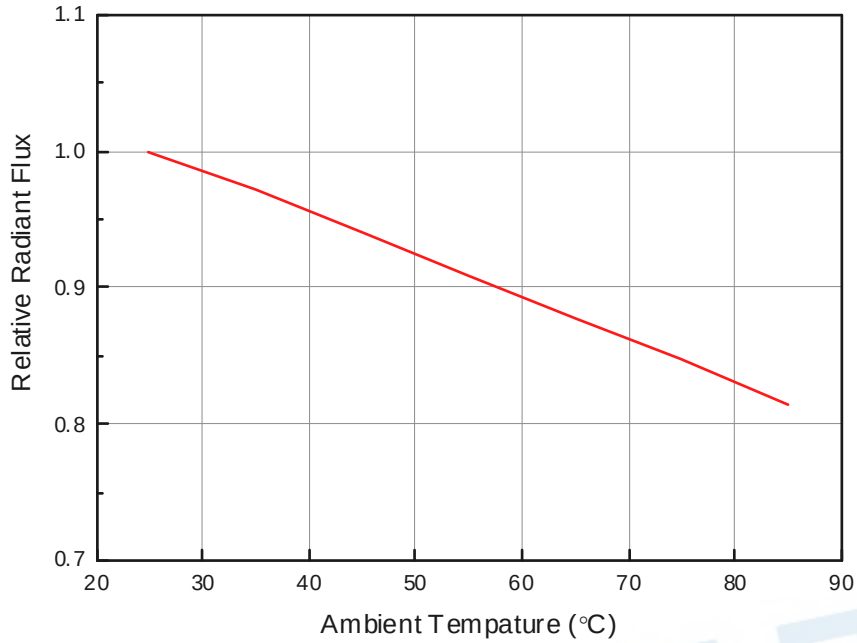
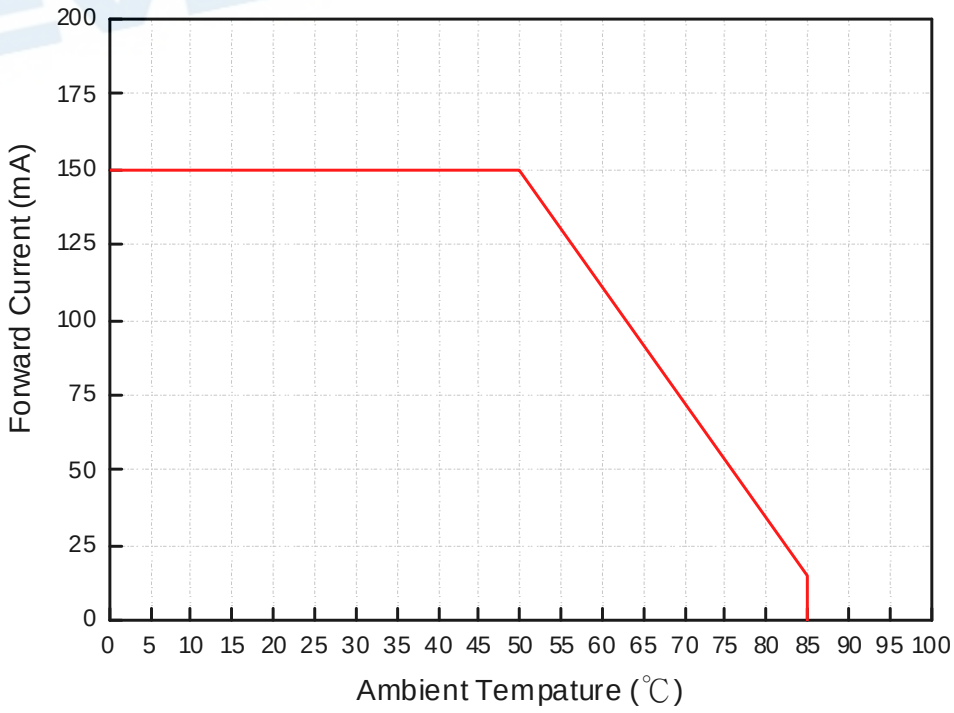
## Relative Radiant Flux vs. Ambient Temperature




## Derating Curve





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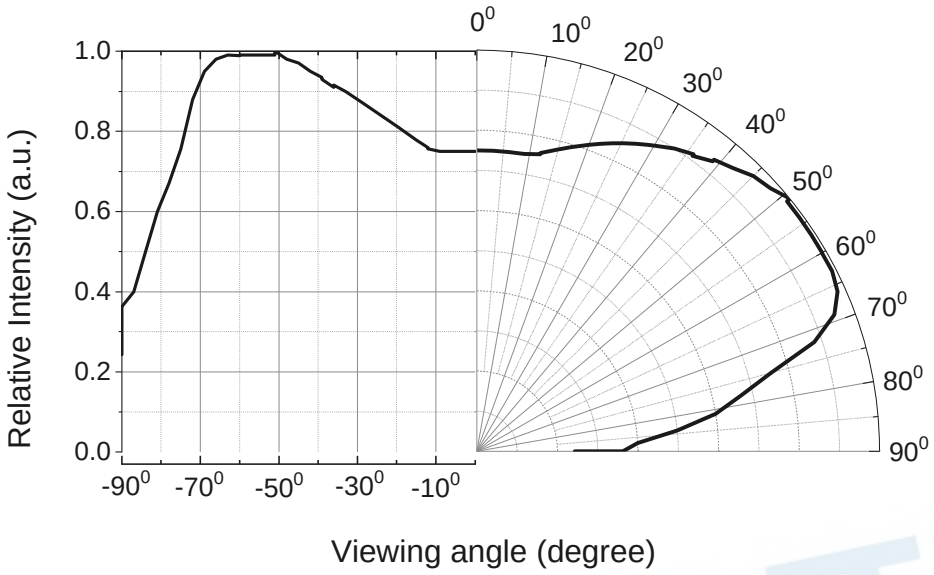
## Typical Radiation Patterns
## Typical Diagram Characteristics of Radiation for UVC3535CZ0215




**Notes:**

1. $2\theta_{1/2}$ is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.
2. View angle tolerance is ± 5°.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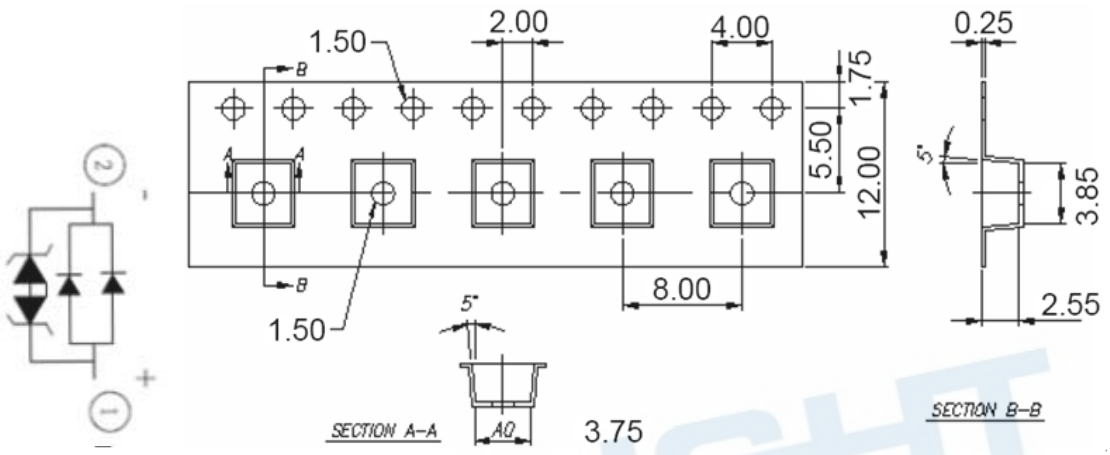
## Emitter Tape Packaging
## Carrier Tape Dimensions as the following:

**Reel: 1000 pcs**

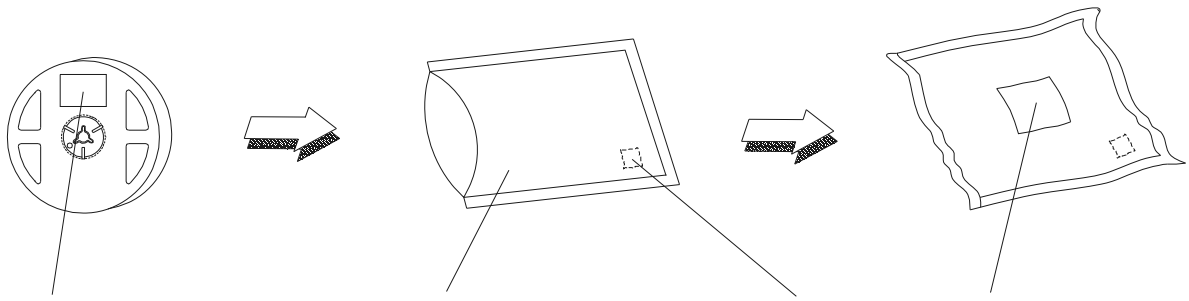
**Feed Direction**




**Notes:**

1. Tolerance unless mentioned is ±0.2mm;
2. Minimum packing amount is 1000 pcs per reel

## Moisture Resistant Packaging



**Label** **Aluminum moisture-proof bag** **Desiccant** **Label**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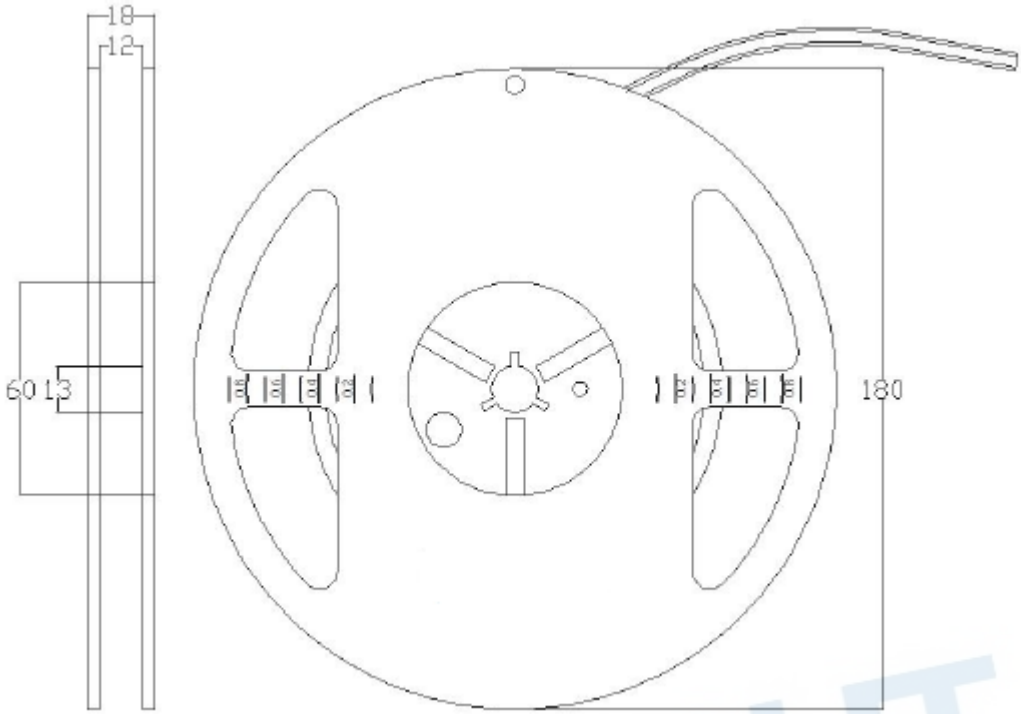
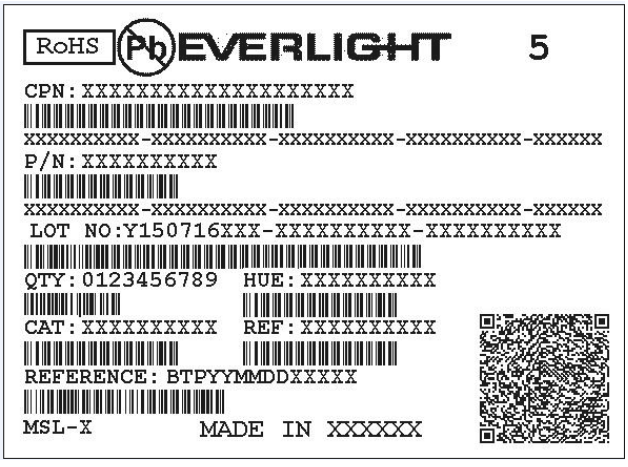
## Emitter Reel Dimensions




**Notes:**

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

## Product Labeling




### Label Explanation

CPN: Customer Specification (when required)

P/N : Everlight Production Number

QTY: Packing Quantity

CAT: Luminous Flux (Brightness) Bin

HUE: Color Bin

REF: Forward Voltage Bin

LOT No: Lot Number

MADE IN TAIWAN: Production Place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## Storage Conditions

- Before the package is opened: The LEDs should be stored at 30°C or less and 85%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 168H 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℃ for 24 hours.

## DISCLAIMER

- EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
- The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
- The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
- When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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