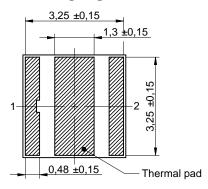
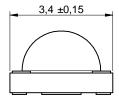
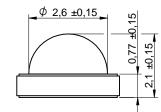
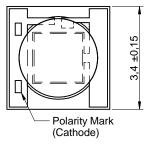
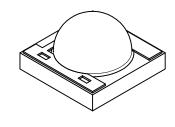
## **Dimensions: [mm]**





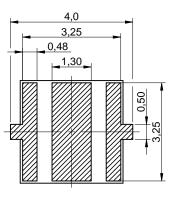






Scale - 8:1

**Recommended Land Pattern: [mm]** 



Scale - 8:1

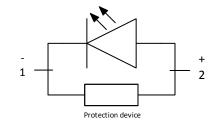
# **Absolute Maximum Ratings (Ambient Temperature 25°C):**

Properties	Test conditions		Value	Unit
Power Dissipation		P <sub>Diss</sub>	3.08	W
Peak Forward Current	duty/ 10 @ 1 kHz	I <sub>F Peak</sub>	1000	mA
Continuous Forward Current		I <sub>F</sub>	800	mA
ESD Threshold/ Human Body Model		V <sub>ESD HBM</sub>	8000	٧
Absolute Thermal Resistance Junction to Solder Point		R <sub>øJS</sub>	8	K/W
Junction Temperature		T <sub>J</sub>	150	°C

## **Optical Properties:**

Chip Technology	AllnGaN			
Emitting Color	Ultraviolet			
Lens Type	Silicone Dome Lens Waterclear			

## **Schematic:**



## **General Properties:**

l	Operating Temperature		-40 °C up to +85 °C
	Storage Temperature (in original packaging)		-40 °C up to +125 °C
l	Moisture Sensitive Level	MSL	2

△ CAUTION – UV



- UV LEDs emit high intensity UV light.
- Do not look directly into the UV light during operation. This can be harmful to your eyes and skin.
- Wear protective eyewear to avoid exposure to UV light.
- Do not view directly with optical instruments.
- Keep out of reach of children.

GENERAL TOLERANCE

DIN ISO 2768-1m

Avoid direct eye and skin exposure to UV light!

Würth Elektronik eiSos GmbH & Co. KG
EMC & Inductive Solutions

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74638 Waldenburg
Germany
Tel. +49 (0) 79 42 945 - 0

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eiSos@we-online.com

wwx.the Elektronik

WL-SUMW SMD Ultraviolet
Ceramic Waterclear

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ORDER CODE 15335339AA350

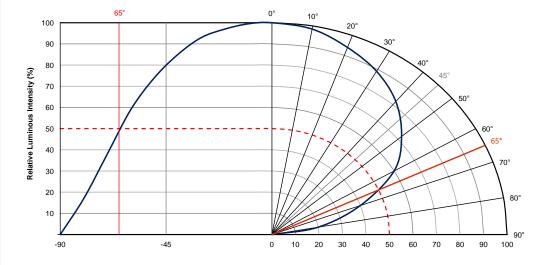
PROJECTION METHOD

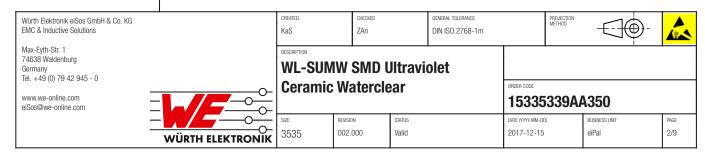
# **Electrical & Optical Properties:**

Properties	Test conditions			Value					
riopernes	Test conditions		min.	typ.	max.	Unit			
Peak Wavelength	500 mA	λ <sub>Peak</sub>		395		nm			
Radiant Flux	500 mA	Фе	700		1100	mW			
Forward Voltage	500 mA	V <sub>F</sub>	3.2	3.5	4.2	V			
Spectral Bandwidth	500 mA	Δλ		15		nm			
Viewing Angle Phi 0°	500 mA	2θ <sub>50%</sub>		130		0			

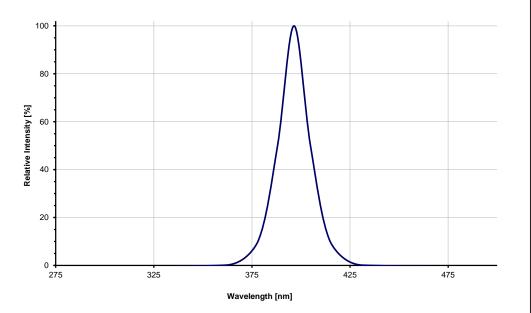
Properties	Test Conditions	Bin		Value		Unit
			min.	typ.	max.	
Forward Voltage V <sub>F</sub>	500 mA	2	3.2		3.4	V
		3	3.4		3.6	٧
		4	3.6		3.8	V
		5	3.8		4	٧
		6	4		4.2	V
Radiant Flux $\Phi_e$	500 mA	С	700		750	mW
		D	750		800	mW
		Е	800		850	mW
		F	850		900	mW
		G	900		1000	mW
		Н	1000		1100	mW

# **Viewing Angle:**

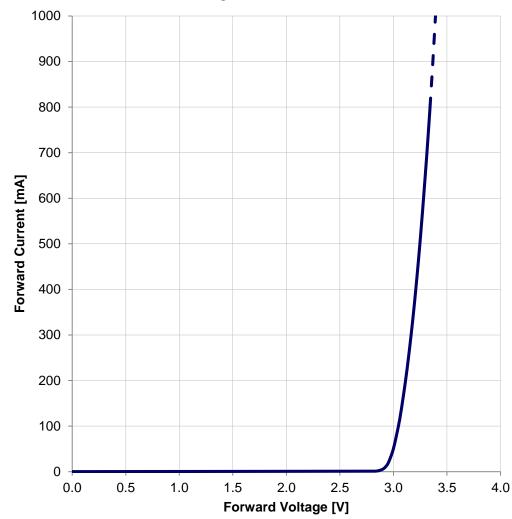




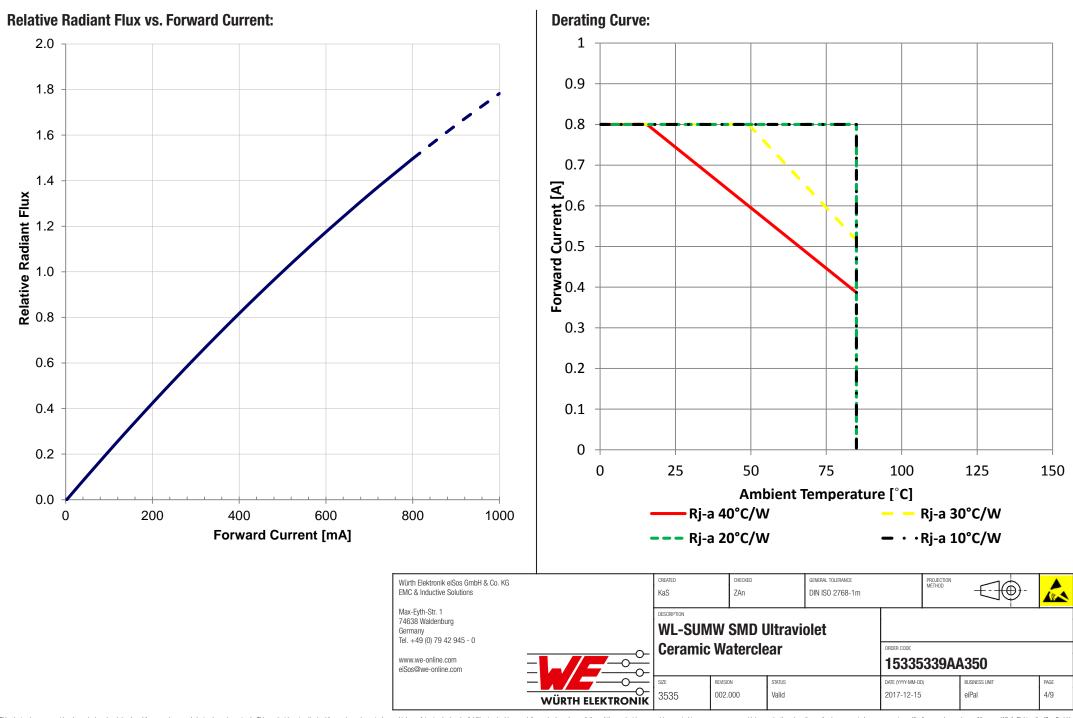
## Spectral:

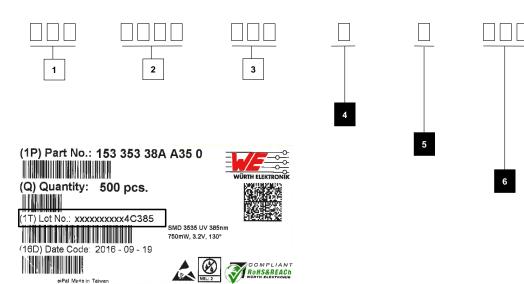


# **Forward Current vs. Forward Voltage:**



CHECKED GENERAL TOLERANCE PROJECTION METHOD CREATED Würth Elektronik eiSos GmbH & Co. KG EMC & Inductive Solutions KaS ZAn DIN ISO 2768-1m Max-Eyth-Str. 1 74638 Waldenburg **WL-SUMW SMD Ultraviolet** Tel. +49 (0) 79 42 945 - 0 **Ceramic Waterclear** ORDER CODE www.we-online.com 15335339AA350 eiSos@we-online.com BUSINESS UNIT REVISION STATUS DATE (YYYY-MM-DD) PAGE 3535 002.000 Valid 2017-12-15 3/9 **WÜRTH ELEKTRONİK** 

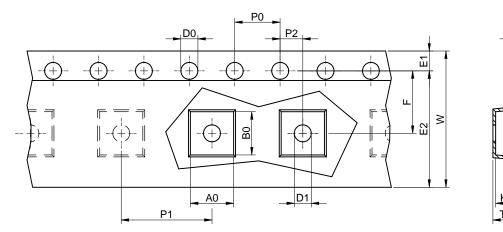


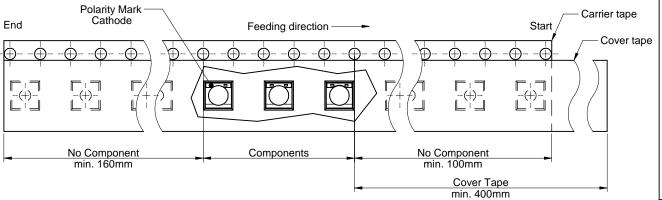


Pos 1	Pos 2	Pos 3	Pos 4	Pos 5	Pos 6
xxx	xxxx	xxx	х	х	xxx
Internal Code	Product Information	Product Code	Forward voltage	Radiant flux	Peak Wavelength



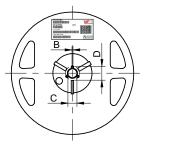
## Packaging Specification - Tape and Reel: [mm]

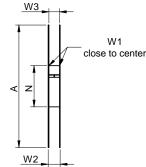




packaging is reffered to the international standard IEC 60286-3:2013

		A0	B0	W	T	T1	T2	K0	P0	P1	P2	D0	D1	E1	E2	F	Tape Type 2a	VPE / packaging unit
tolerance		typ.	typ.	+0,3/ -0,1	typ.	typ.	typ.	typ.	±0,1			+0,1/-0,0	typ.	+0,1/-0,0	min.			pcs.
size	3535	3.80	3.80	12.00	0.25	0.10	2.45	2.20	4.00	8.00	2.00	1.50	1.50	1.75	10.25	5.50	Polystyrene	500



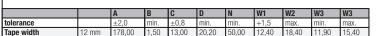


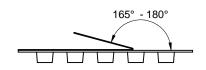


PROJECTION METHOD

PAGE

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Pull-of force Tape width 12 mm 0,1 N - 1,3 N Würth Elektronik eiSos GmbH & Co. KG **EMC & Inductive Solutions** Max-Eyth-Str. 1 74638 Waldenburg Tel. +49 (0) 79 42 945 - 0 www.we-online.com eiSos@we-online.com WÜRTH ELEKTRONIK

top cover tape

> **WL-SUMW SMD Ultraviolet Ceramic Waterclear**

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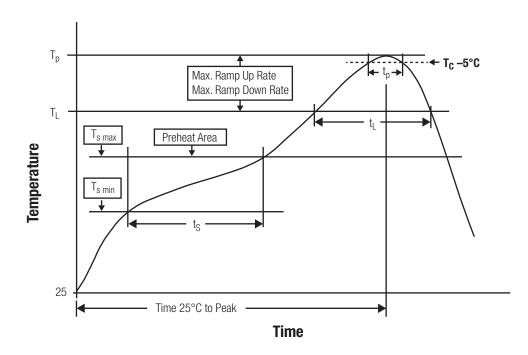
15335339AA350 REVISION STATUS DATE (YYYY-MM-DD) BUSINESS UNIT 002.000 Valid 2017-12-15

ORDER CODE

GENERAL TOLERANCE

DIN ISO 2768-1m

# **Classification Reflow Profile for SMT components:**



# **Classification Reflow Soldering Profile:**

Profile Feature		Value
Preheat Temperature Min	T <sub>s min</sub>	150 °C
Preheat Temperature Max	T <sub>s max</sub>	200 °C
Preheat Time $t_s$ from $T_{s min}$ to $T_{s max}$	t <sub>s</sub>	max. 60 - 120 seconds
Ramp-up Rate (T <sub>L</sub> to T <sub>P</sub> )		3 °C/ second max.
Liquidous Temperature	T <sub>L</sub>	217 °C
Time $t_L$ maintained above $T_L$	t <sub>L</sub>	max. 60 seconds
Peak package body temperature	T <sub>p</sub>	see table
Time within 5°C of actual peak temperaure	t p	max. 10 seconds
Ramp-down Rate (T <sub>L</sub> to T <sub>P</sub> )		6 °C/ second max.
Time 25°C to peak temperature		max. 220 seconds

refer to IPC/ JEDEC J-STD-020E

# **Package Classification Reflow Temperature:**

Properties	Volume mm³ <350	Volume mm <sup>3</sup> 350-2000	Volume mm³ >2000
PB-Free Assembly   Package Thickness < 1.6 mm	260 °C	260 °C	260 °C
PB-Free Assembly I Package Thickness 1.6 mm - 2.5 mm	260 °C	250 °C	245 °C
PB-Free Assembly I Package Thickness ≥ 2.5 mm	250 °C	245 °C	245 °C
Applied cycles	2 cycles max.		

refer to IPC/ JEDEC J-STD-020E

GENERAL TOLERANCE CREATED CHECKED Würth Elektronik eiSos GmbH & Co. KG **EMC & Inductive Solutions** KaS ZAn DIN ISO 2768-1m Max-Eyth-Str. 1 74638 Waldenburg **WL-SUMW SMD Ultraviolet** Tel. +49 (0) 79 42 945 - 0 **Ceramic Waterclear** ORDER CODE www.we-online.com 15335339AA350 eiSos@we-online.com DATE (YYYY-MM-DD) BUSINESS UNIT REVISION STATUS PAGE 002.000 Valid 7/9 3535 2017-12-15 eiPal WÜRTH ELEKTRONIK

## **Cautions and Warnings:**

# The following conditions apply to all goods within the product series of WL-SUMW of Würth Elektronik eiSos GmbH & Co. KG:

### General:

All recommendations according to the general technical specifications of the data sheet have to be complied with.

The usage and operation of the product within ambient conditions, which probably alloy or harm the component surface, has to be avoided.

If the product is potted in customer applications, the potting material might shrink during and after hardening. The product is exposed to the pressure of the potting material with the effect that the LED body, pins or termination is possibly damaged by this pressure and so the electrical as well as the mechanical characteristics are endangered to be affected. After the potting material is cured, the LED body, pins or termination of the product have to be checked if any reduced electrical or mechanical functions or destructions have occurred.

The responsibility for the applicability of customer specific products and use in a particular customer design is always within the authority of the customer. All technical specifications for standard products do also apply to customer specific products.

Washing varnish agent that is used during the production to clean the customer application might damage or change the characteristics of the LED body, pins or termination. The washing varnish agent could have a negative effect on the long term function of the product.

Direct mechanical impact to the product shall be prevented as the material of the LED body, pins or termination could flake or in the worst case it could break

The standard deliveries include values in the range and limitation as defined in the Electrical Optical Properties specified in the datasheet. On each reel, only one bin is sorted and taped. The bin is defined on intensity, chromaticity coordinate or wavelength and forward voltage. In order to ensure highest availability, the reel binning of standard deliveries can vary. A single bin cannot be ordered. Please contact us in advance, if you need a particular bin sorting before placing your order to clarify the lead time, MOQ and pricing.

## **Product specific:**

Follow all instructions mentioned in the data sheet, especially:

- The soldering profile has to be complied with according to the technical reflow/ or wave soldering specification, otherwise this will void
  the warranty
- All products shall be used before the end of the period of 12 months based on the product date code, if not a 100% solderability can't
  be ensured.
- Violation of the technical product specifications such as exceeding the absolute maximum ratings will void the warranty.

- It is also recommended to return the LEDs to the original moisture proof bag and reseal the moisture proof bag again.
- Certain LED surfaces consist of soft material. Pressure on the top surface has to be handeled carefully to prevent negative influence to
  the function and reliability of the LEDs.
- ESD prevention methods need to be applicated for manual handling and processing by machinery.
- Resistors for protection are obligatory.
- Luminaires in operation could harm human vision or skin on a photo-biological level, therefore direct light impact has to be avoided. All
  products are additionally certified as risk groups 0 to 2 according to DIN EN 62471:2008.

The general and prodcut specific cautions comply with the state of the scientific and technical knowledge and are believed to be accurate and reliable; however, no responsibility is assumed for inaccuracies or incompleteness.



## **Important Notes**

# The following conditions apply to all goods within the product range of Würth Elektronik eiSos GmbH & Co. KG:

### 1. General Customer Responsibility

Some goods within the product range of Würth Elektronik eiSos GmbH & Co. KG contain statements regarding general suitability for certain application areas. These statements about suitability are based on our knowledge and experience of typical requirements concerning the areas, serve as general guidance and cannot be estimated as binding statements about the suitability for a customer application. The responsibility for the applicability and use in a particular customer design is always solely within the authority of the customer. Due to this fact it is up to the customer to evaluate, where appropriate to investigate and decide whether the device with the specific product characteristics described in the product specification is valid and suitable for the respective customer application or not.

## 2. Customer Responsibility related to Specific, in particular Safety-Relevant Applications

It has to be clearly pointed out that the possibility of a malfunction of electronic components or failure before the end of the usual lifetime cannot be completely eliminated in the current state of the art, even if the products are operated within the range of the specifications. In certain customer applications requiring a very high level of safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health it must be ensured by most advanced technological aid of suitable design of the customer application that no injury or damage is caused to third parties in the event of malfunction or failure of an electronic component. Therefore, customer is cautioned to verify that data sheets are current before placing orders. The current data sheets can be downloaded at www.we-online.com.

#### 3. Best Care and Attention

Any product-specific notes, cautions and warnings must be strictly observed. Any disregard will result in the loss of warranty.

### 4. Customer Support for Product Specifications

Some products within the product range may contain substances which are subject to restrictions in certain jurisdictions in order to serve specific technical requirements. Necessary information is available on request. In this case the field sales engineer or the internal sales person in charge should be contacted who will be happy to support in this matter.

### 5. Product R&D

Due to constant product improvement product specifications may change from time to time. As a standard reporting procedure of the Product Change Notification (PCN) according to the JEDEC-Standard inform about minor and major changes. In case of further queries regarding the PCN, the field sales engineer or the internal sales person in charge should be contacted. The basic responsibility of the customer as per Section 1 and 2 remains unaffected.

## 6. Product Life Cycle

Due to technical progress and economical evaluation we also reserve the right to discontinue production and delivery of products. As a standard reporting procedure of the Product Termination Notification (PTN) according to the JEDEC-Standard we will inform at an early stage about inevitable product discontinuance. According to this we cannot guarantee that all products within our product range will always be available. Therefore it needs to be verified with the field sales engineer or the internal sales person in charge about the current product availability expectancy before or when the product for application design-in disposal is considered. The approach named above does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.

## 7. Property Rights

All the rights for contractual products produced by Würth Elektronik eiSos GmbH & Co. KG on the basis of ideas, development contracts as well as models or templates that are subject to copyright, patent or commercial protection supplied to the customer will remain with Würth Elektronik eiSos GmbH & Co. KG does not warrant or represent that any license, either expressed or implied, is granted under any patent right, copyright, mask work right, or other intellectual property right relating to any combination, application, or process in which Würth Elektronik eiSos GmbH & Co. KG components or services are used.

### 8. General Terms and Conditions

Unless otherwise agreed in individual contracts, all orders are subject to the current version of the "General Terms and Conditions of Würth Elektronik eiSos Group", last version available at www.we-online.com.

