

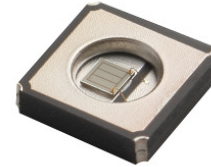
## Series 440 - Ceramics

### High Power UV - LED

preliminary

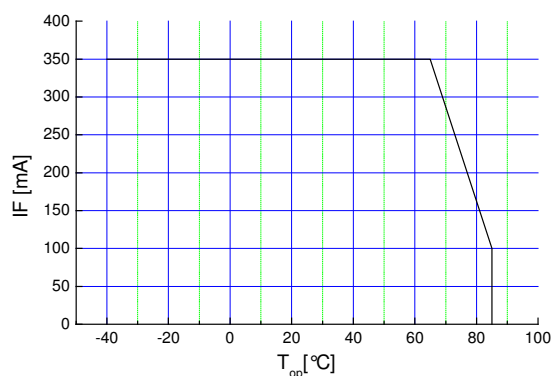
#### Features

- size 3.8(L) x 3.8(W) x 0.9(H) mm
- circuit substrate: AlN Ceramics
- devices are ROHS conform
- lead free solderable. soldering pads: silver plated
- taped in 16 mm blister tape. cathode to transporting perforation
- all devices sorted into luminous intensity classes
- taping: face-up (T)
- high radiation intensity types



#### Absolute Maximum Ratings

| $I_{F, max}$ [mA] | $I_{F, P}$ [mA] $t_p \leq 100 \mu s$ $\tau=1:10$ | $V_R$ [V] | allowable $I_{R, max}$ [mA] | Thermal resistance $R_{thJA}$ [K / W] | $T_{Op}$ [°C] | $T_{St}$ [°C] |
|-------------------|--------------------------------------------------|-----------|-----------------------------|---------------------------------------|---------------|---------------|
| 350               | 800                                              | 1         | 20                          | 10                                    | -40...85      | -40...100     |



Maximal forward current (DC) characteristic

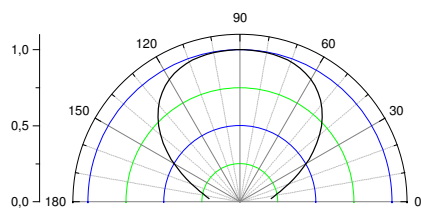
electrostatic discharge classification (MIL-STD-883E)

class 1

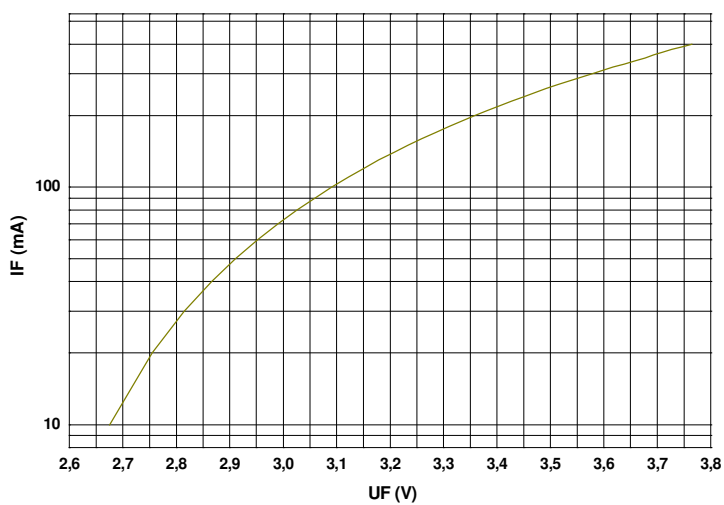
#### Electro-Optical Characteristics

| Type          | Marking at | measured at $I_F$ [mA] | VF[V] |     | $\lambda_p$ [nm] |     | $I_e$ [mW/sr] |     | $\Phi_e$ [mW] |     |
|---------------|------------|------------------------|-------|-----|------------------|-----|---------------|-----|---------------|-----|
|               |            |                        | typ   | max | min              | max | min           | max | min           | max |
| OCU-440 UE365 | cathode    | 350                    | 3.6   | 4.5 | 365              | 370 | 15            | 32  | 40            | 90  |
| OCU-440 UE380 | cathode    | 350                    | 3.6   | 4.5 | 380              | 385 | 32            | 55  | 90            | 160 |
| OCU-440 UE390 | cathode    | 350                    | 3.6   | 4.5 | 390              | 395 | 45            | 95  | 130           | 260 |
| OCU-440 UE400 | cathode    | 350                    | 3.6   | 4.5 | 400              | 405 | 70            | 110 | 190           | 310 |

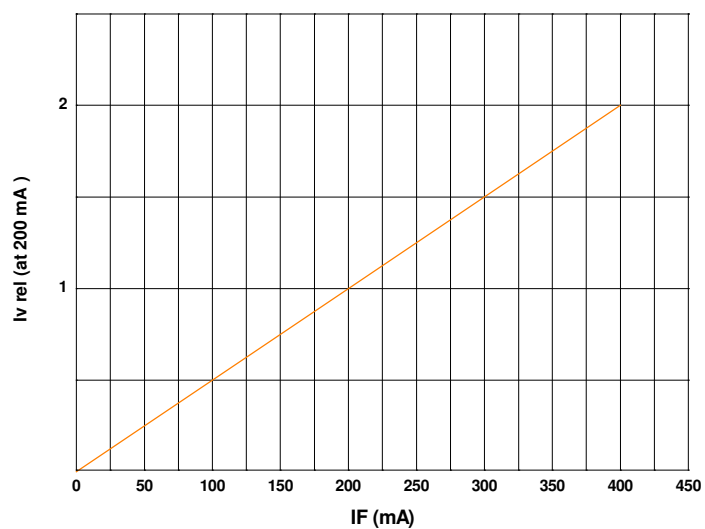
Wavelength between 365 and 420 nm upon request possible



view angle

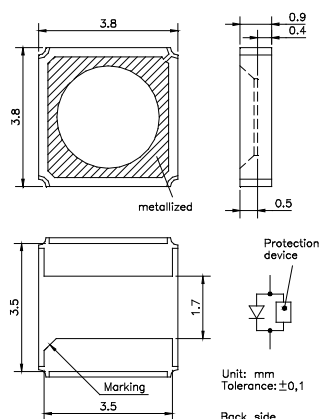


$U_F - I_F$   
characteristic

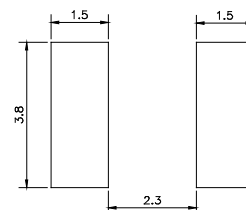


$I_F - I_{v, \text{rel}}$   
characteristic

## Outline Drawing

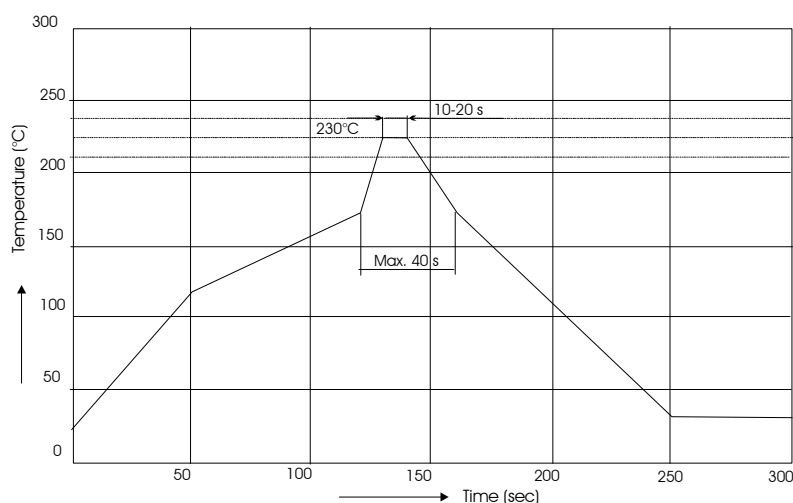


## Recommended Soldering Patterns

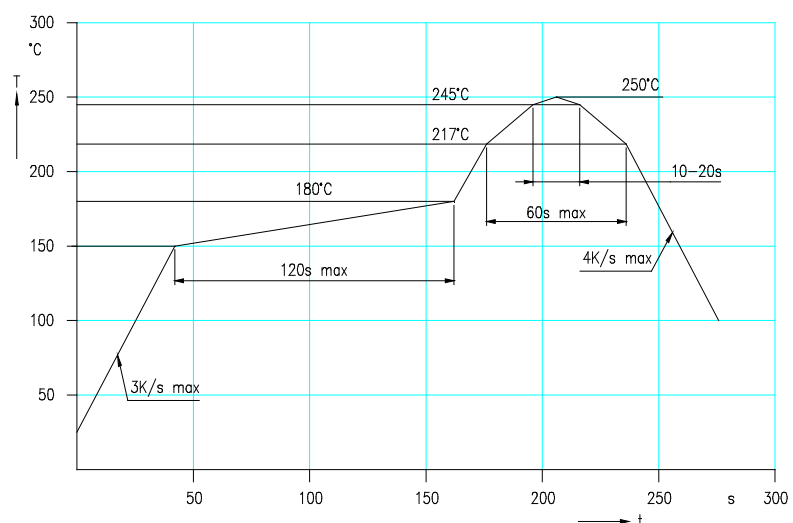


recommended min. thermal resistance  
 device—ambient: 20 K/W  
 4x4 mm<sup>2</sup> on IMS  
 with insulating thickness < 70  $\mu$ m

## Soldering Conditions



IR reflow  
soldering  
profile



IR reflow  
soldering  
profile for lead  
free soldering

Manual soldering: max power of iron 25W/ 3s/ 300°C

## Ordering Code For Parts

Series                      Color                      Encapsulation                      Packaging

OCU-440                      -                      ???????                      -                      X                      -                      T

T - taped

X - uncolored clear

Type definition, e.g. OCU-440 UE365-X -T

## LED Intensity Groups [ mW/sr ]

(general information – not this device specific)

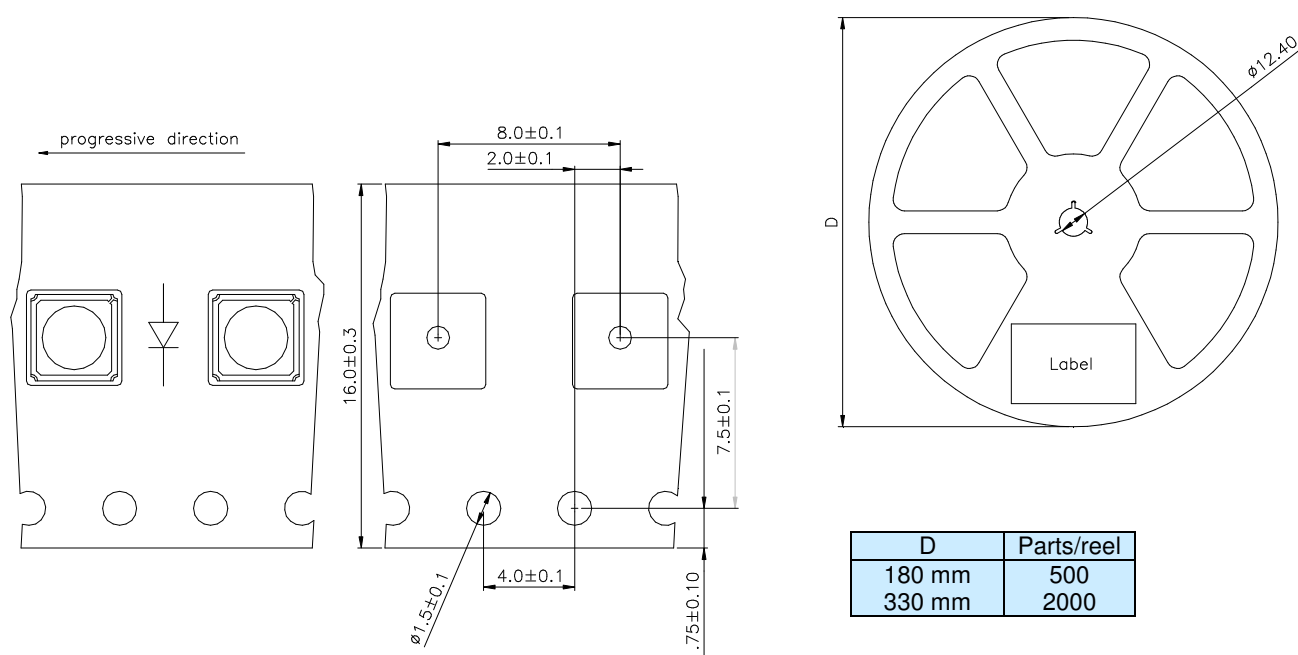
|    |      |   |      |
|----|------|---|------|
| N: | 28   | - | 45   |
| P: | 45   | - | 71   |
| Q: | 71   | - | 112  |
| R: | 112  | - | 180  |
| S: | 180  | - | 280  |
| T: | 280  | - | 450  |
| U: | 450  | - | 710  |
| V: | 710  | - | 1120 |
| W: | 1120 | - | 1800 |
| X: | 1800 | - | 2800 |
| Y: | 2800 | - | 4500 |
| Z: | 4500 | - | 7100 |

**Measured according to CIE 127. All SMD-LEDs are 100% measured and selected on full automated equipment with an accuracy of  $\pm 11$  %.**

### Warnings and Handling Instructions

- **UV LEDs emit intense but mainly invisible ultraviolet radiation when in operation, which may be harmful to eyes, even for brief periods.**
- **\* DO NOT LOOK DIRECTLY INTO THE UV LED DURING OPERATION \***
- **\* BE SURE THAT YOU AND ALL PERSONS IN THE VICINITY WEAR SAFETY GOGGLES THAT PROVIDE SUITABLE UV PROTECTION WHEN A UV LED IS OPERATING \***
- **\* KEEP CHILDREN AWAY FROM THE OPERATING VICINITY \***
- **\* KEEP UV LEDs OUT OF THE REACH OF CHILDREN \***
- **If you incorporate a UV LED into a product, be sure to provide appropriate cautionary labels and instructions.**
- **Please follow all standard procedures for storing, handling, cleaning, mounting, soldering, disposal, or otherwise handling LED dies or packaged LEDs, including static electricity protection.**
- **The user has the responsibility to inform, train and instruct customers and coworkers**
- **UV- LED are ESD sensitive (Class1). The handling and usage have to consider this device property**

## Tape And Reel Packing



**Packing:** The reel is sealed in special plastic bag with integrate ESD protection ( MIL - STD 81705 ) including a silica dry-pack

### Label

Order No. XXXXXXXXX

Customer order No.

Type OCU-440 ?????-??-T

Intensity group ZZ Color class: CC

Color class - optional

Charge No. 1122-AAAAAA

11 Week – 22 year – A internal identification

Quantity 9999

Attention please:

The information describes the type of component and shall not considered as assured characteristics. Terms of delivery and rights to change reserved. Due to technical requirements components may contain dangerous substances. The data sheet may changed without prior information; the valid issue will be on our webpage in internet. Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. OSA opto light does not have the responsibility for the reliability and the degradation behaviour of products made with OSA opto light diodes because they depend not only on the diode but also on the conditions of manufacture or design of the final products.

Packaging: Please use the recycling operators known to you.

Components used in life support devices or systems and safety systems must be expressly authorized for such purpose!