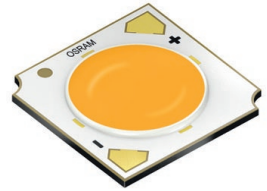


# GW KAGMB3.PM

## SOLERIQ® S 13

The SOLERIQ® S products were specifically designed for applications requiring large flux packages out of a compact area.



### Applications

- Street, Tunnel and Outdoor

### Features:

- Package: Chip-on-Board
- Typ. Radiation: 120° (Lambertian emitter)
- Color temperature: 4000K - 6500K
- CRI: 70 (min.)
- ESD: 2 kV acc. to ANSI/ESDA/JEDEC JS-001 (HBM, Class 2)
- Luminous Flux: typ. 3688 lm @ 5000 K, 85 °C
- Luminous efficacy: typ. 152 lm/W @ 5000 K, 85 °C

## Ordering Information

Type	Color temperature	Luminous Flux <sup>1)</sup> $I_F = 700 \text{ mA}$ $\Phi_V$	Ordering Code
GW KAGMB3.PM-TRTS-40S3	4000 K	3300 ... 3900 lm	Q65111A9632
GW KAGMB3.PM-TSTT-50S3	5000 K	3590 ... 4190 lm	Q65112A7488
GW KAGMB3.PM-TSTT-57S3	5700 K	3590 ... 4190 lm	Q65111A9630
GW KAGMB3.PM-TSTT-65S3	6500 K	3590 ... 4190 lm	Q65111A9629

## Maximum Ratings

Parameter	Symbol		Values
Operating Temperature	$T_{op}$	min. max.	-40 °C 105 °C
Storage Temperature	$T_{stg}$	min. max.	-40 °C 100 °C
Junction Temperature	$T_j$	max.	125 °C
Forward Current $T_j = 85\text{ °C}$	$I_F$	min. max.	70 mA 1610 mA
Reverse current <sup>2)</sup>	$I_R$	max.	200 mA
ESD withstand voltage acc. to ANSI/ESDA/JEDEC JS-001 (HBM, Class 2)	$V_{ESD}$		2 kV

## Characteristics

$I_F = 700 \text{ mA}$ ;  $T_J = 85 \text{ °C}$

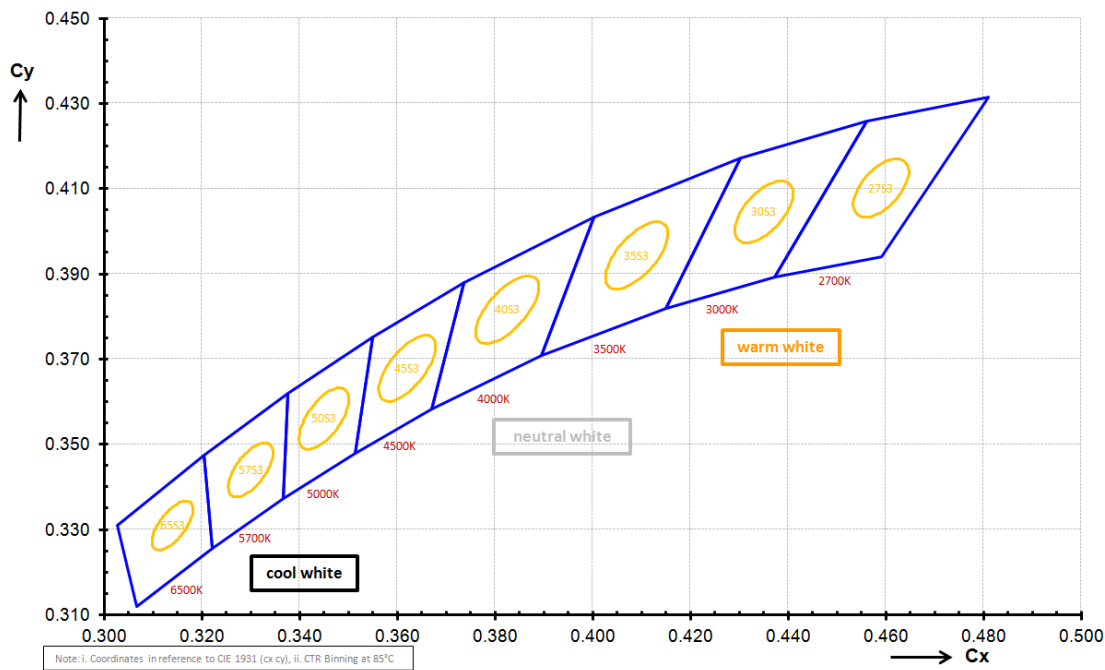
Parameter	Symbol		Values
Viewing angle at 50% $I_V$	$2\phi$	typ.	120 °
Forward Voltage <sup>3)</sup>	$V_F$	min. typ. max.	33.00 V 34.70 V 37.00 V
Reverse voltage (ESD device)	$V_{R\text{ ESD}}$	min.	45 V
Reverse voltage <sup>2)</sup> $I_R = 20 \text{ mA}$	$V_R$	max.	1.2 V
Color Rendering Index <sup>4)</sup>	CRI	min.	70
Electrical thermal resistance junction/solderpoint with efficiency $\eta_e = 39 \%$	$R_{thJS\text{ elec.}}$	typ.	0.38 K / W

Brightness Groups

Group	Luminous Flux <sup>1)</sup> I <sub>F</sub> = 700 mA min. Φ <sub>v</sub>	Luminous Flux <sup>1)</sup> I <sub>F</sub> = 700 mA max. Φ <sub>v</sub>
TR	3300 lm	3590 lm
TS	3590 lm	3900 lm
TT	3900 lm	4190 lm

Discontinued

Chromaticity Coordinate Groups 5)



Chromaticity Coordinate Groups

4000 K	Center	Center			
CCT	Cx	Cy	a	b	Ø

Discontinued

Group Name on Label

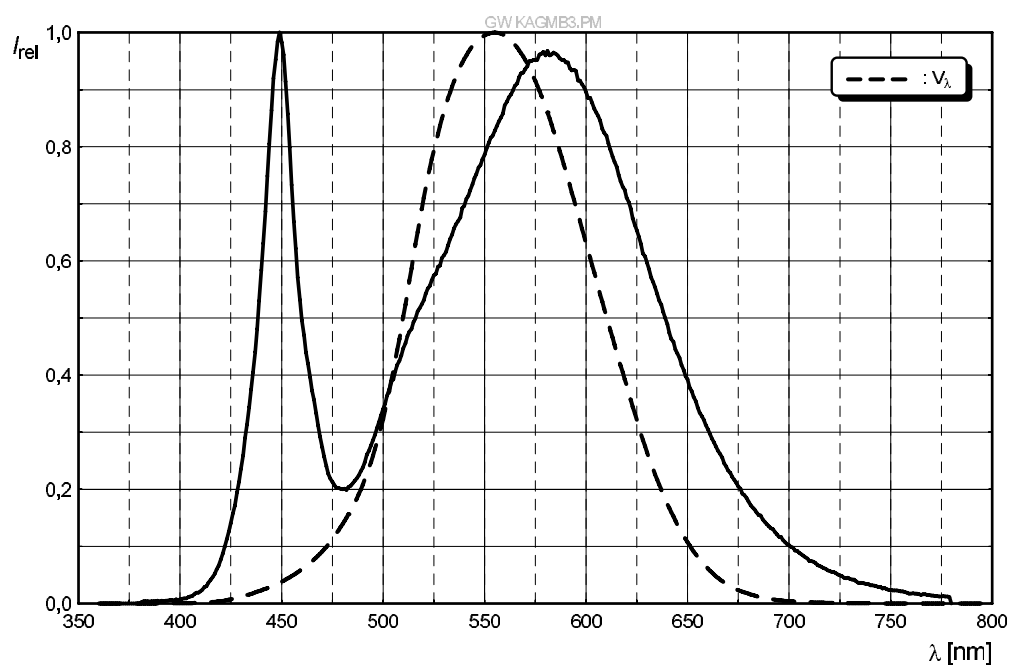
Example: TR-40S3

Brightness	Wavelength
TR	40S3

Discontinued

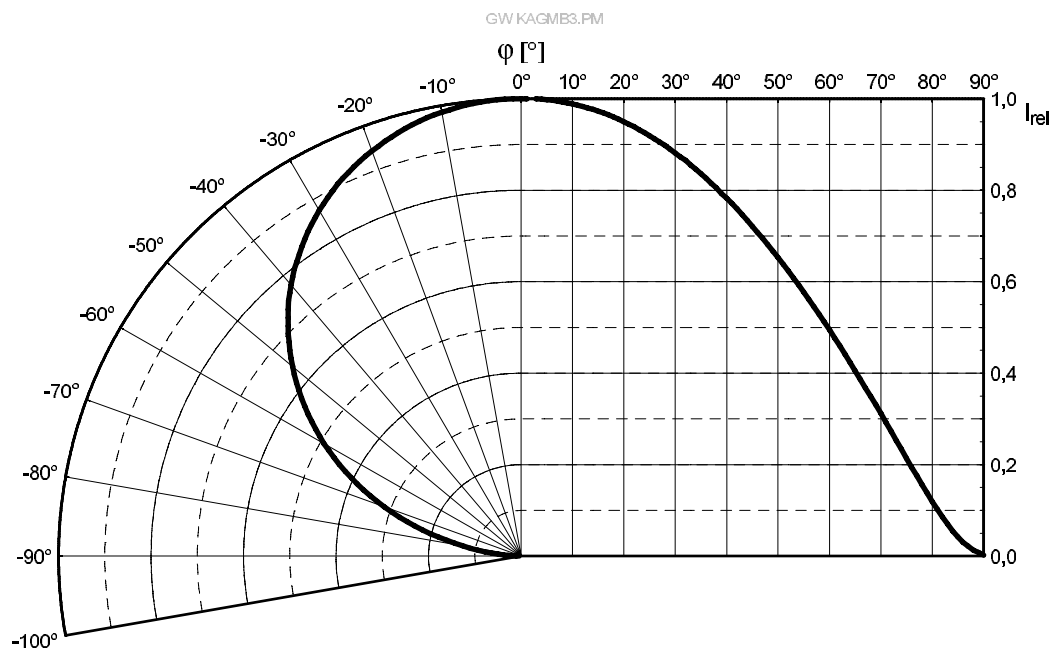
## Relative Spectral Emission <sup>6)</sup>

$I_{\text{rel}} = f(\lambda); I_F = 700 \text{ mA}; T_J = 85^\circ\text{C}$



## Radiation Characteristics <sup>6)</sup>

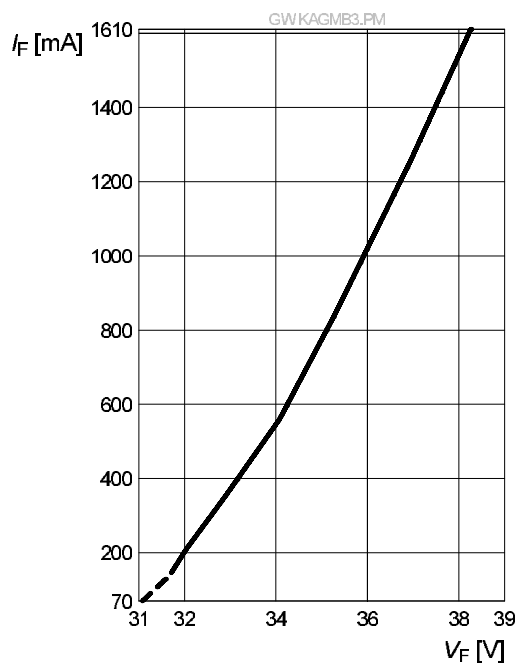
$I_{\text{rel}} = f(\phi); T_J = 85^\circ\text{C}$



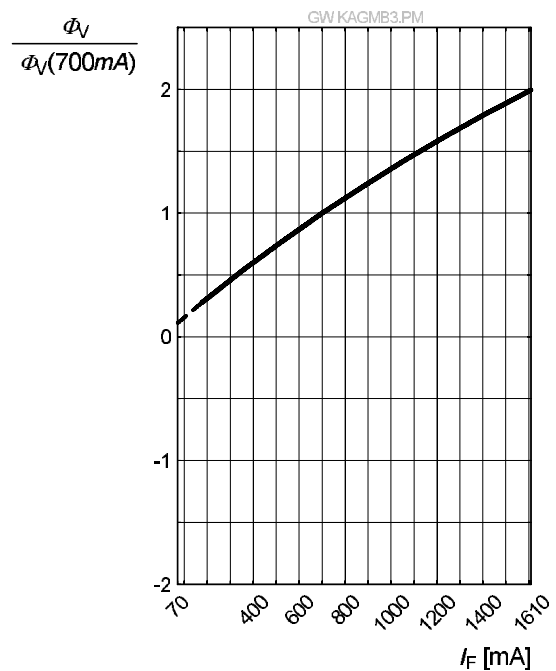


**Forward current** <sup>6), 7)</sup>

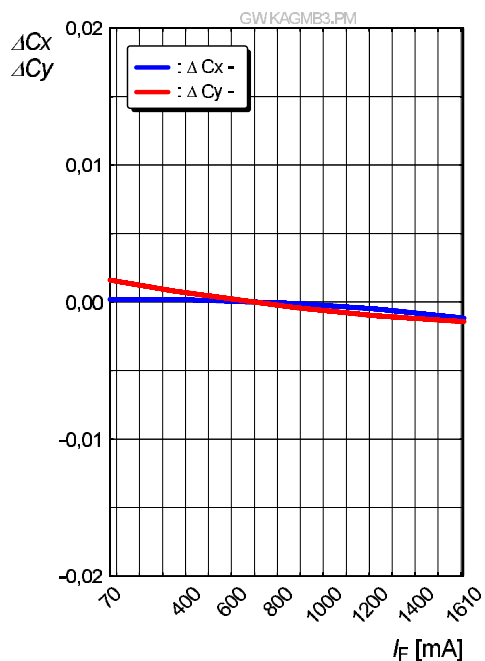
$$I_F = f(V_F); T_J = 85\text{ °C}$$

**Relative Luminous Flux** <sup>6), 7)</sup>

$$\Phi_V / \Phi_V(700\text{ mA}) = f(I_F); T_J = 85\text{ °C}$$

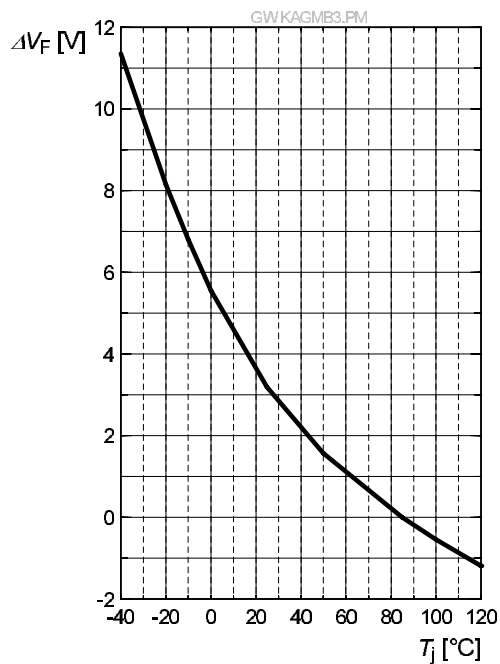
**Chromaticity Coordinate Shift** <sup>6)</sup>

$$\Delta Cx, \Delta Cy = f(I_F); T_J = 85\text{ °C}$$

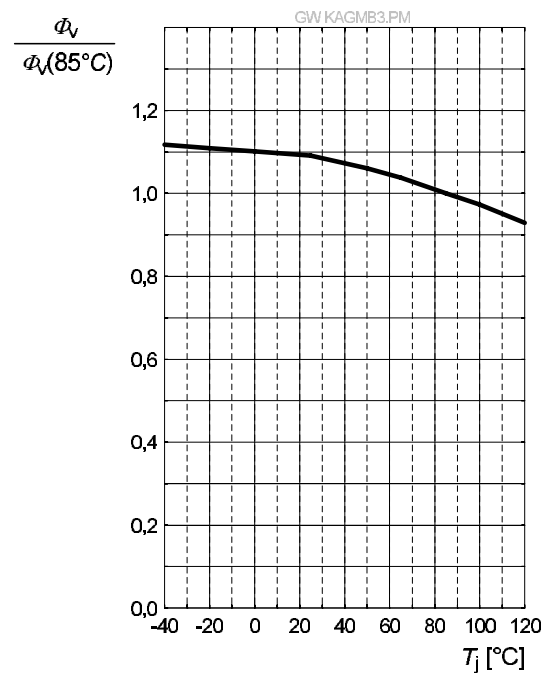


**Forward Voltage** <sup>6)</sup>

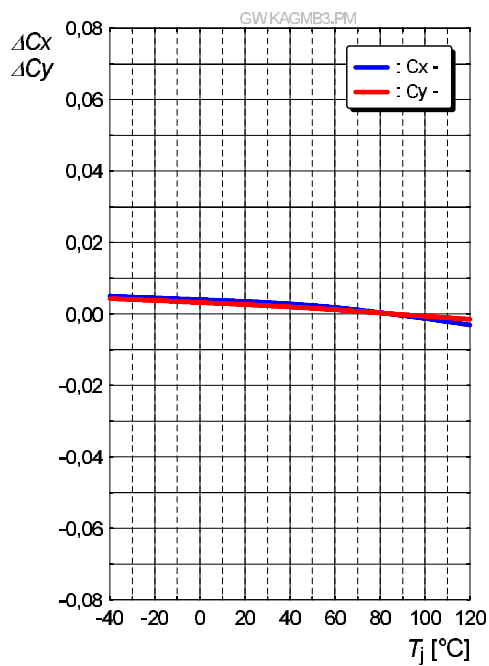
$$\Delta V_F = V_F - V_F(85^\circ\text{C}) = f(T_j); I_F = 700\text{ mA}$$

**Relative Luminous Flux** <sup>6)</sup>

$$\Phi_V / \Phi_V(85^\circ\text{C}) = f(T_j); I_F = 700\text{ mA}$$

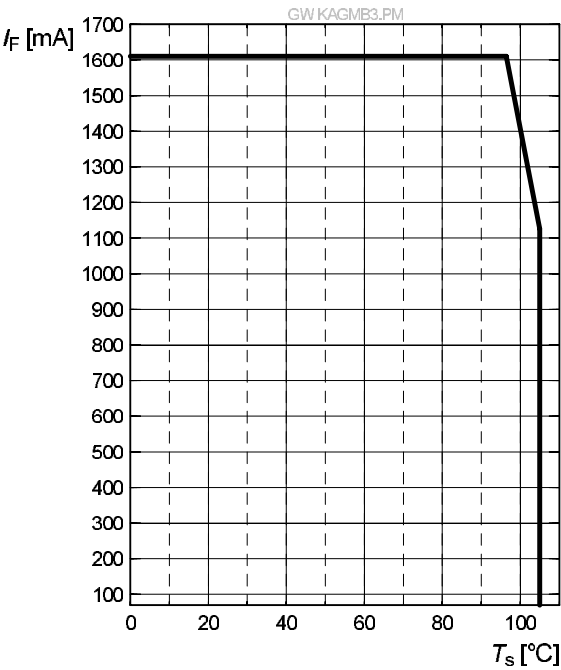
**Chromaticity Coordinate Shift** <sup>6)</sup>

$$\Delta Cx, \Delta Cy = f(T_j); I_F = 700\text{ mA}$$



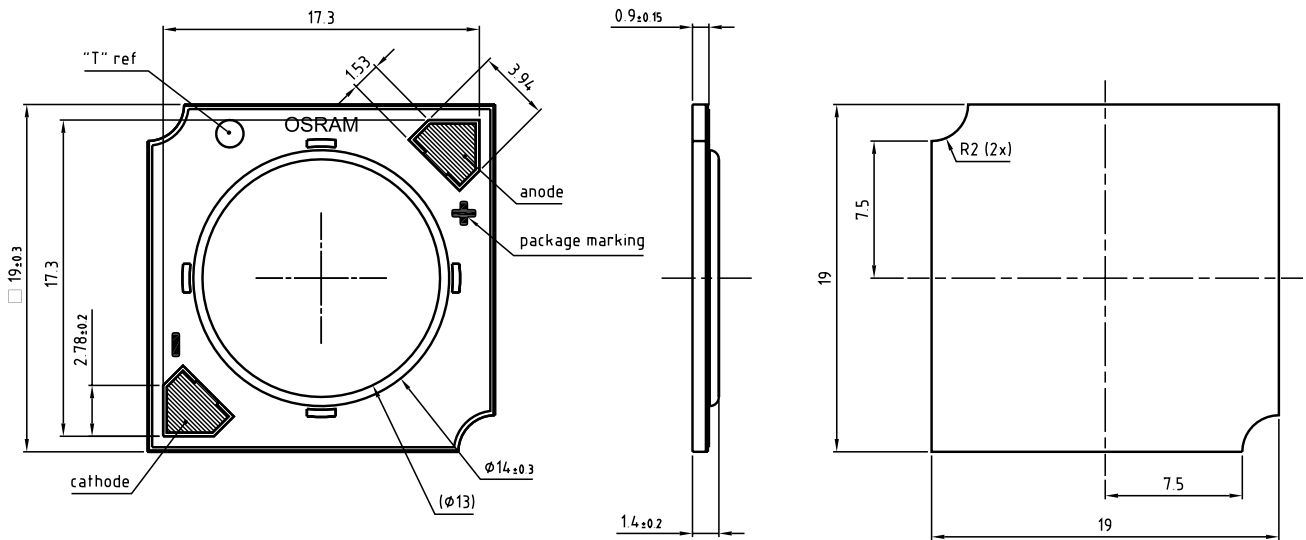
Max. Permissible Forward Current

$I_F = f(T)$



Discontinued

## Dimensional Drawing <sup>8)</sup>



general tolerance  $\pm 0.1$   
lead finish Au

C67062-A0166-A1..-02

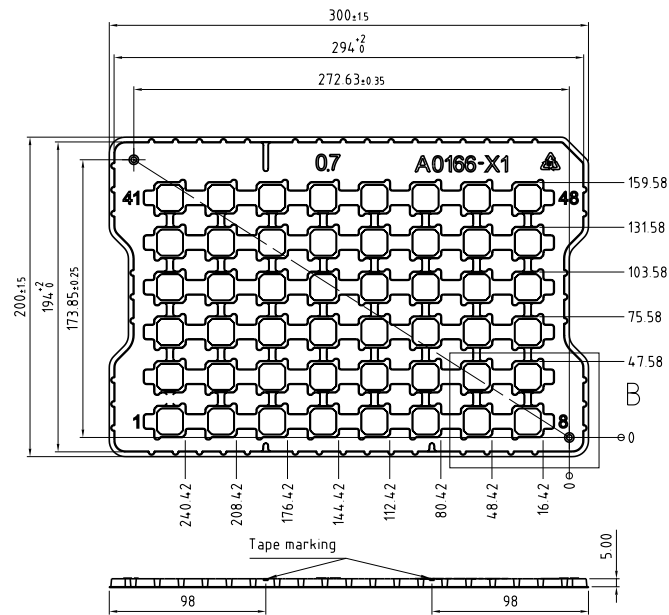
## Further Information:

**Approximate Weight:** 1,780.0 mg

**ESD advice:** The device is protected by ESD device which is connected in parallel to the Chip.

Tray <sup>8)</sup>

96 pieces per Tray



C67062-A0166-X1-02

Barcode-Product-Label (BPL)

OSRAM Opto Semiconductors

LX XXXX

BIN1: XX-XX-X-XXX-X

(6P) BATCH NO: 1234567890

RoHS Compliant

ML Temp ST

X XXX °C X

(1T) LOT NO: 1234567890

(9D) D/C: 1234

Pack: RXX

DEMY XXX

X\_X123\_1234.1234 X

(X) PROD NO: 123456789

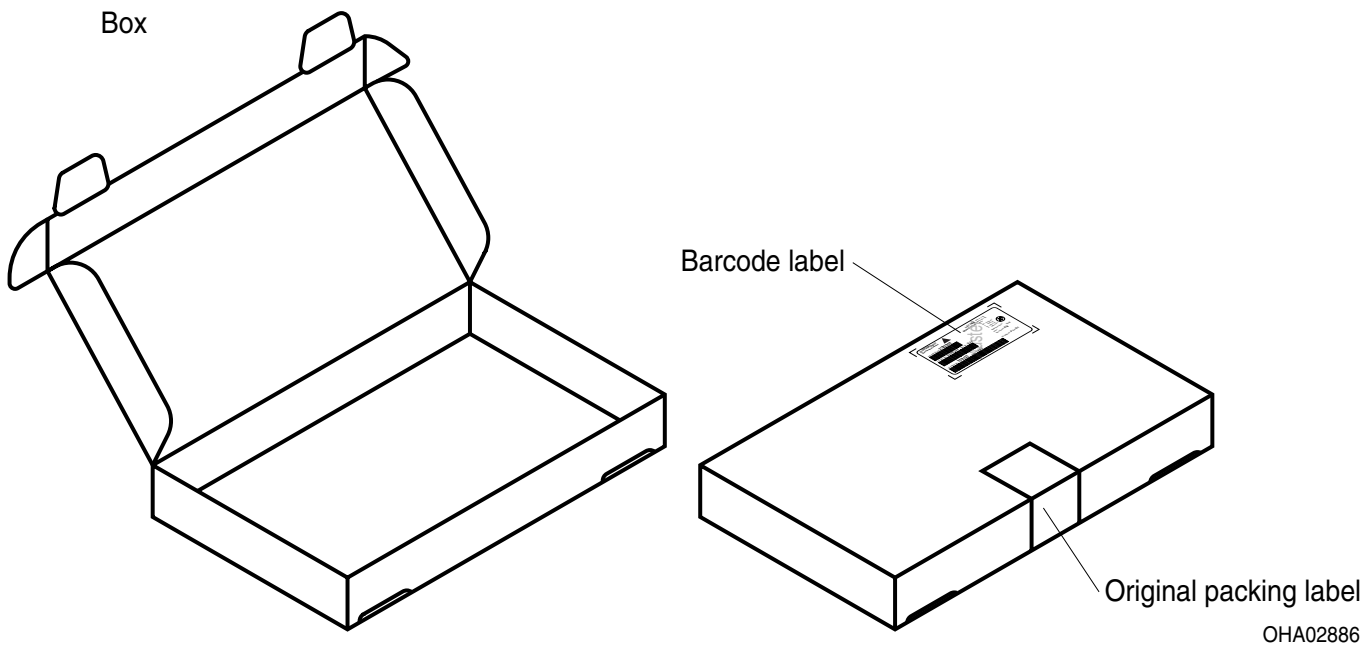
(Q)QTY: 9999

(G) GROUP: XX-XX-X-X

OHA04563

Discontinued

Schematic Transportation Box <sup>8)</sup>



Dimensions of Transportation Box

Width	Length	Height
333 ± 5 mm	218 ±5 mm	28 ± 5 mm

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## Notes

The evaluation of eye safety occurs according to the standard IEC 62471:2006 (photo biological safety of lamps and lamp systems). Within the risk grouping system of this IEC standard, the device specified in this data sheet falls into the class **moderate risk (exposure time 0.25 s)**. Under real circumstances (for exposure time, conditions of the eye pupils, observation distance), it is assumed that no endangerment to the eye exists from these devices. As a matter of principle, however, it should be mentioned that intense light sources have a high secondary exposure potential due to their blinding effect. When looking at bright light sources (e.g. headlights), temporary reduction in visual acuity and afterimages can occur, leading to irritation, annoyance, visual impairment, and even accidents, depending on the situation.

Subcomponents of this device contain, in addition to other substances, metal filled materials including silver. Metal filled materials can be affected by environments that contain traces of aggressive substances. Therefore, we recommend that customers minimize device exposure to aggressive substances during storage, production, and use. Devices that showed visible discoloration when tested using the described tests above did show no performance deviations within failure limits during the stated test duration. Respective failure limits are described in the IEC60810.

This device is designed for specific/recommended applications only. Please consult OSRAM Opto Semiconductors Sales Staff in advance for detailed information on other non-recommended applications (e.g. automotive).

Change management for this component is aligned with the requirements of the lighting market.

For further application related information please visit [www.osram-os.com/appnotes](http://www.osram-os.com/appnotes)

## Disclaimer

### Attention please!

The information describes the type of component and shall not be considered as assured characteristics. Terms of delivery and rights to change design reserved. Due to technical requirements components may contain dangerous substances.

For information on the types in question please contact our Sales Organization.

If printed or downloaded, please find the latest version on the OSRAM OS website.

### Packing

Please use the recycling operators known to you. We can also help you – get in touch with your nearest sales office. By agreement we will take packing material back, if it is sorted. You must bear the costs of transport. For packing material that is returned to us unsorted or which we are not obliged to accept, we shall have to invoice you for any costs incurred.

### Product and functional safety devices/applications or medical devices/applications

OSRAM OS components are not developed, constructed or tested for the application as safety relevant component or for the application in medical devices.

OSRAM OS products are not qualified at module and system level for such application.

In case buyer – or customer supplied by buyer – considers using OSRAM OS components in product safety devices/applications or medical devices/applications, buyer and/or customer has to inform the local sales partner of OSRAM OS immediately and OSRAM OS and buyer and /or customer will analyze and coordinate the customer-specific request between OSRAM OS and buyer and/or customer.



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## Glossary

- 1) **Brightness:** Brightness values are measured during a current pulse of typically 10 ms, with a tolerance of  $\pm 7\%$ .
- 2) **Reverse Operation:** Reverse Operation of 10 hours is permissible in total. Continuous reverse operation is not allowed.
- 3) **Forward Voltage:** The Forward voltage is measured during a current pulse duration of typically 1 ms with a tolerance of  $\pm 0.05V$ .
- 4) **Color reproduction index:** Color reproduction index values (CRI-RA) are measured during a current pulse of typically 10 ms and with a tolerance of  $\pm 2$ .
- 5) **Chromaticity coordinate groups:** Chromaticity coordinates are measured during a current pulse of typically 25 ms, with an internal reproducibility of  $\pm 0.005$  and an expanded uncertainty of  $\pm 0.01$  (acc. to GUM with a coverage factor of  $k = 3$ ).
- 6) **Typical Values:** Due to the special conditions of the manufacturing processes of semiconductor devices, the typical data or calculated correlations of technical parameters can only reflect statistical figures. These do not necessarily correspond to the actual parameters of each single product, which could differ from the typical data and calculated correlations or the typical characteristic line. If requested, e.g. because of technical improvements, these typ. data will be changed without any further notice.
- 7) **Characteristic curve:** In the range where the line of the graph is broken, you must expect higher differences between single devices within one packing unit.
- 8) **Tolerance of Measure:** Unless otherwise noted in drawing, tolerances are specified with  $\pm 0.1$  and dimensions are specified in mm.

Revision History

Version	Date	Change
1.1	2020-03-04	Discontinued
1.1	2020-03-04	Discontinued

Discontinued

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