GW T3LRF1.EM

DURIS® L 38

The DURIS® L 38 combines high efficacy and a wide beam angle into small footprint (30.0mm x 1.8mm), which is ideal choice for all 360° bulb and candle light application.

Applications

- Accent (BAR)
- Architecture / Garden Lighting (LED & Laser)
- Area Lights
- Lamp Retrofits
- Mood Lighting
- Portable LED Lighting
- Stage Lighting (LED & Laser)
- Table Lamp

Features:

- Package: Chip-on-Board
- Typ. Radiation: 180°
- Color temperature: 2200K - 4000K
- CRI: 80 (min.)
- ESD: 2 kV acc. to ANSI/ESDA/JEDEC JS-001 (HBM, Class 2)

Discontinued

Ordering Information

Type	Color temperature	Luminous Flux [1] I_F = 10 mA Φ_V	Ordering Code
GW T3LRF1.EM-LPLR-22S5-1	2200 K	112.0 ... 140.0 lm	Q65111A9986
GW T3LRF1.EM-LPLR-25S5-1	2500 K	112.0 ... 140.0 lm	Q65111A8554
GW T3LRF1.EM-LPLR-27S5-1	2700 K	112.0 ... 140.0 lm	Q65111A8555
GW T3LRF1.EM-LPLR-30S5-1	3000 K	112.0 ... 140.0 lm	Q65111A8556
GW T3LRF1.EM-LQLS-35S5-1	3500 K	121.0 ... 150.0 lm	Q65111A8557
GW T3LRF1.EM-LQLS-40S5-1	4000 K	121.0 ... 150.0 lm	Q65111A8558

Maximum Ratings

Parameter	Symbol		Values
Operating Temperature	T_{op}	min. max.	-40 °C 55 °C
Storage Temperature	T_{stg}	min. max.	-40 °C 100 °C
Junction Temperature	T_j	max.	150 °C
Forward Current T_A = 25 °C	I_F	max.	15 mA
Reverse voltage [2)]	V_R		Not designed for reverse operation
ESD withstand voltage acc. to ANSI/ESDA/JEDEC JS-001 (HBM, Class 2)	V_{ESD}		2 kV

Discontinued

Characteristics

I_F = 10 mA; T_A = 25 °C

Parameter	Symbol		Values
Viewing angle at 50% I_V	2φ	typ.	360 °
Forward Voltage [3] I_F = 10 mA	V_F	min. typ. max.	80.00 V 86.00 V 90.00 V
Reverse current [2]	I_R		Not designed for reverse operation
Color Rendering Index [4]	CRI	min.	80

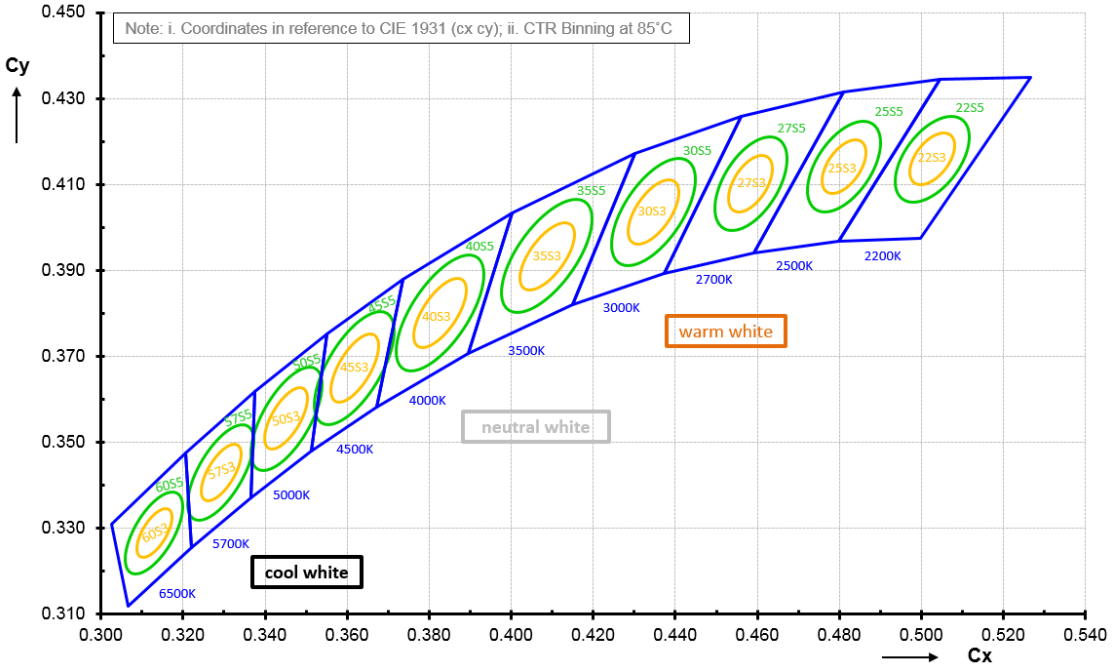
Brightness Groups

Group	Luminous Flux [1] I_F = 10 mA min. Φ_V	Luminous Flux [1] I_F = 10 mA max. Φ_V
LP	112.0 lm	121.0 lm
LQ	121.0 lm	130.0 lm
LR	130.0 lm	140.0 lm
LS	140.0 lm	150.0 lm

Forward Voltage Groups

Group	Forward Voltage [3] I_F = 10 mA min. V_F	Forward Voltage [3] I_F = 10 mA max. V_F
1B	80.00 V	81.00 V
1C	81.00 V	82.00 V
1D	82.00 V	83.00 V
1E	83.00 V	84.00 V
1F	84.00 V	85.00 V
1G	85.00 V	86.00 V
1H	86.00 V	87.00 V
1J	87.00 V	88.00 V
1K	88.00 V	89.00 V
1L	89.00 V	90.00 V

Chromaticity Coordinate Groups [5)]



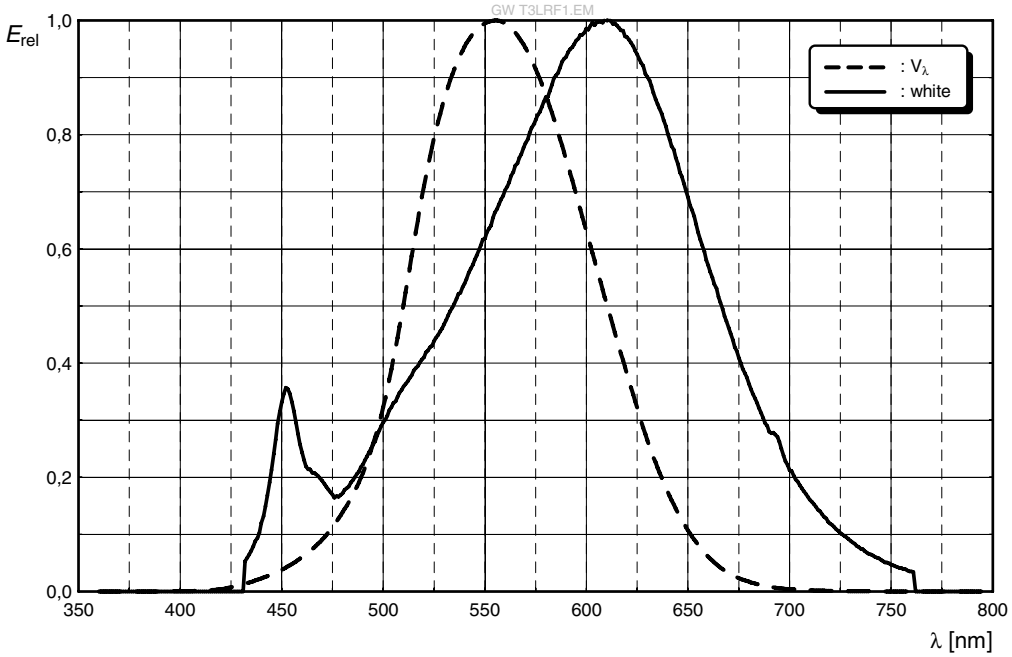
Group Name on Label

Example: LP-22S3-1B

Brightness	Wavelength	Forward Voltage
LP	22S3	1B

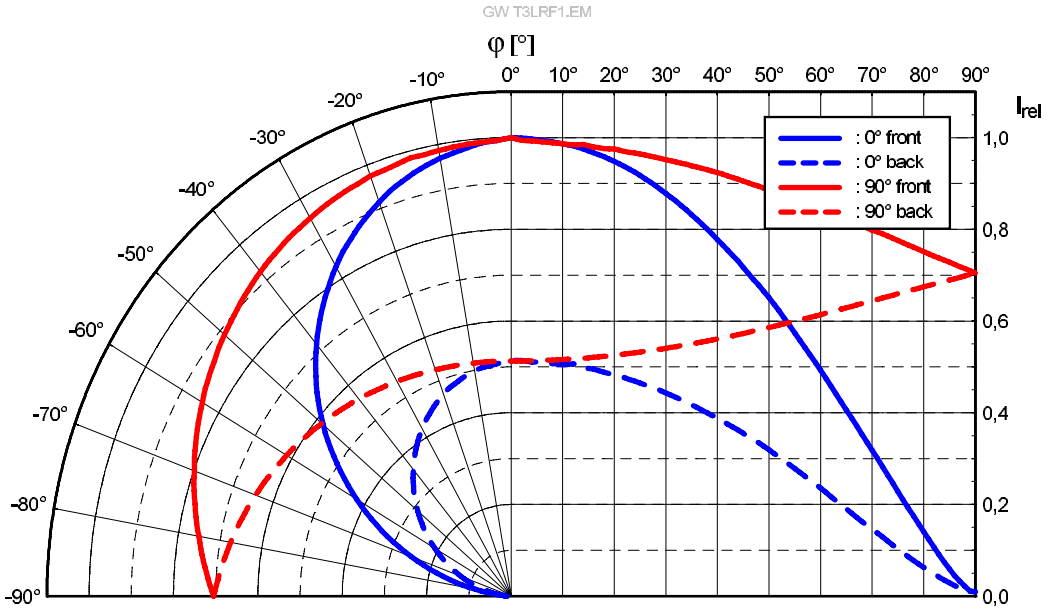
Relative Spectral Emission [6)]

$I_{rel} = f(\lambda)$; I_F = 10 mA; T_A = 25 °C



Radiation Characteristics [6)]

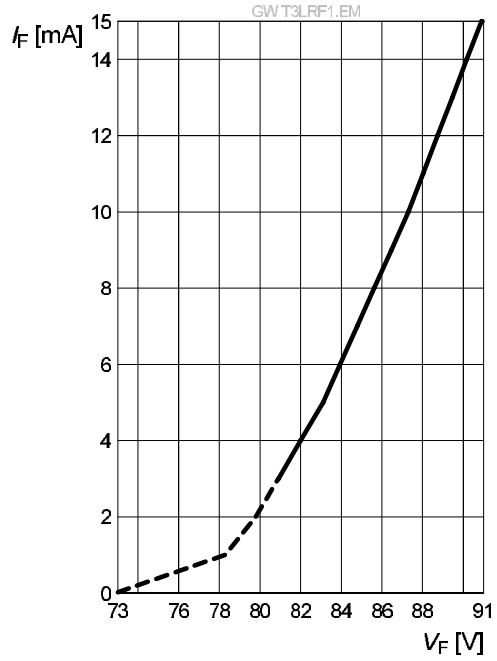
$I_{rel} = f(\phi)$; T_A = 25 °C



Discontinued

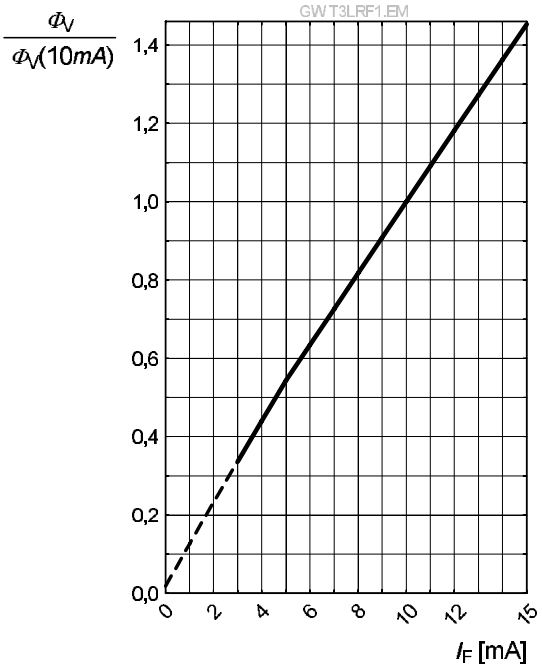
Forward current [6), 7)]

$I_F = f(V_F)$; T_A = 25 °C



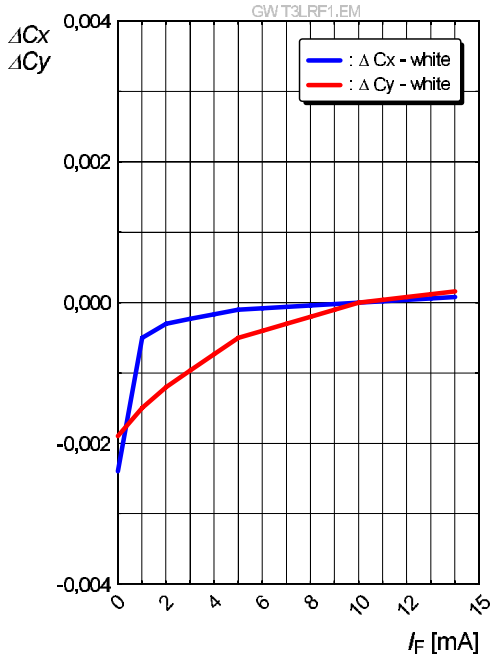
Relative Luminous Flux [6), 7)]

$\Phi_v/\Phi_v(10\ mA) = f(I_F)$; T_A = 25 °C



Chromaticity Coordinate Shift [6)]

ΔCx, ΔCy = $f(I_F)$; T_A = 25 °C



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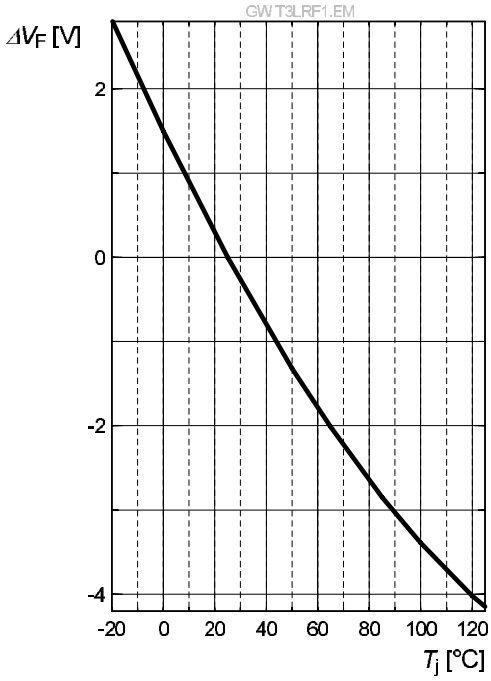
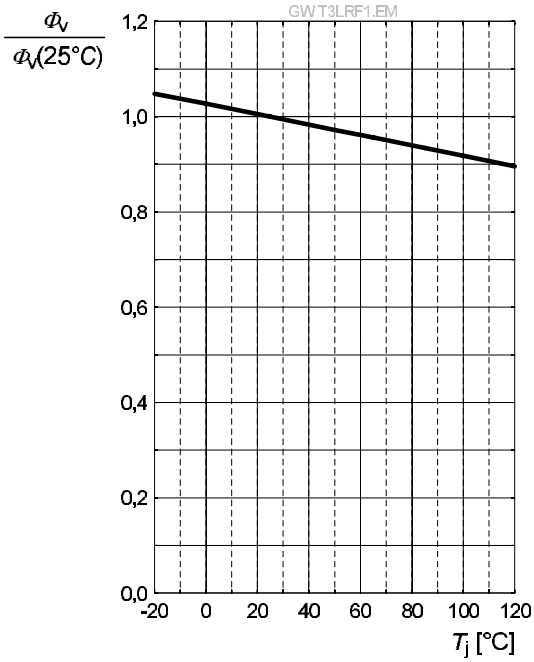
Forward Voltage [6]

$\Delta V_F = V_F - V_F(25\ °C) = f(T_j);\ I_F = 10\ mA$



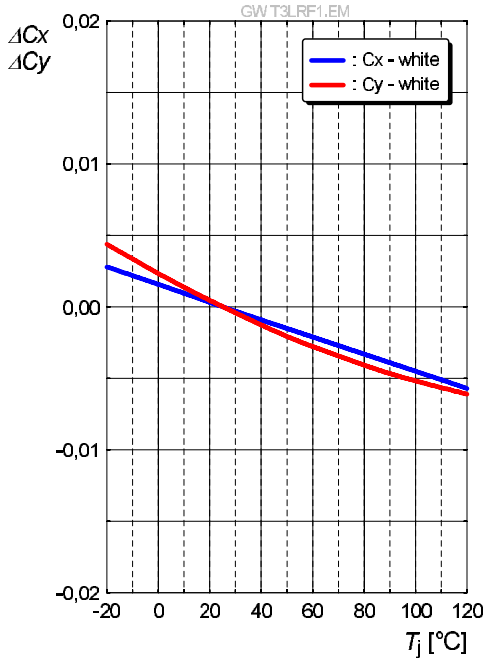
Relative Luminous Flux [6]

$\Phi_v/\Phi_v(25\ °C) = f(T_j);\ I_F = 10\ mA$



Chromaticity Coordinate Shift [6]

$\Delta Cx, \Delta Cy = f(T_j);\ I_F = 10\ mA$



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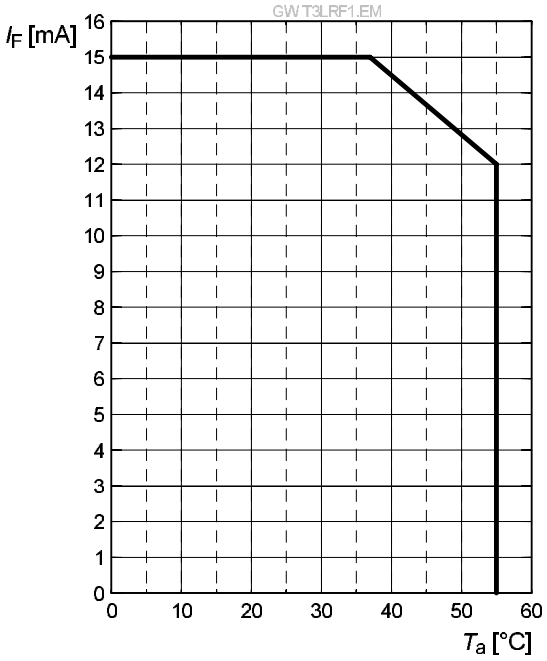
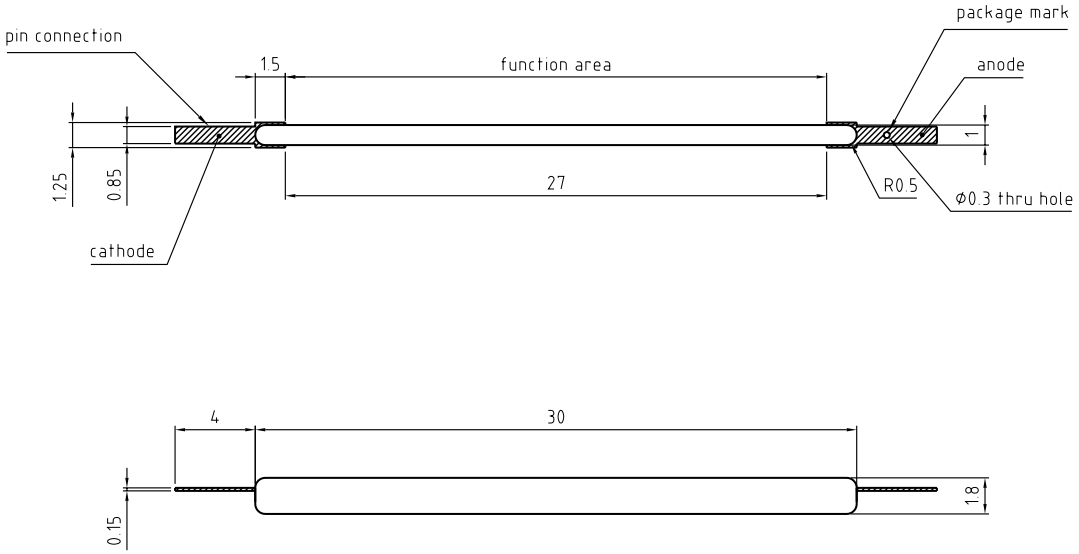
Max. Permissible Forward Current

$I_F = f(T)$



Dimensional Drawing [8)]



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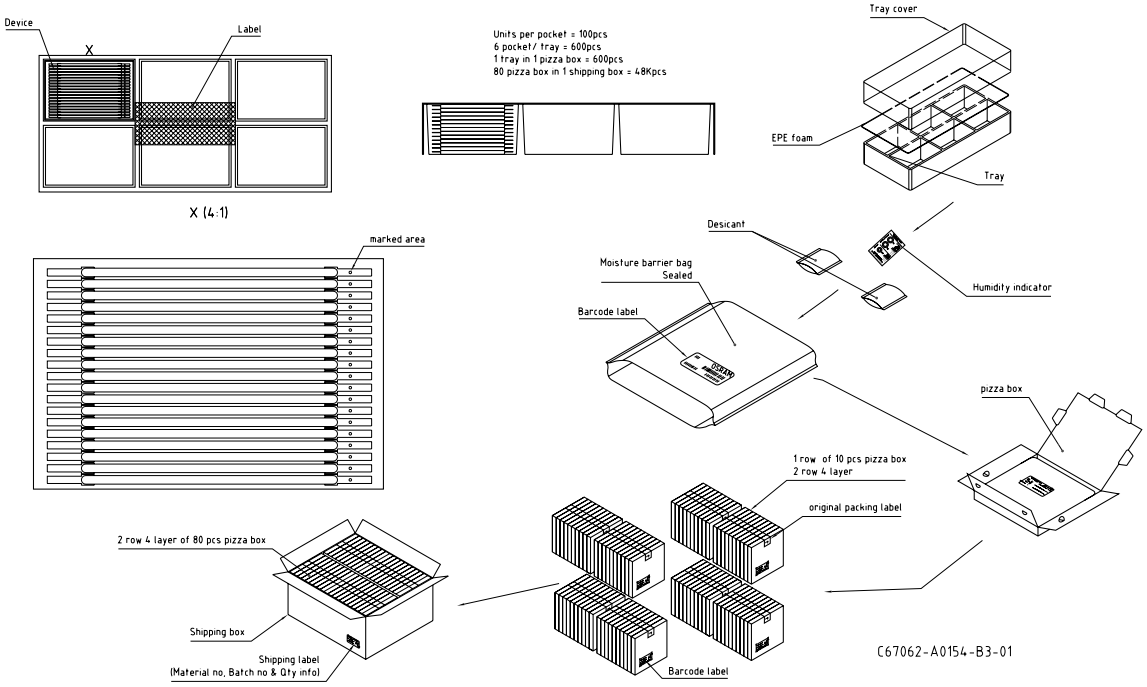
Further Information:

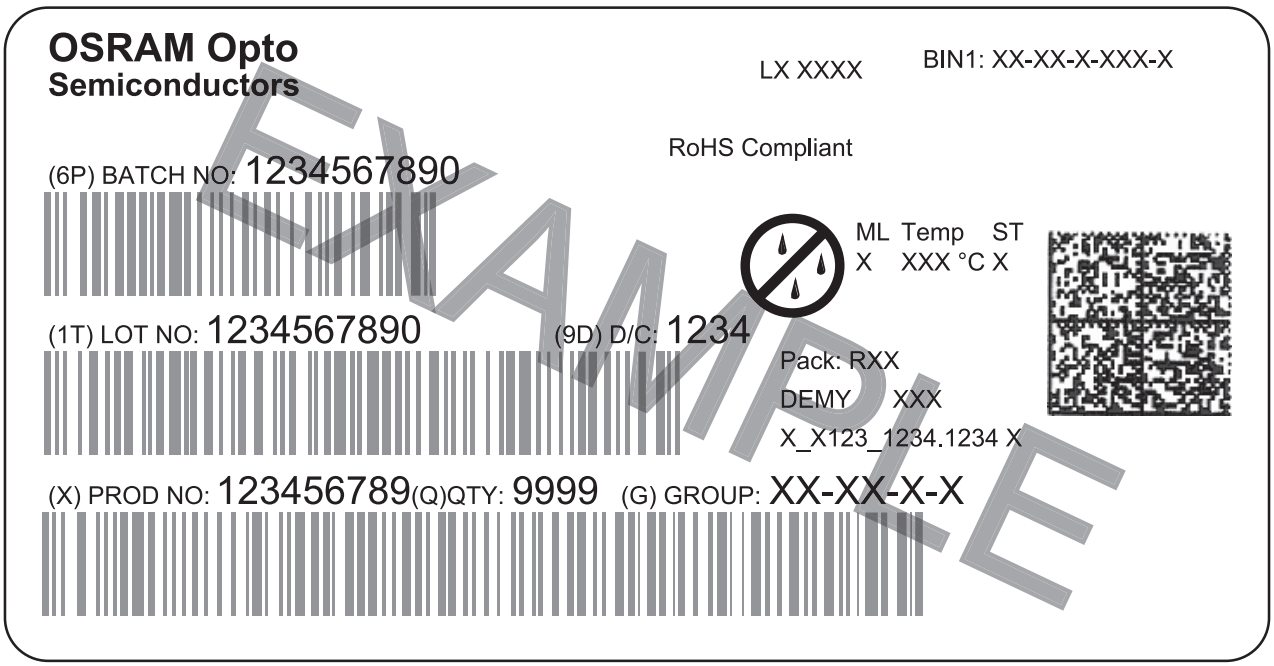
Approximate Weight: 136.0 mg

Package marking: Anode

Packing Sequence [8)]



Barcode-Product-Label (BPL)



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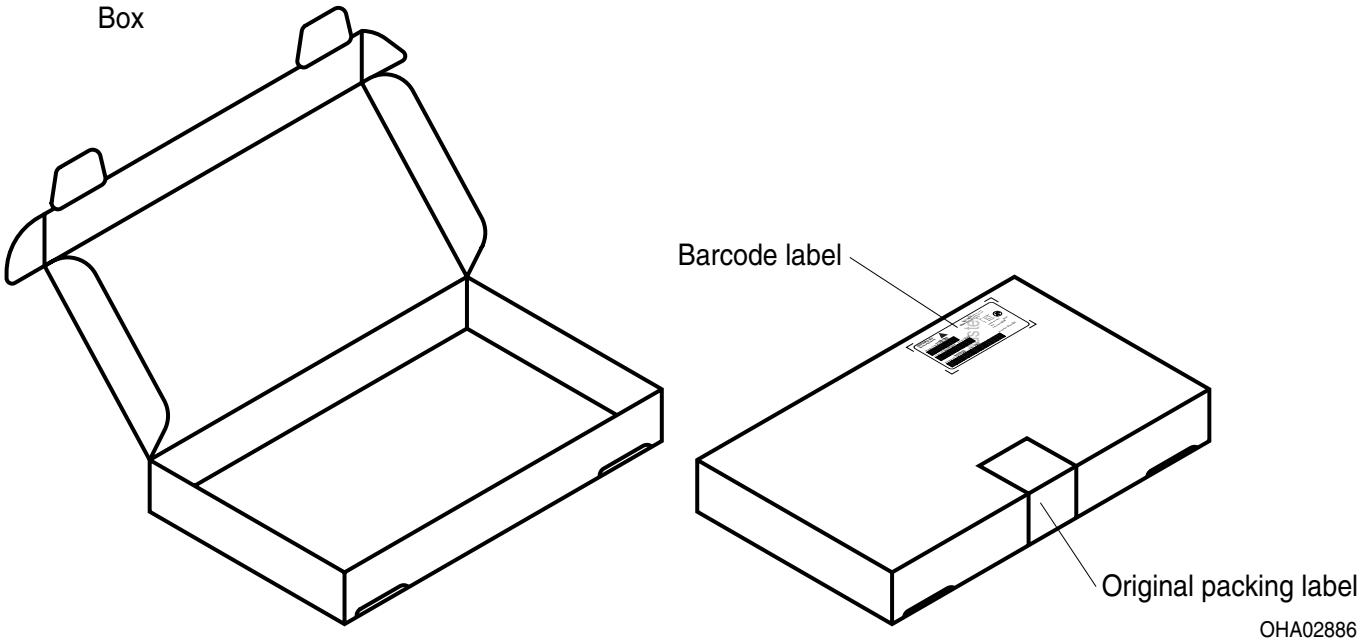
Schematic Transportation Box [8)]



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Dimensions of Transportation Box

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

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 **low risk (exposure time 100 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

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.

Glossary

1) **Brightness:** Brightness values are measured during a current pulse of typically 10 ms, with a tolerance of +/- 7%.

2) **Reverse Operation:** Not designed for reverse operation. Continuous reverse operation can cause migration and damage of the device.

3) **Forward Voltage:** The Forward voltage is measured during a current pulse duration of typically 1 ms with a tolerance of ± 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 ±2.

5) **Chromaticity coordinate groups:** Chromaticity coordinates are measured during a current pulse of typically 25 ms, with an internal reproducibility of ±0.005 and an expanded uncertainty of ±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 ±0.1 and dimensions are specified in mm.

Revision History

Version	Date	Change
1.6	2020-08-28	Discontinued

Published by OSRAM Opto Semiconductors GmbH
Leibnizstraße 4, D-93055 Regensburg

EU RoHS and China RoHS compliant product

此产品符合欧盟 RoHS 指令的要求；
按照中国的相关法规和标准，不含有毒有害物质或元素。

Discontinued