# GW JDSTS3.EM

## DURIS® E 5

The DURIS® E 5 combines high efficacy and a wide beam angle into a compact format (5.6 mm x 3.0 mm). This is key to homogeneous illumination applications where the DURIS® E 5 never fails to impress with its performance on system level.

## Applications

- Area Lights
- Downlights/Spotlights
- Lamp Retrofits
- Mood Lighting
- Table Lamp

## Features:

- Package: white SMT package, colored diffused silicone resin
- Typ. Radiation: 120° (Lambertian emitter)
- Color temperature: 2700K - 6500K
- CRI: 80 (min.), 82 (typ.)
- ESD: 2 kV acc. to ANSI/ESDA/JEDEC JS-001 (HBM, Class 2)
- Luminous Flux: typ. 37 lm @ 5000 K
- Luminous efficacy: typ. 207 lm/W @ 5000 K

Discontinued

## Ordering Information

| Type | Color temperature | Luminous Flux [1] $I_F$ = 65 mA $\Phi_V$ | Ordering Code |
|---|---|---|---|
| GW JDSTS3.EM-H3H6-A838-1 | 2700 K | 31.5 ... 37.5 lm | Q65112A6767 |
| GW JDSTS3.EM-H3H6-XX58-1 | 2700 K | 31.5 ... 37.5 lm | Q65112A6781 |
| GW JDSTS3.EM-H4H7-A737-1 | 3000 K | 33.0 ... 39.0 lm | Q65112A6782 |
| GW JDSTS3.EM-H4H7-XX57-1 | 3000 K | 33.0 ... 39.0 lm | Q65112A6783 |
| GW JDSTS3.EM-H5H8-A737-1 | 3000 K | 34.5 ... 40.5 lm | Q65112A6784 |
| GW JDSTS3.EM-H4H7-A636-1 | 3500 K | 33.0 ... 39.0 lm | Q65112A6785 |
| GW JDSTS3.EM-H4H7-XX56-1 | 3500 K | 33.0 ... 39.0 lm | Q65112A6775 |
| GW JDSTS3.EM-H5H8-A636-1 | 3500 K | 34.5 ... 40.5 lm | Q65112A6780 |
| GW JDSTS3.EM-H5H8-XX56-1 | 3500 K | 34.5 ... 40.5 lm | Q65112A6776 |
| GW JDSTS3.EM-H5H8-A535-1 | 4000 K | 34.5 ... 40.5 lm | Q65112A6777 |
| GW JDSTS3.EM-H5H8-XX55-1 | 4000 K | 34.5 ... 40.5 lm | Q65112A6778 |
| GW JDSTS3.EM-H6H9-A535-1 | 4000 K | 36.0 ... 42.0 lm | Q65112A6779 |
| GW JDSTS3.EM-H6H9-XX55-1 | 4000 K | 36.0 ... 42.0 lm | Q65112A6762 |
| GW JDSTS3.EM-H5H8-A333-1 | 5000 K | 34.5 ... 40.5 lm | Q65112A6763 |
| GW JDSTS3.EM-H5H8-XX53-1 | 5000 K | 34.5 ... 40.5 lm | Q65112A6764 |
| GW JDSTS3.EM-H6H9-A333-1 | 5000 K | 36.0 ... 42.0 lm | Q65112A6765 |
| GW JDSTS3.EM-H6H9-XX53-1 | 5000 K | 36.0 ... 42.0 lm | Q65112A6766 |
| GW JDSTS3.EM-H5H8-A232-1 | 5700 K | 34.5 ... 40.5 lm | Q65112A6768 |
| GW JDSTS3.EM-H5H8-XX52-1 | 5700 K | 34.5 ... 40.5 lm | Q65112A6774 |
| GW JDSTS3.EM-H6H9-A232-1 | 5700 K | 36.0 ... 42.0 lm | Q65112A6769 |
| GW JDSTS3.EM-H6H9-XX52-1 | 5700 K | 36.0 ... 42.0 lm | Q65112A6773 |
| GW JDSTS3.EM-H5H8-A131-1 | 6500 K | 34.5 ... 40.5 lm | Q65112A6770 |
| GW JDSTS3.EM-H5H8-XX51-1 | 6500 K | 34.5 ... 40.5 lm | Q65112A6771 |
| GW JDSTS3.EM-H6H9-A131-1 | 6500 K | 36.0 ... 42.0 lm | Q65112A6772 |

## Maximum Ratings

| Parameter | Symbol | | Values |
|---|---|---|---|
| Operating Temperature | $T_{op}$ | min.<br>max. | -40 °C<br>100 °C |
| Storage Temperature | $T_{stg}$ | min.<br>max. | -40 °C<br>100 °C |
| Junction Temperature | $T_j$ | max. | 125 °C |
| Forward Current<br>$T_J$ = 25 °C | $I_F$ | max. | 200 mA |
| Surge Current<br>t ≤ 10 µs; D = 0.005 ; $T_J$ = 25 °C | $I_{FS}$ | max. | 300 mA |
| Reverse voltage [2)] | $V_R$ | | Not designed for reverse operation |
| ESD withstand voltage<br>acc. to ANSI/ESDA/JEDEC JS-001 (HBM, Class 2) | $V_{ESD}$ | | 2 kV |

## Characteristics

$I_F$ = 65 mA; $T_J$ = 25 °C

| Parameter | Symbol | | Values |
|---|---|---|---|
| Viewing angle at 50% $I_V$ | 2φ | typ. | 120 ° |
| Forward Voltage [3] | $V_F$ | min.<br>typ.<br>max. | 2.60 V<br>2.75 V<br>3.00 V |
| Reverse current [2] | $I_R$ | | Not designed for reverse operation |
| Color Rendering Index [4]<br>(2700K - 6500K) | CRI | min.<br>typ. | 80<br>82 |
| Electrical thermal resistance junction/solderpoint with efficiency $\eta_e$ = 51.4 % | $R_{thJS\ elec.}$ | typ.<br>max. | 7.1 K / W<br>0.0 K / W |

Discontinued

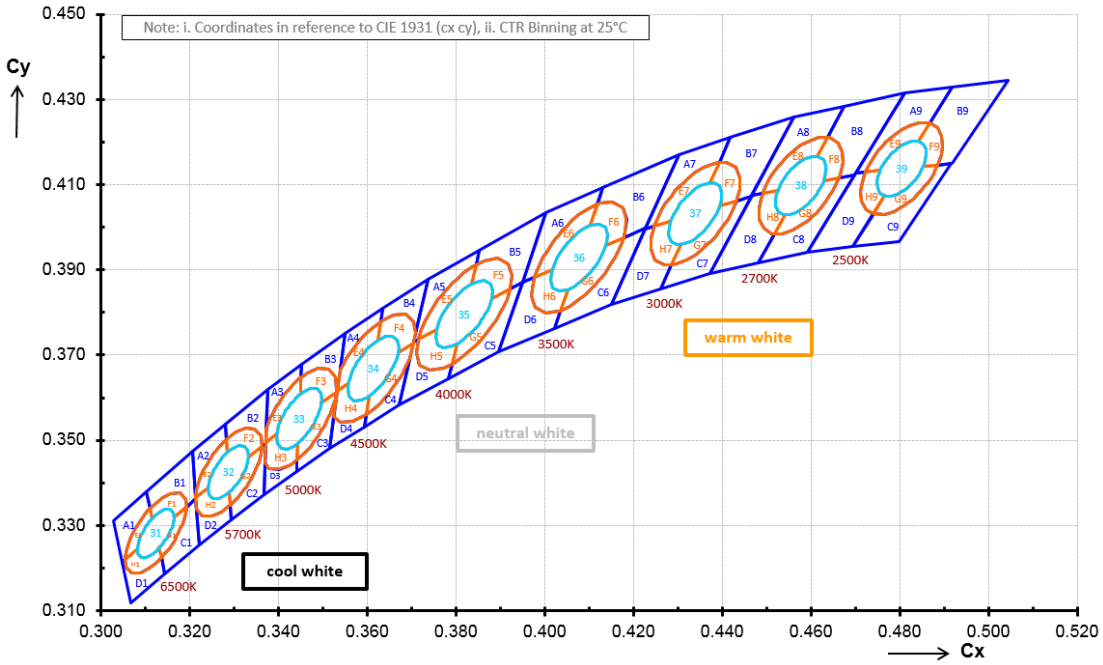
## Brightness Groups

| Group | Luminous Flux [1] $I_F$ = 65 mA min. $\Phi_V$ | Luminous Flux [1] $I_F$ = 65 mA max. $\Phi_V$ |
|---|---|---|
| H3 | 31.5 lm | 33.0 lm |
| H4 | 33.0 lm | 34.5 lm |
| H5 | 34.5 lm | 36.0 lm |
| H6 | 36.0 lm | 37.5 lm |
| H7 | 37.5 lm | 39.0 lm |
| H8 | 39.0 lm | 40.5 lm |
| H9 | 40.5 lm | 42.0 lm |

## Forward Voltage Groups

| Group | Forward Voltage [3] min. $V_F$ | Forward Voltage [3] max. $V_F$ |
|---|---|---|
| K1 | 2.60 V | 2.70 V |
| K2 | 2.70 V | 2.80 V |
| L1 | 2.80 V | 2.90 V |
| L2 | 2.90 V | 3.00 V |

## Chromaticity Coordinate Groups [5)]



## Chromaticity Coordinate Groups

| CCT | Center Cx | Center Cy | 3step a | 3step b | 5step a | 5step b | Ø |
|---|---|---|---|---|---|---|---|

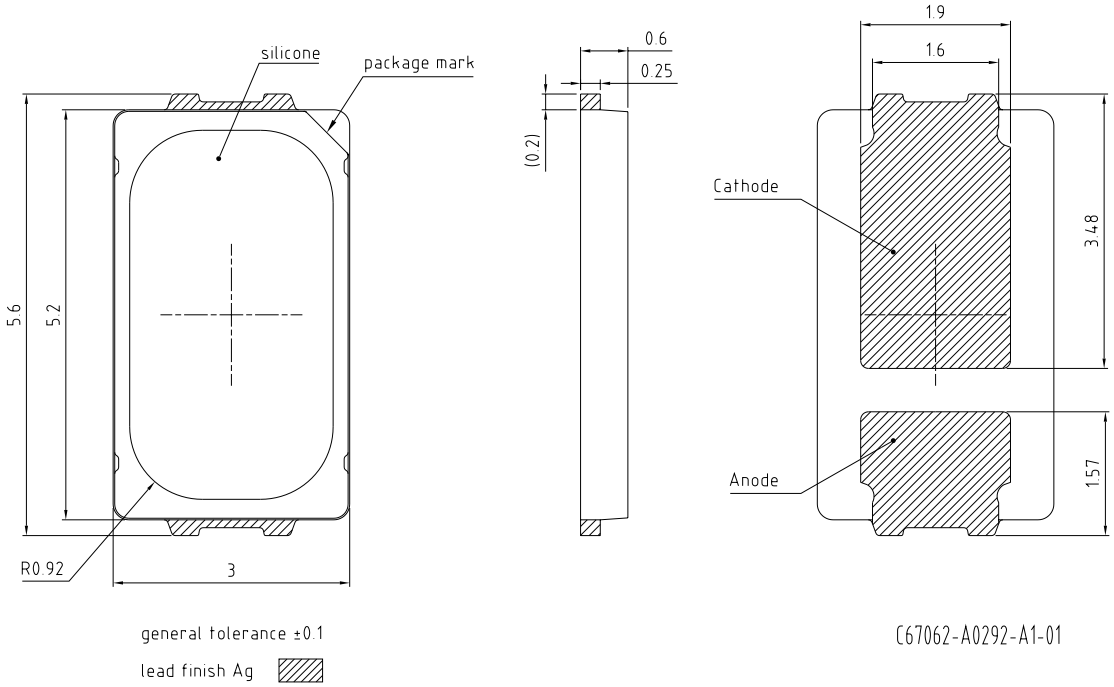
| CCT | Group |
| --- | --- |

## Group Name on Label

**Example: H3-K1**

| Brightness | Forward Voltage |
|---|---|
| H3 | K1 |

## Dimensional Drawing [6)]



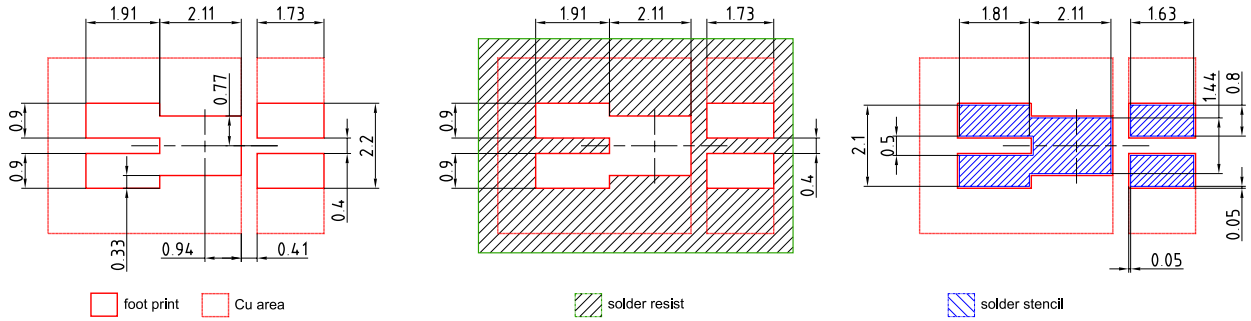

## Further Information:

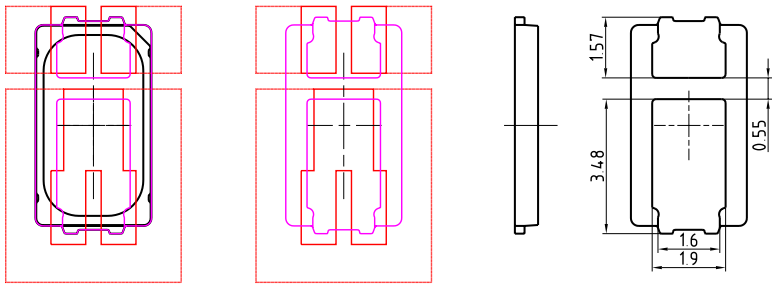
**Approximate Weight:** 20.0 mg

**Package marking:** Cathode

Discontinued

## Recommended Solder Pad [6)]

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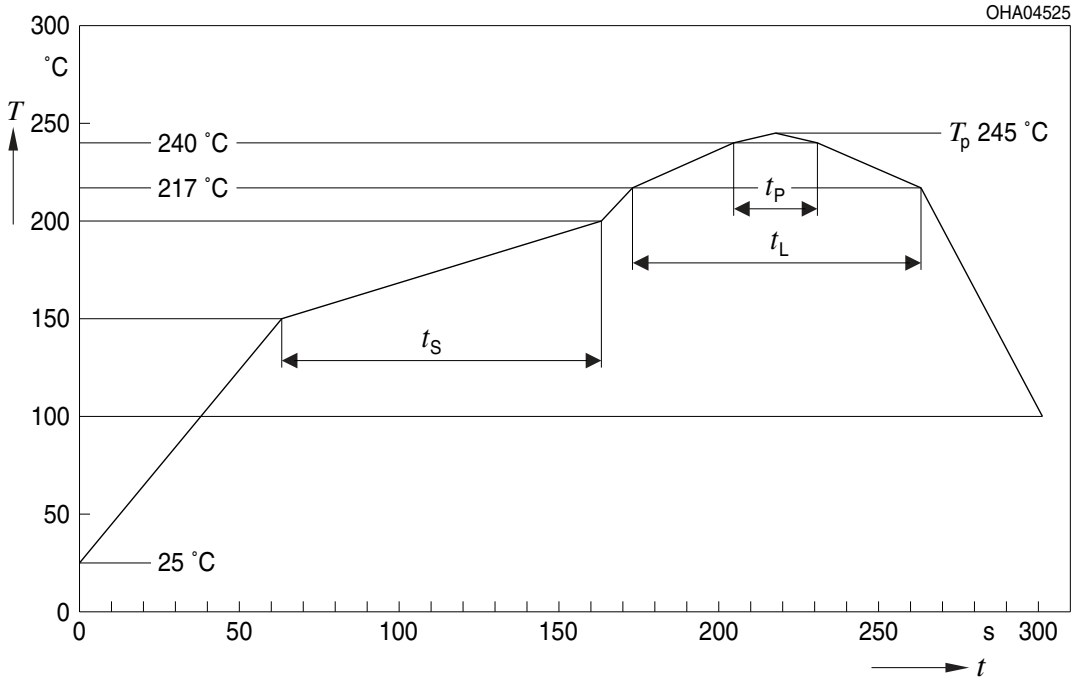
For superior solder joint connectivity results we recommend soldering under standard nitrogen atmosphere. Package not suitable for ultra sonic cleaning.

Discontinued

## Reflow Soldering Profile

Product complies to MSL Level 3 acc. to JEDEC J-STD-020E

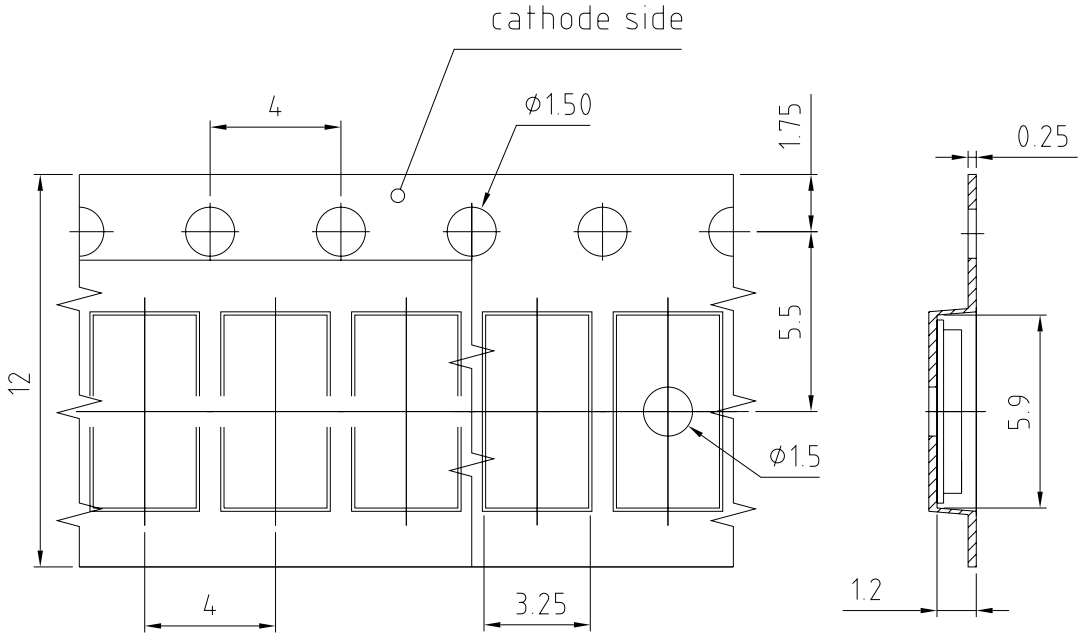



| Profile Feature | Symbol | Pb-Free (SnAgCu) Assembly | | | Unit |
|---|---|---|---|---|---|
| | | Minimum | Recommendation | Maximum | |
| Ramp-up rate to preheat*) 25 °C to 150 °C | | | 2 | 3 | K/s |
| Time $t_S$ $T_{Smin}$ to $T_{Smax}$ | $t_S$ | 60 | 100 | 120 | s |
| Ramp-up rate to peak*) $T_{Smax}$ to $T_P$ | | | 2 | 3 | K/s |
| Liquidus temperature | $T_L$ | | 217 | | °C |
| Time above liquidus temperature | $t_L$ | | 80 | 100 | s |
| Peak temperature | $T_P$ | | 245 | 260 | °C |
| Time within 5 °C of the specified peak temperature $T_P$ - 5 K | $t_P$ | 10 | 20 | 30 | s |
| Ramp-down rate* $T_P$ to 100 °C | | | 3 | 6 | K/s |
| Time 25 °C to $T_P$ | | | | 480 | s |

All temperatures refer to the center of the package, measured on the top of the component
* slope calculation DT/Dt: Dt max. 5 s; fulfillment for the whole T-range

Discontinued

## Taping [6)]

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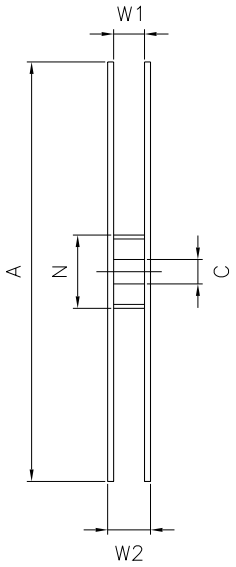
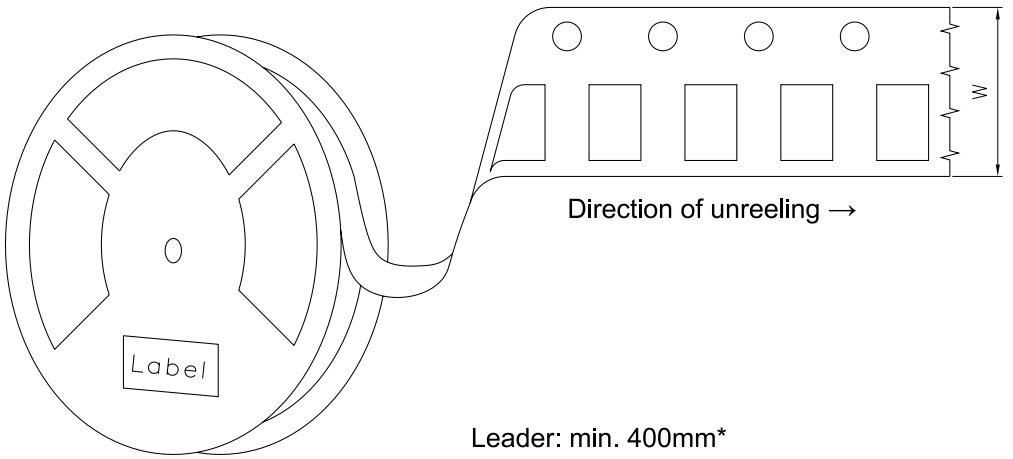
## Tape and Reel [7)]



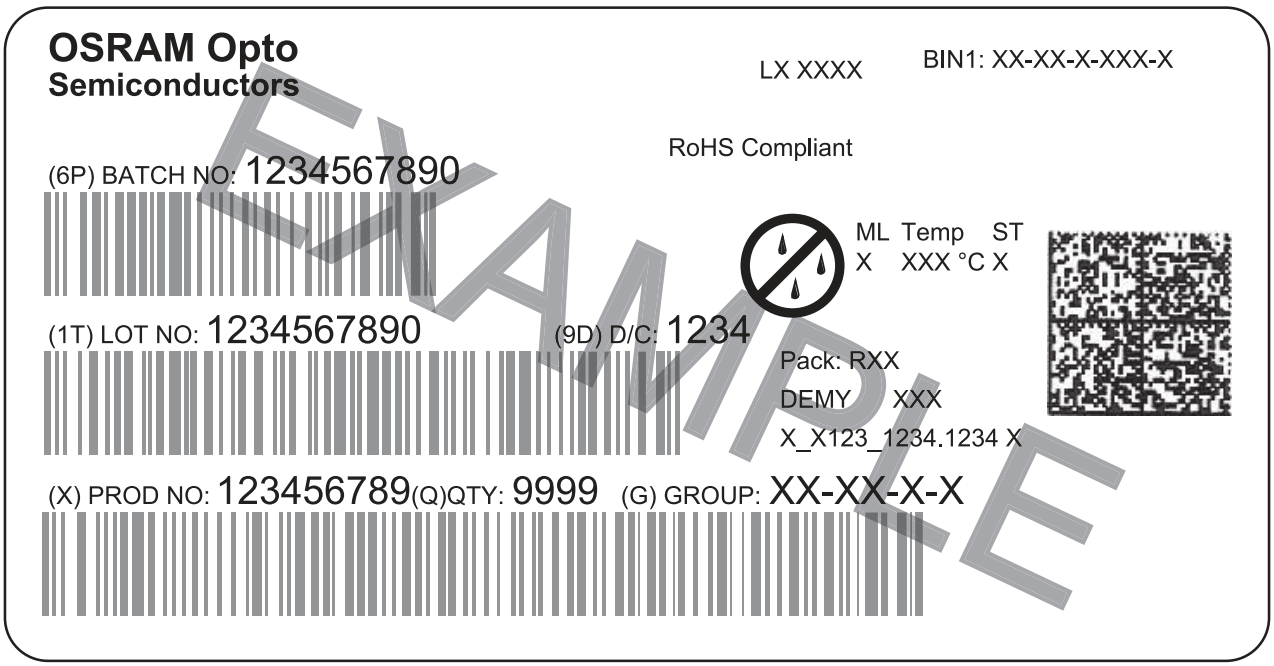

Leader: min. 400mm*
Trailer: min. 160mm*
*)Dimensions acc. to IEC 60286-3; EIA 481-E

## Reel Dimensions

| A | W | $N_{min}$ | $W_1$ | $W_{2\,max}$ | Pieces per PU |
|---|---|---|---|---|---|
| 330 mm | 12 + 0.3 / - 0.1 mm | 60 mm | 12.4 + 2 mm | 18.4 mm | 10000 |

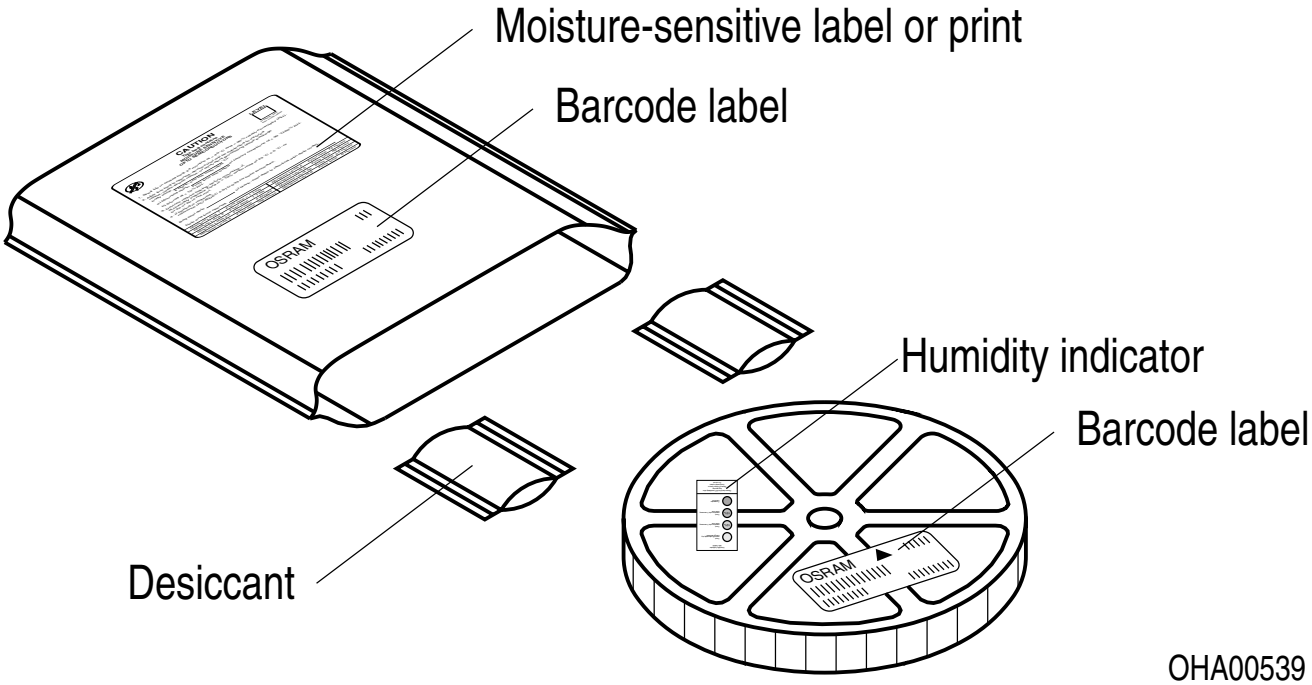
Discontinued

## Barcode-Product-Label (BPL)




OHA04563

## Dry Packing Process and Materials [6)]

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Moisture-sensitive product is packed in a dry bag containing desiccant and a humidity card according JEDEC-STD-033.

Discontinued

## 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.

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## 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 coordinate groups are measured during a current pulse duration of typically 10ms with a tolerance of ±0.005.

6) **Tolerance of Measure:** Unless otherwise noted in drawing, tolerances are specified with ±0.1 and dimensions are specified in mm.

7) **Tape and Reel:** All dimensions and tolerances are specified acc. IEC 60286-3 and specified in mm.

## Revision History

| Version | Date | Change |
|---|---|---|
| 1.1 | 2019-10-31 | Discontinued |

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按照中国的相关法规和标准，不含有毒有害物质或元素。

Discontinued



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