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 Φ_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

Discontinued

Maximum Ratings

Parameter	Symbol		Values
Operating Temperature	T_{op}	min. max.	-40 °C 100 °C
Storage Temperature	T_{stg}	min. max.	-40 °C 100 °C
Junction Temperature	T_j	max.	125 °C
Forward Current T_J = 25 °C	I_F	max.	200 mA
Surge Current 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 acc. to ANSI/ESDA/JEDEC JS-001 (HBM, Class 2)	V_{ESD}		2 kV

Discontinued

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. typ. max.	2.60 V 2.75 V 3.00 V
Reverse current [2]	I_R		Not designed for reverse operation
Color Rendering Index [4] (2700K - 6500K)	CRI	min. typ.	80 82
Electrical thermal resistance junction/solderpoint with efficiency η_e = 51.4 %	$R_{thJS\ elec.}$	typ. max.	7.1 K / W 0.0 K / W

Discontinued

Brightness Groups

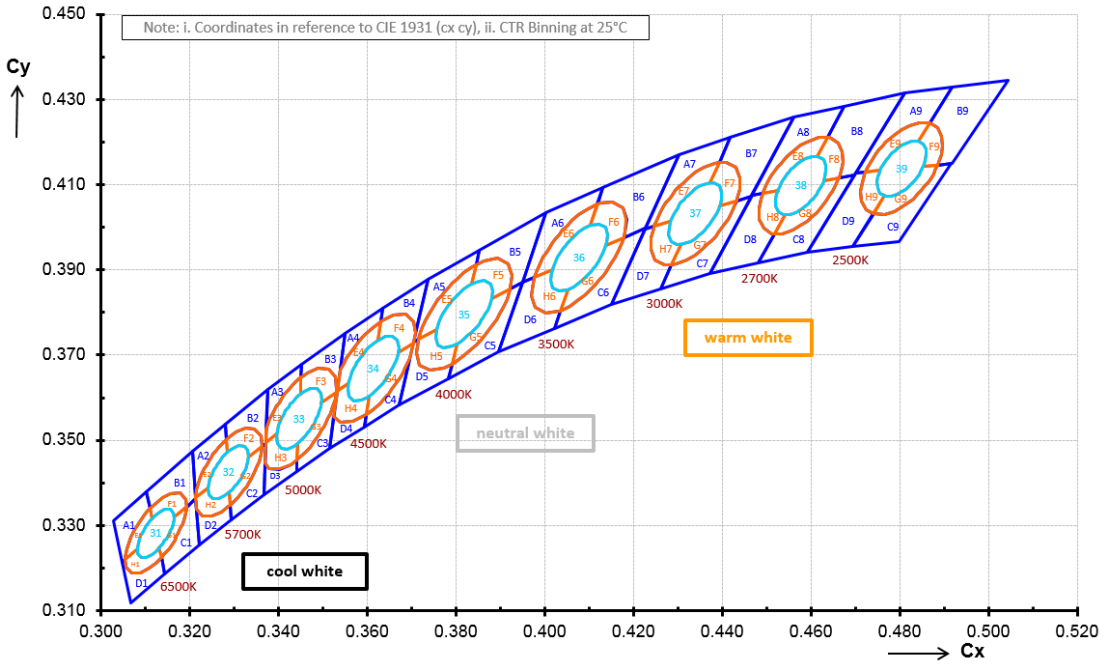
Group	Luminous Flux [1] I_F = 65 mA min. Φ_V	Luminous Flux [1] I_F = 65 mA max. Φ_V
H3	31.5 lm	33.0 lm
H4	33.0 lm	34.5 lm
H5	34.5 lm	36.0 lm
H6	36.0 lm	37.5 lm
H7	37.5 lm	39.0 lm
H8	39.0 lm	40.5 lm
H9	40.5 lm	42.0 lm

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

Discontinued

Chromaticity Coordinate Groups [5)]



Discontinued

Chromaticity Coordinate Groups

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

Discontinued

CCT	Group

Discontinued

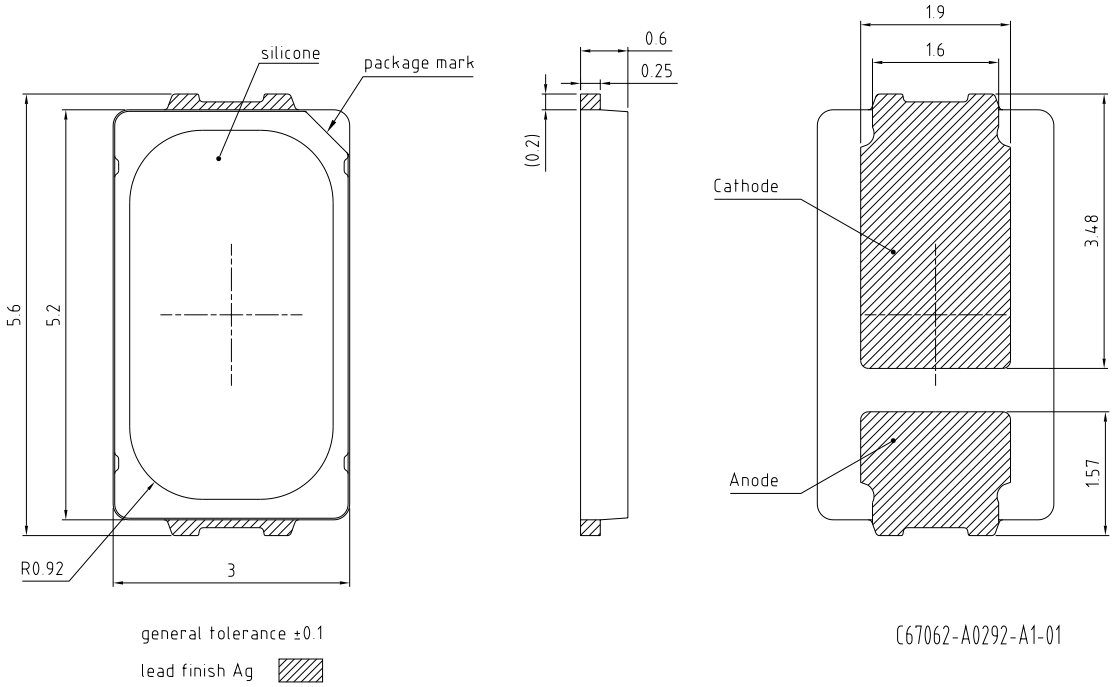
Group Name on Label

Example: H3-K1

Brightness	Forward Voltage
H3	K1

Discontinued

Dimensional Drawing [6)]



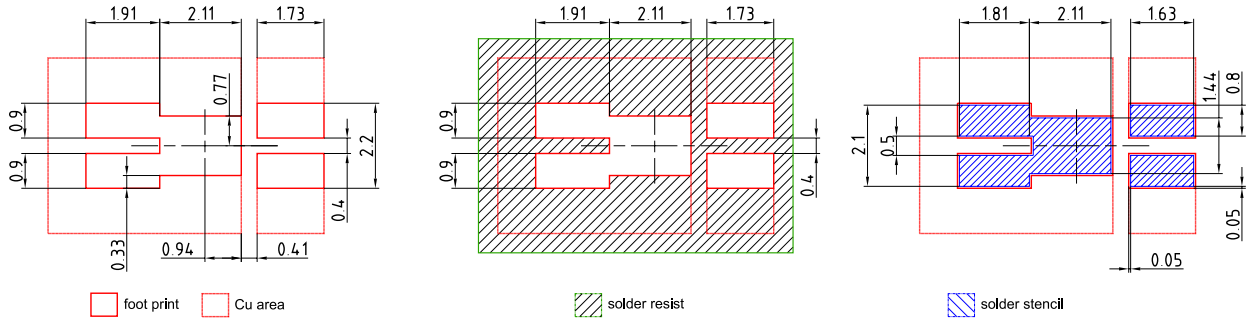
Further Information:

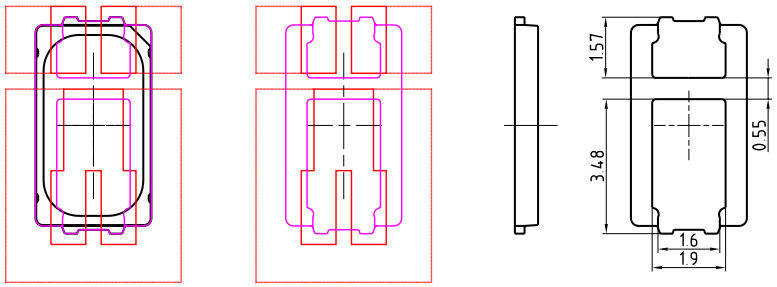
Approximate Weight: 20.0 mg

Package marking: Cathode

Discontinued

Recommended Solder Pad [6)]





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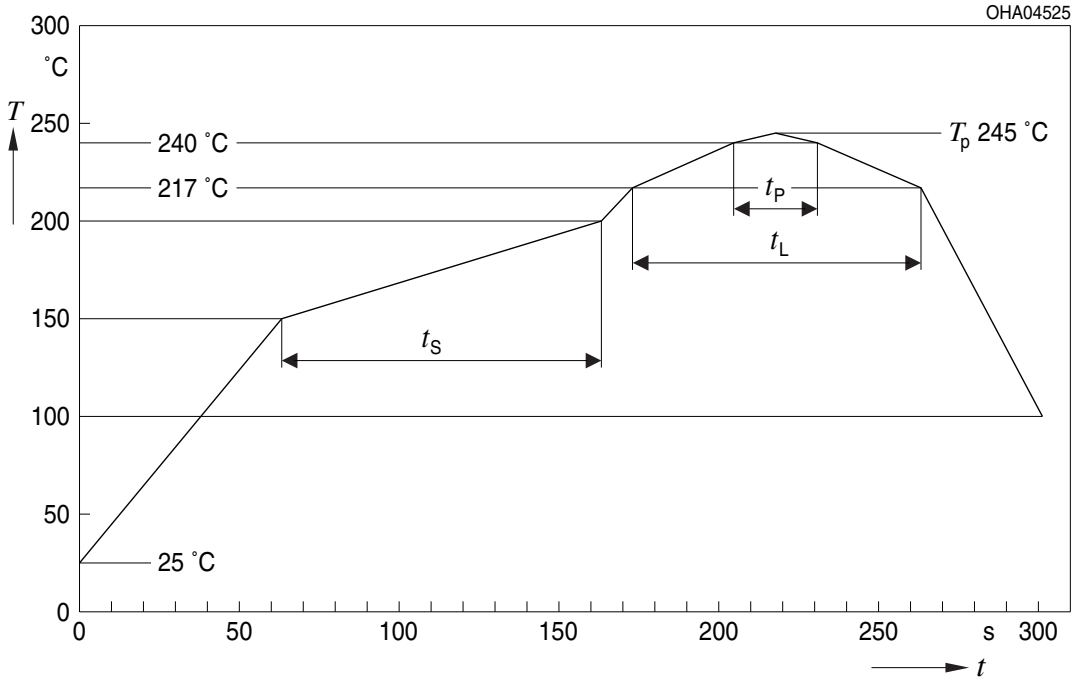
For superior solder joint connectivity results we recommend soldering under standard nitrogen atmosphere. Package not suitable for ultra sonic cleaning.

Discontinued

Reflow Soldering Profile

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

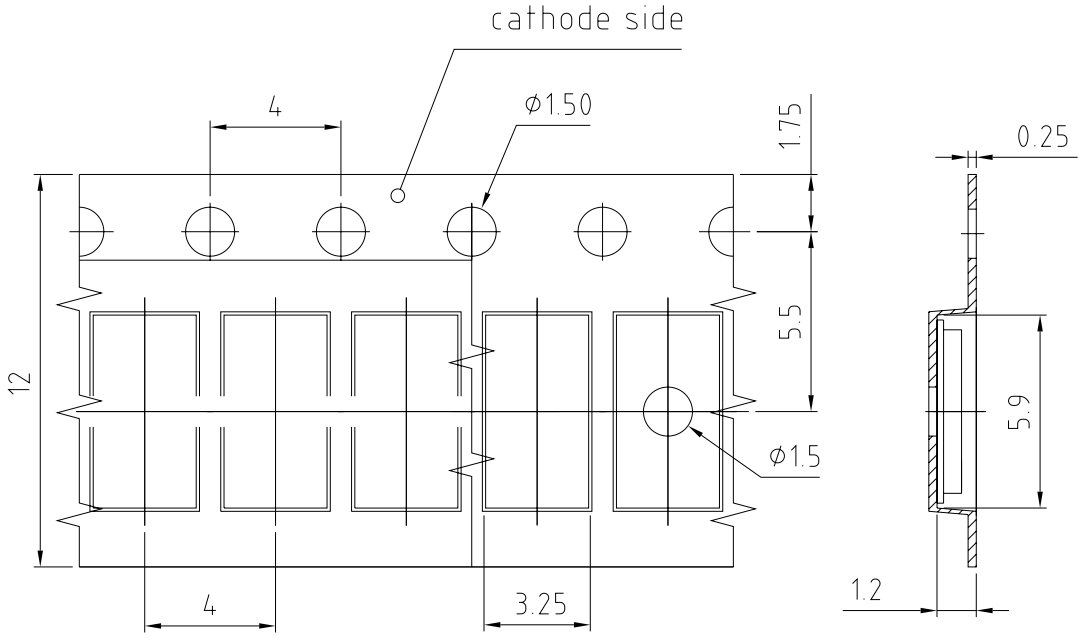


Profile Feature	Symbol	Pb-Free (SnAgCu) Assembly			Unit
		Minimum	Recommendation	Maximum	
Ramp-up rate to preheat*) 25 °C to 150 °C			2	3	K/s
Time t_S T_{Smin} to T_{Smax}	t_S	60	100	120	s
Ramp-up rate to peak*) T_{Smax} to T_P			2	3	K/s
Liquidus temperature	T_L		217		°C
Time above liquidus temperature	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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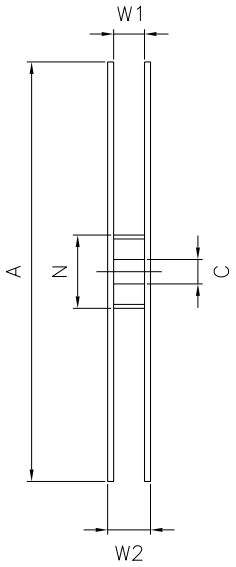
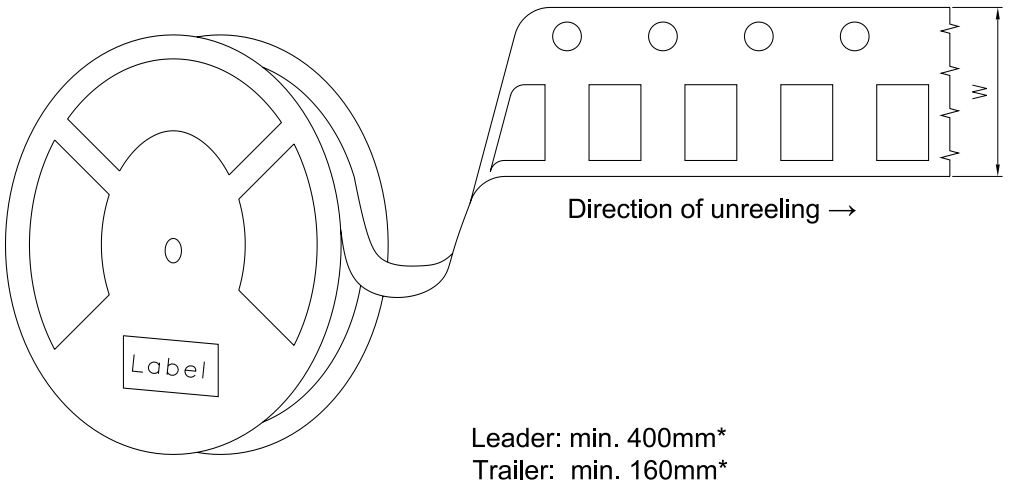
Discontinued

Tape and Reel [7)]





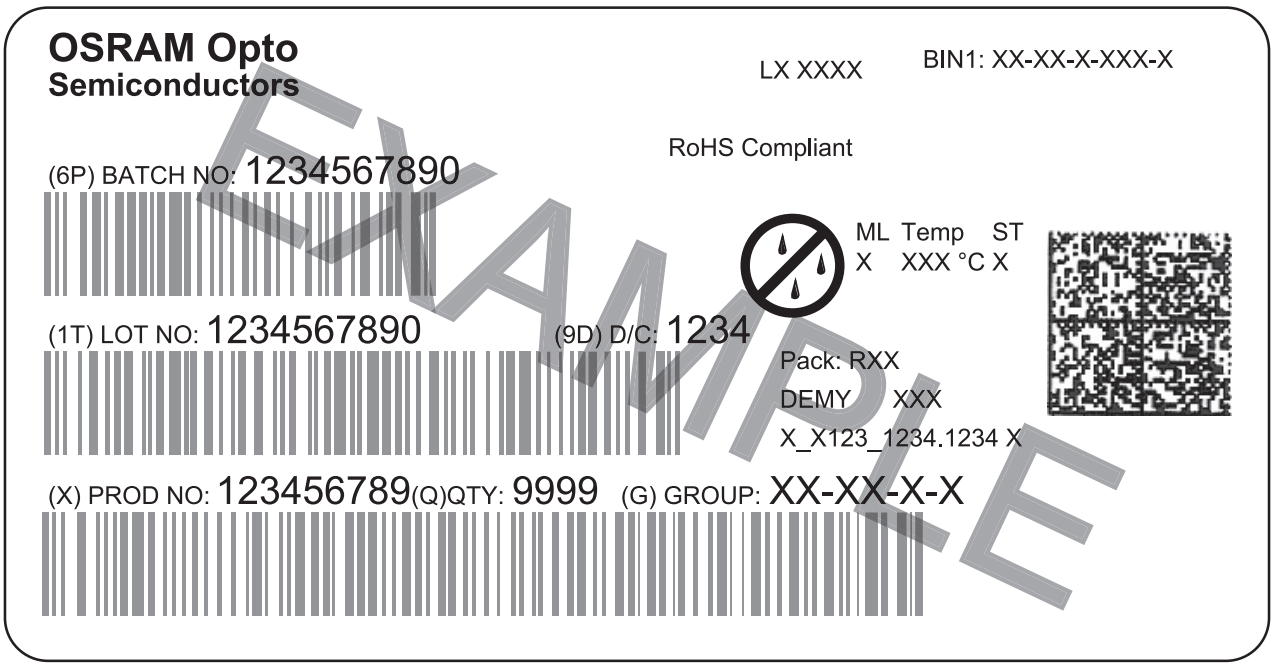
Leader: min. 400mm*
Trailer: min. 160mm*
*)Dimensions acc. to IEC 60286-3; EIA 481-E

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

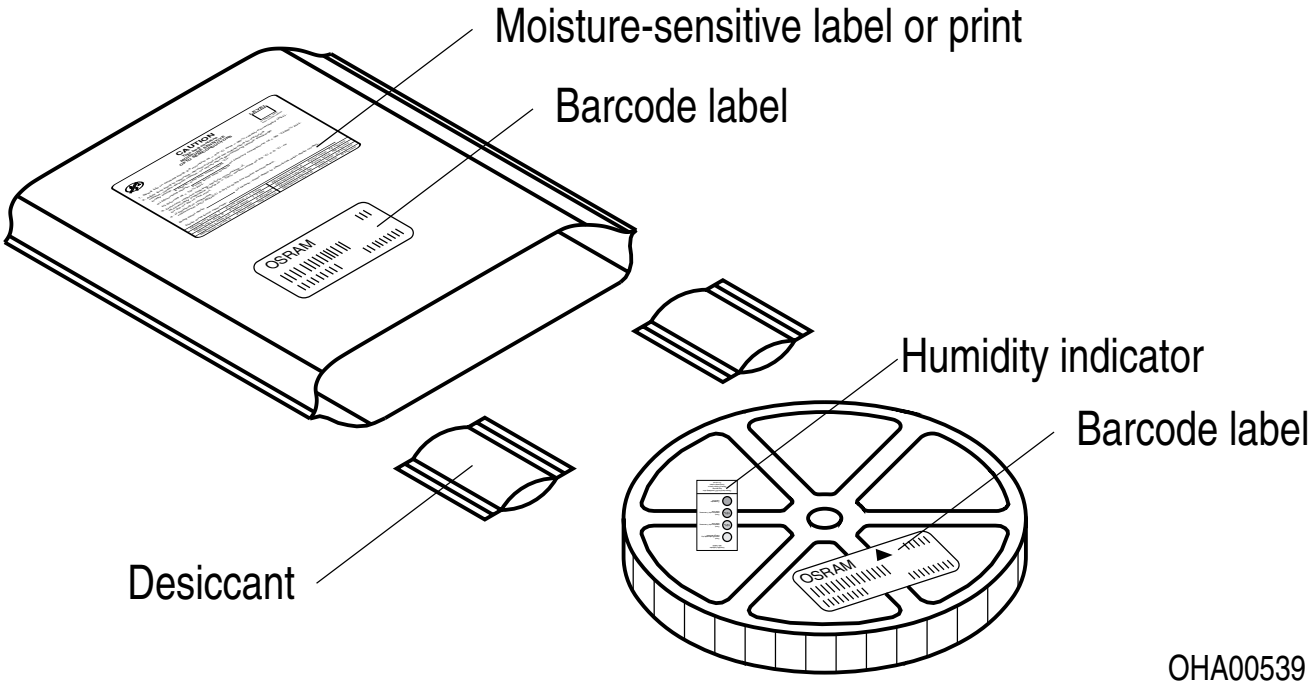
Discontinued

Barcode-Product-Label (BPL)



OHA04563

Dry Packing Process and Materials [6)]



OHA00539

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

Discontinued

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.

Discontinued

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.

Discontinued

Revision History

Version	Date	Change
1.1	2019-10-31	Discontinued

Discontinued

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Discontinued

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