GW QSLM31.QM

OSCONIQ® S 3030

This is professional version of EMC 3030 footprint. Longer lifetime, lower thermal resistance and higher performance.

Applications

- Area Lights
- Downlights/Spotlights
- Lamp Retrofits
- Office

Features:

- Package: white SMT package, colored diffused silicone resin
- Typ. Radiation: 120° (Lambertian emitter)
- Color temperature: 2700K - 4000K
- CRI: 90 (min.)
- ESD: 8 kV acc. to ANSI/ESDA/JEDEC JS-001 (HBM, Class 3B)
- Luminous Flux: typ. 31 lm @ 3000 K
- Luminous efficacy: typ. 173 lm/W @ 3000 K

Ordering Information

Type	Color temperature	Luminous Flux [1] I_F = 65 mA Φ_V	Ordering Code
GW QSLM31.QM-GVH8-XX58-1	2700 K	25.5 ... 40.5 lm	Q65112A8246
GW QSLM31.QM-H1HV-XX57-1	3000 K	28.5 ... 43.5 lm	Q65112A8243
GW QSLM31.QM-H1HV-XX56-1	3500 K	28.5 ... 43.5 lm	Q65112A8244
GW QSLM31.QM-H1HV-XX55-1	4000 K	28.5 ... 43.5 lm	Q65112A8245

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	min. max.	10 mA 180 mA
Surge Current t ≤ 10 µs; D = 0.005 ; TJ = 25 °C	I_{FS}	max.	360 mA
Reverse current [2)]	I_R	max.	200 mA
ESD withstand voltage acc. to ANSI/ESDA/JEDEC JS-001 (HBM, Class 3B)	V_{ESD}		8 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. typ. max.	2.70 V 2.75 V 2.95 V
Reverse voltage [2]	V_R	max.	1.2 V
Color Rendering Index [4]	CRI	min.	90
Electrical thermal resistance junction/solderpoint with efficien η_e = 54 %	$R_{thJS\ elec.}$	typ.	8.4 K / W

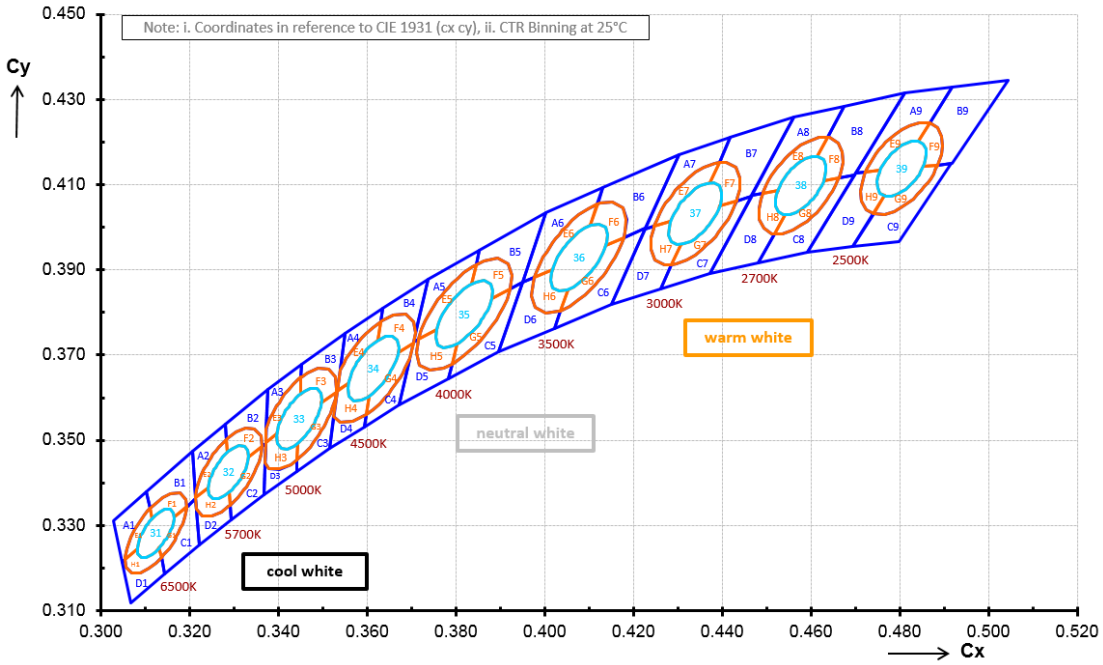
Brightness Groups

Group	Luminous Flux [1] I_F = 65 mA min. Φ_V	Luminous Flux [1] I_F = 65 mA max. Φ_V
GV	25.5 lm	27.0 lm
GW	27.0 lm	28.5 lm
H1	28.5 lm	30.0 lm
H2	30.0 lm	31.5 lm
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
HV	42.0 lm	43.5 lm

Forward Voltage Groups

Group	Forward Voltage [3] min. V_F	Forward Voltage [3] max. V_F
1V	2.70 V	2.75 V
1W	2.75 V	2.80 V
1Y	2.80 V	2.85 V
1Z	2.85 V	2.90 V
2A	2.90 V	2.95 V

Chromaticity Coordinate Groups [5)]



OSRAM
Opto Semiconductors

Chromaticity Coordinate Groups

CCT	Center Cx	Center Cy	3step a	3step b	5step a	5step b	Ø
2700 K	0.4577	0.4098	0.0080	0.0041	0.0133	0.0068	54.1
3000 K	0.4339	0.4032	0.0086	0.0042	0.0142	0.0069	53.7
3500 K	0.4077	0.3929	0.0093	0.0042	0.0155	0.0069	53.9
4000 K	0.3818	0.3796	0.0094	0.0041	0.0157	0.0068	53.4

		1		2		3		4	
CCT	Group	Cx	Cy	Cx	Cy	Cx	Cy	Cx	Cy
2700 K	E	0.4637	0.4212	0.4491	0.4081	0.4526	0.4088	0.4613	0.4166
	F	0.4637	0.4212	0.4663	0.4115	0.4628	0.4108	0.4613	0.4166
	G	0.4663	0.4115	0.4517	0.3984	0.4541	0.4030	0.4628	0.4108
	H	0.4541	0.4030	0.4526	0.4088	0.4491	0.4081	0.4517	0.3984
3000 K	E	0.4393	0.4153	0.4246	0.4002	0.4283	0.4014	0.4371	0.4105
	F	0.4393	0.4153	0.4432	0.4062	0.4395	0.4050	0.4371	0.4105
	G	0.4432	0.4062	0.4285	0.3911	0.4307	0.3960	0.4395	0.4050
	H	0.4307	0.3960	0.4283	0.4014	0.4246	0.4002	0.4285	0.3911
3500 K	E	0.4118	0.4054	0.3977	0.3883	0.4017	0.3902	0.4102	0.4004
	F	0.4118	0.4054	0.4177	0.3975	0.4137	0.3957	0.4102	0.4004
	G	0.4177	0.3975	0.4036	0.3804	0.4052	0.3854	0.4137	0.3957
	H	0.4052	0.3854	0.4017	0.3902	0.3977	0.3883	0.4036	0.3804
4000 K	E	0.3845	0.3913	0.3714	0.3737	0.3756	0.3760	0.3834	0.3866
	F	0.3845	0.3913	0.3922	0.3855	0.3880	0.3832	0.3834	0.3866
	G	0.3922	0.3855	0.3791	0.3679	0.3802	0.3726	0.3880	0.3832
	H	0.3802	0.3726	0.3756	0.3760	0.3714	0.3737	0.3791	0.3679

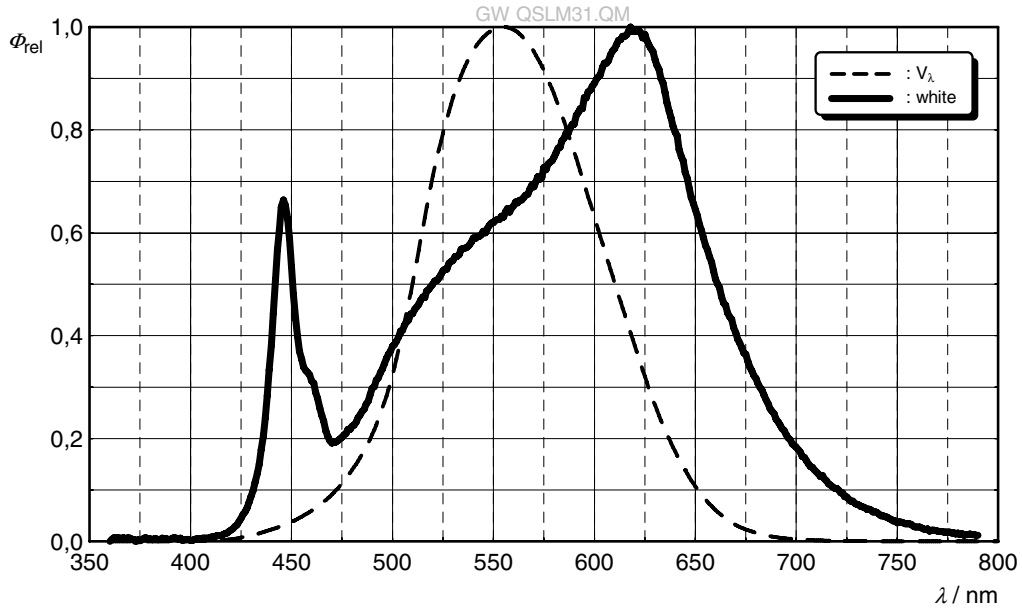
Group Name on Label

Example: GV-1V

Brightness	Forward Voltage
GV	1V

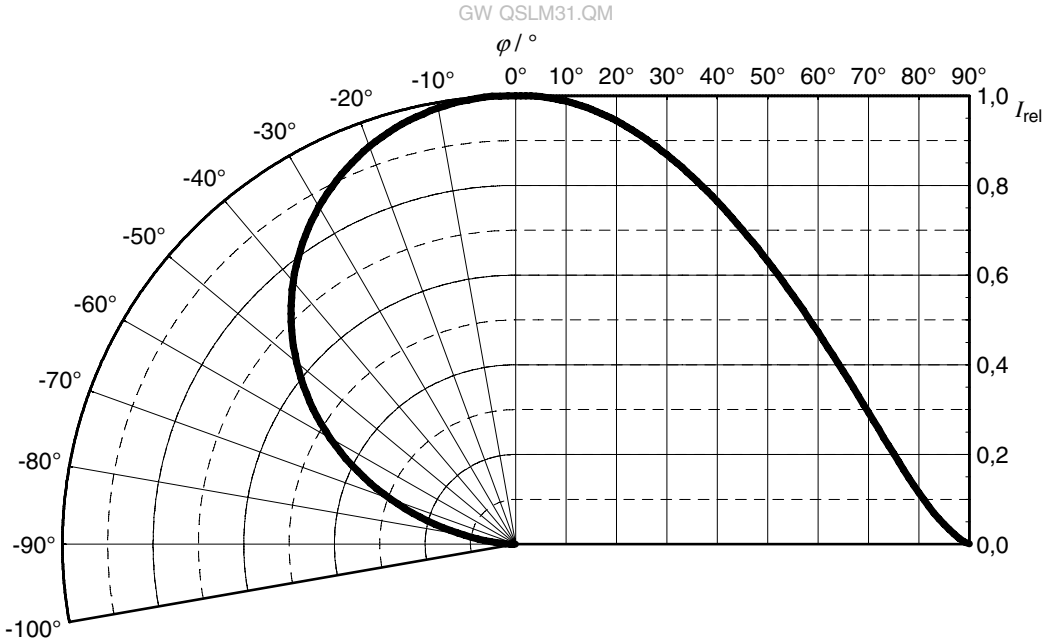
Relative Spectral Emission [6)]

$\Phi_{rel} = f(\lambda)$; I_F = 65 mA; T_J = 25 °C



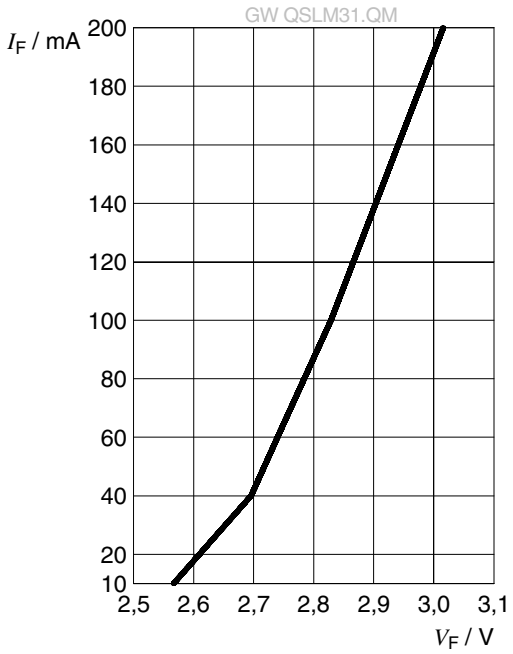
Radiation Characteristics [6)]

$I_{rel} = f(\phi)$; T_J = 25 °C



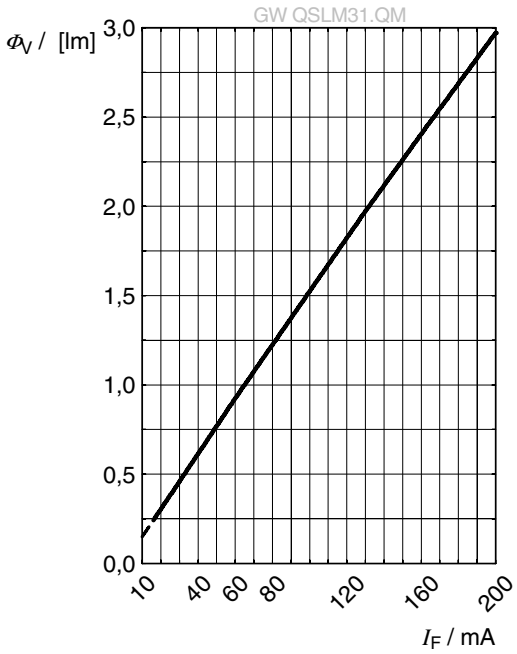
Forward current [6]

$I_F = f(V_F)$; T_J = 25 °C



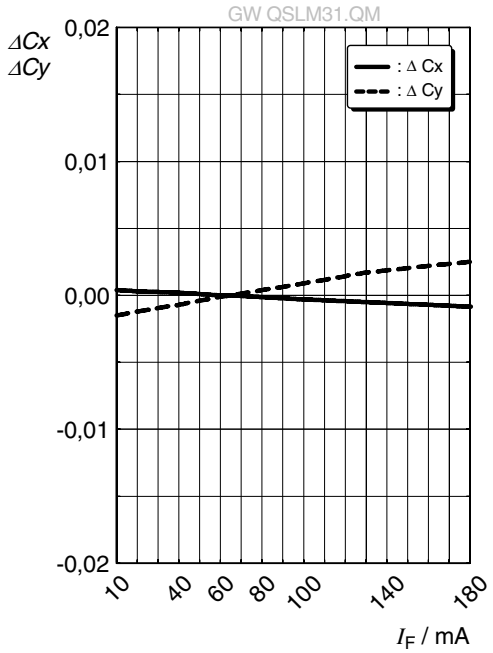
Relative Luminous Flux [6], [7]

$\Phi_v/\Phi_v(65\ mA) = f(I_F)$; T_J = 25 °C



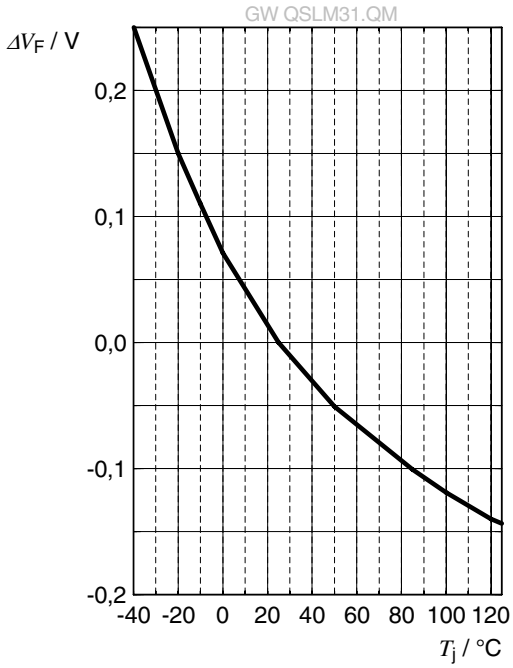
Chromaticity Coordinate Shift [6]

$\Delta Cx, \Delta Cy = f(I_F)$; T_J = 25 °C



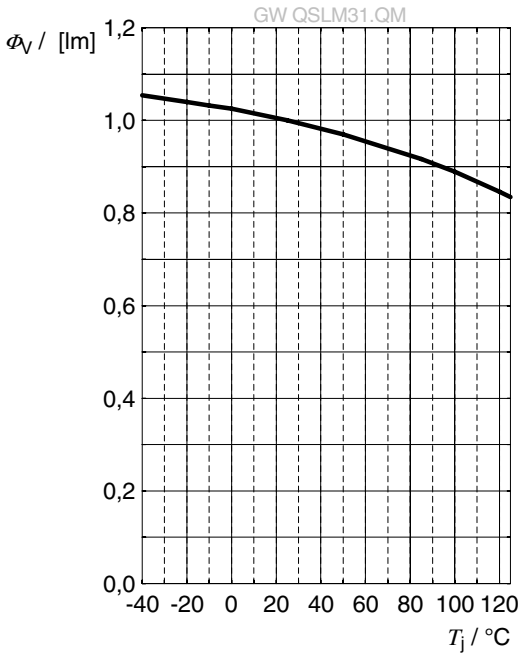
Forward Voltage [6)]

$\Delta V_F = V_F - V_F(25\ °C) = f(T_j);\ I_F = 65\ mA$



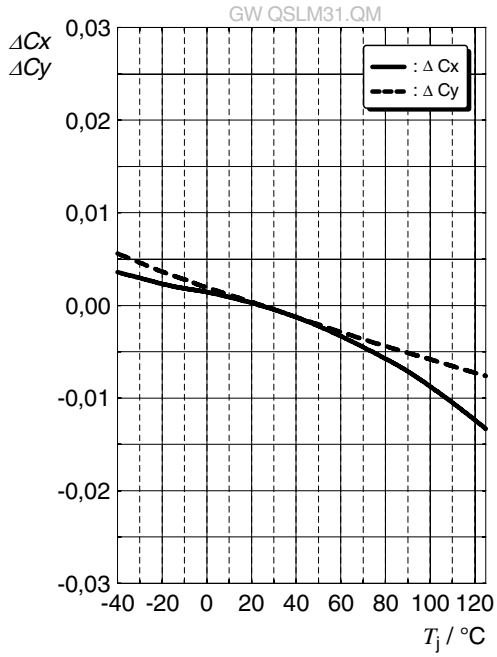
Relative Luminous Flux [6)]

$\Phi_v/\Phi_v(25\ °C) = f(T_j);\ I_F = 65\ mA$



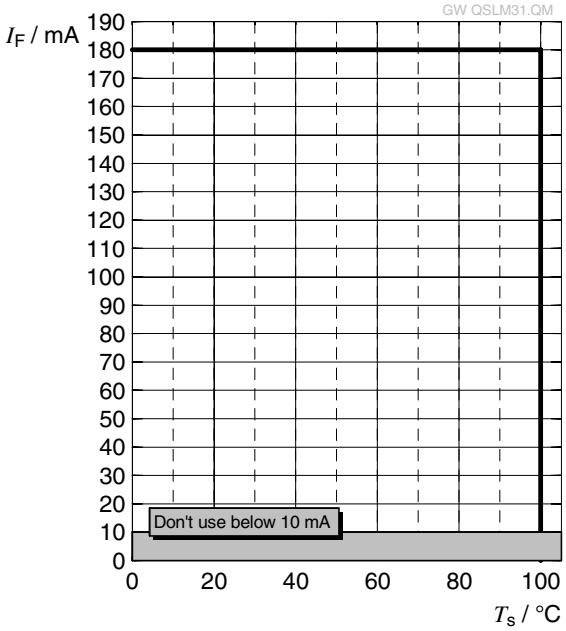
Chromaticity Coordinate Shift [6)]

$\Delta Cx, \Delta Cy = f(T_j);\ I_F = 65\ mA$

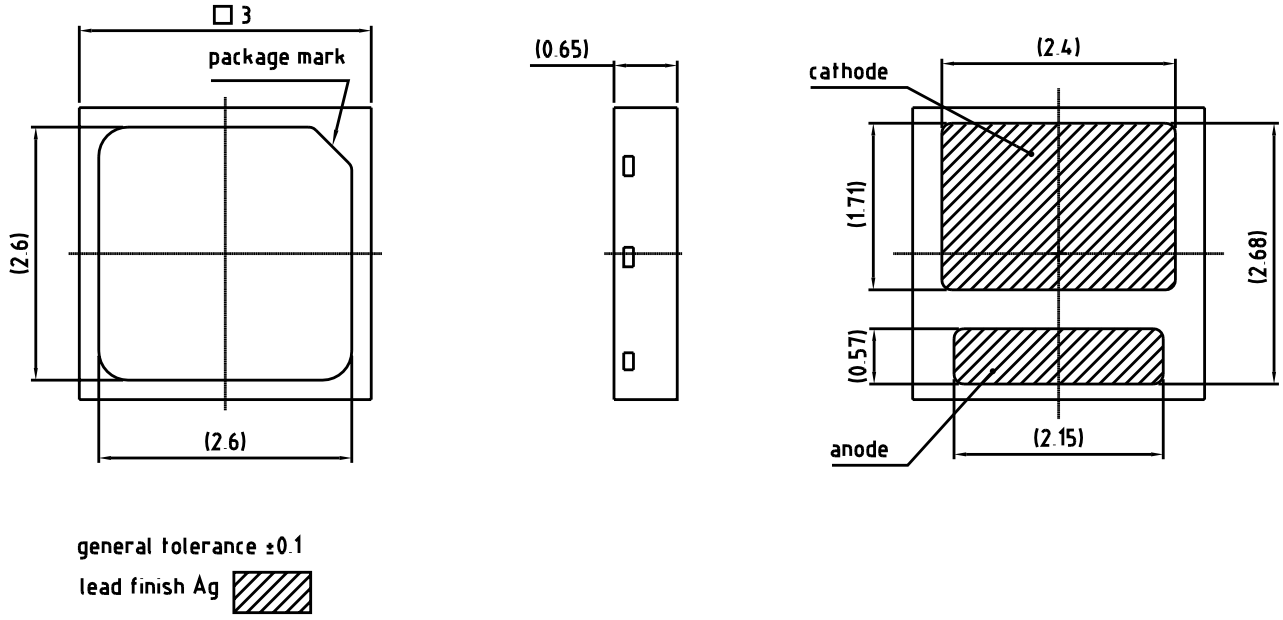


Max. Permissible Forward Current

$I_F = f(T)$



Dimensional Drawing [8)]



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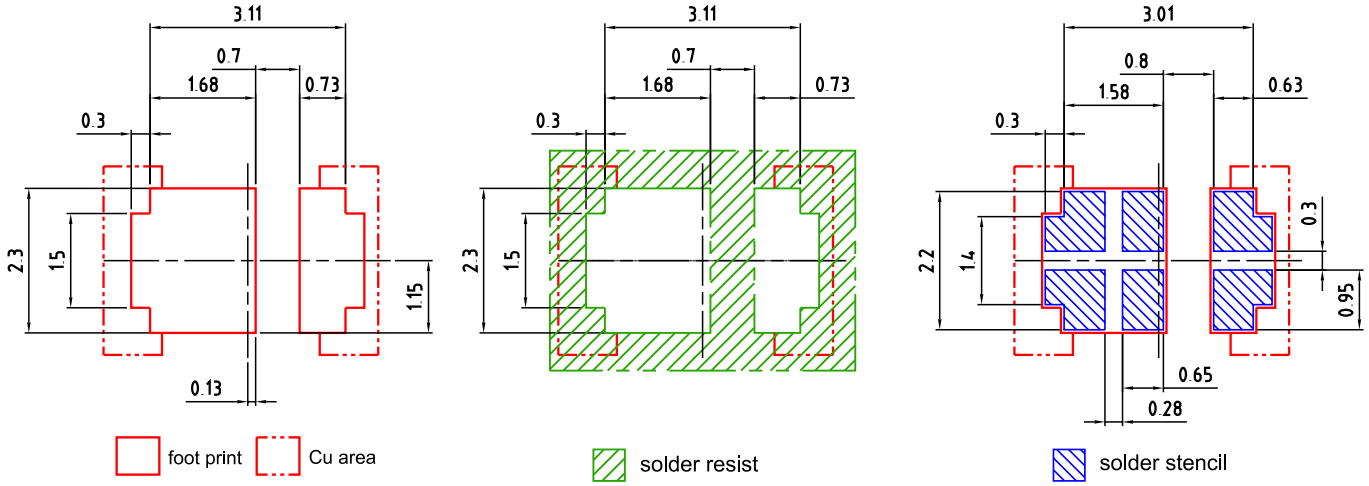
Further Information

Approximate Weight: 18.0 mg

Package marking: Cathode

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

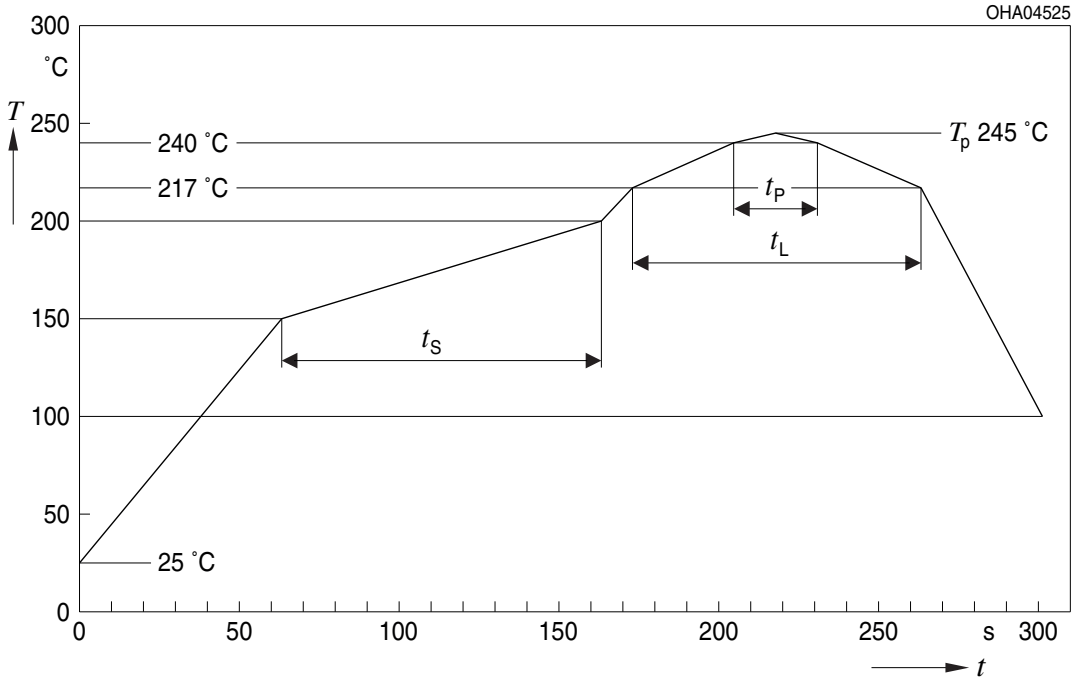
Recommended Solder Pad [8)]



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

Reflow Soldering Profile

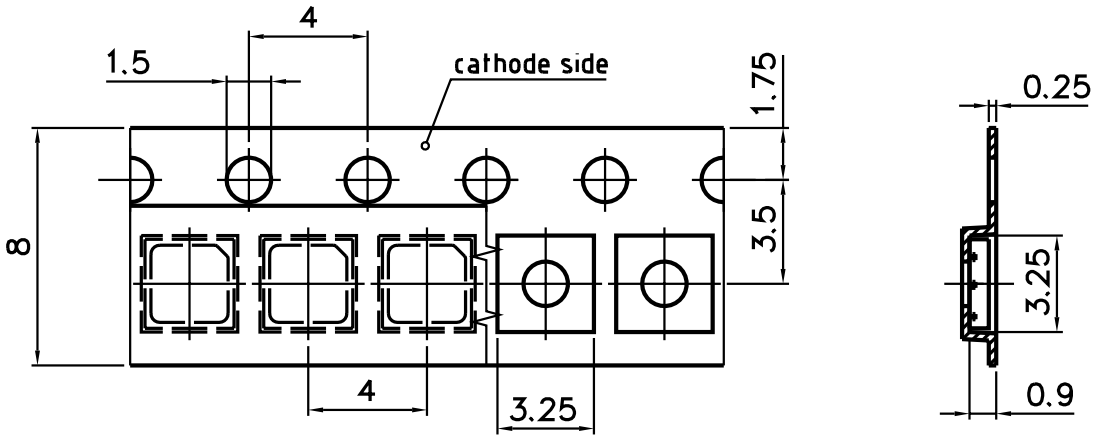
Product complies to MSL Level 3 acc. to JEDEC J-STD-020E



Profile Featur	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 pea 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-rang

Taping [8)]



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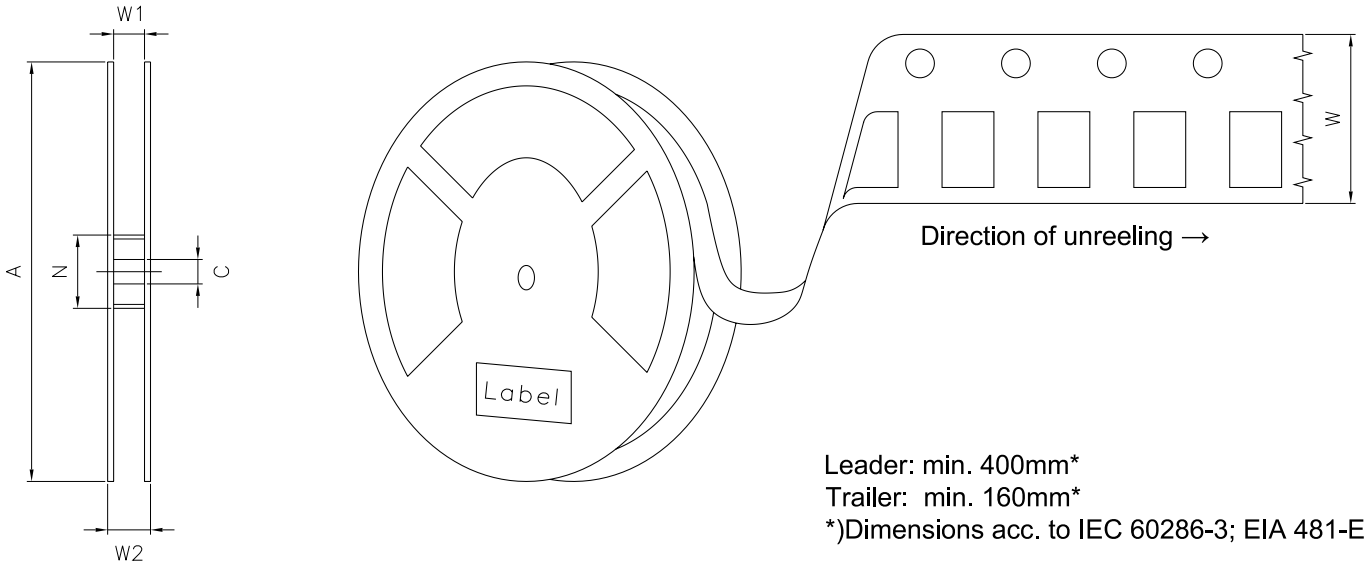
Tape and Reel [9)]

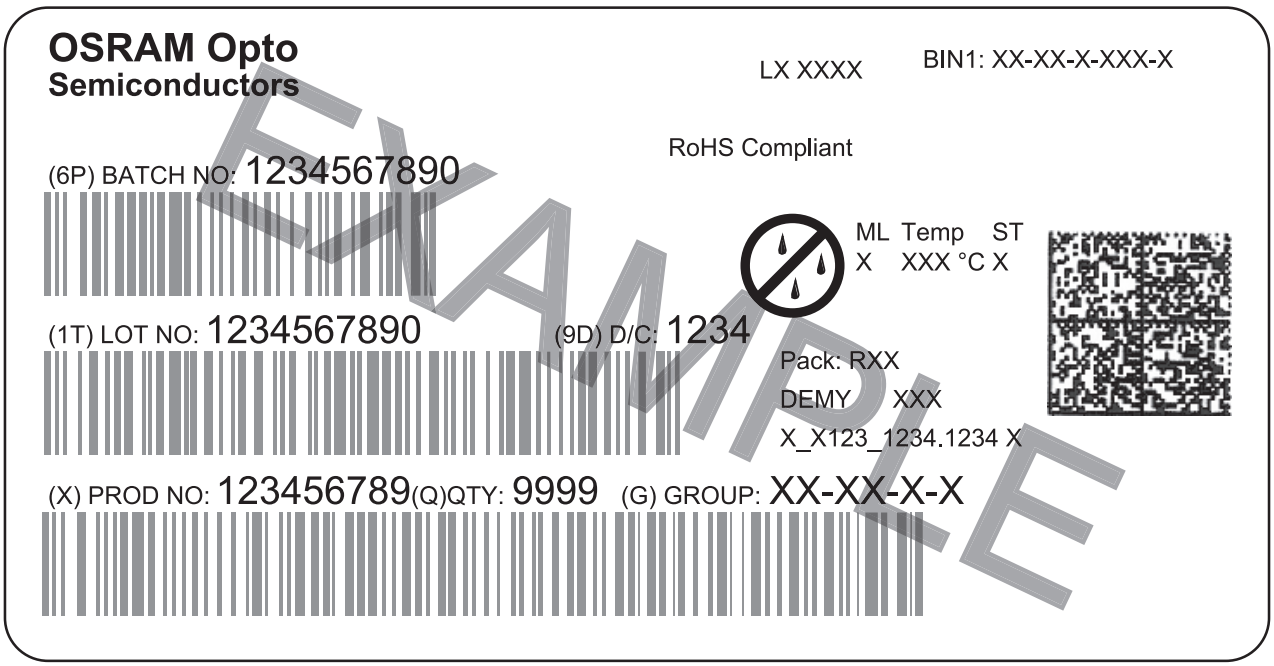


Leader: min. 400mm*
Trailer: min. 160mm*
*)Dimensions acc. to IEC 60286-3; EIA 481-E

Reel Dimensions

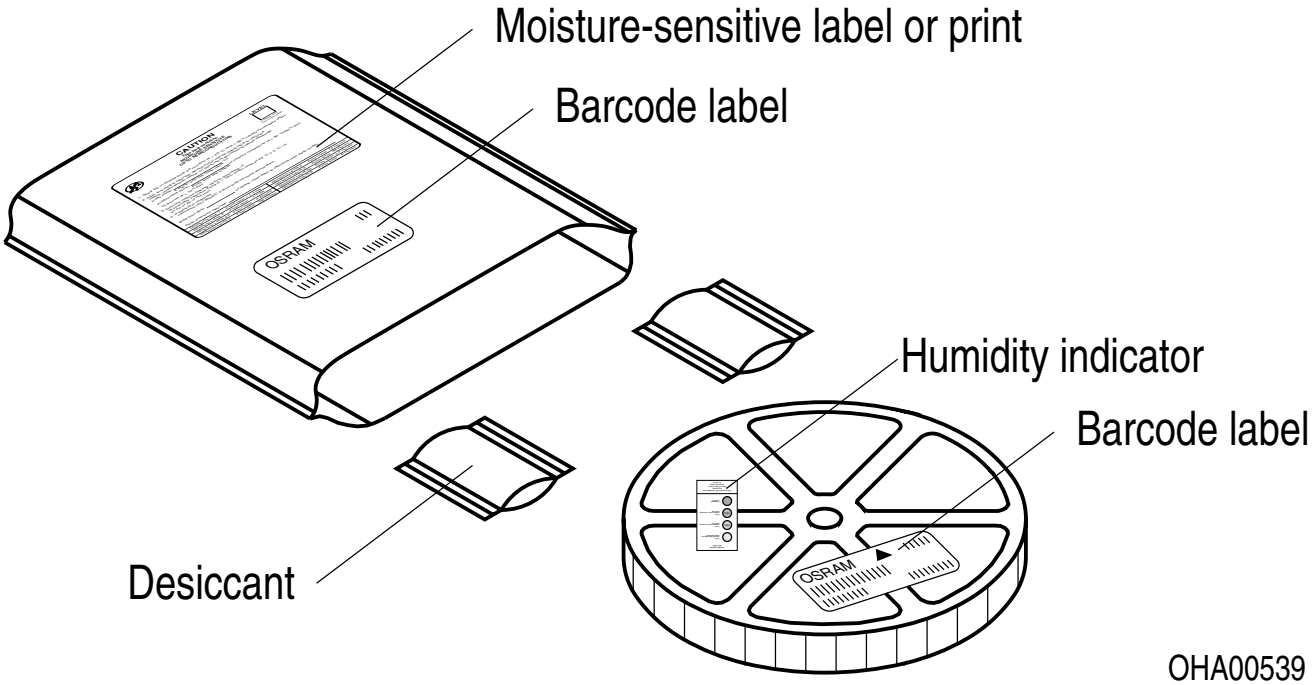
A	W	N_{min}	W_1	$W_{2\,max}$	Pieces per PU
180 mm	8 + 0.3 / - 0.1 mm	60 mm	8.4 + 2 mm	14.4 mm	4500

Barcode-Product-Label (BPL)



OHA04563

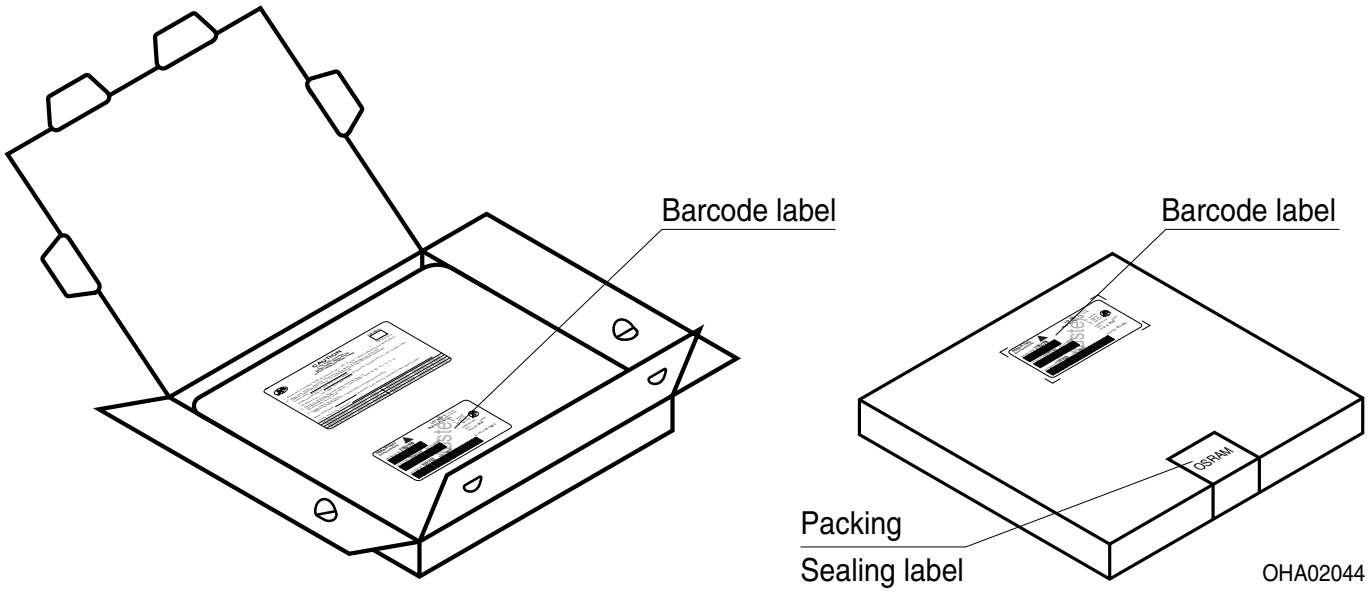
Dry Packing Process and Materials [8)]



OHA00539

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

Schematic Transportation Box [8)]



Dimensions of Transportation Box

Width	Length	Height
200 ± 5 mm	195 ± 5 mm	30 ± 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 **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 contains intentionally added Cadmium <100ppm in the encapsulation material.

This device is designed for specific/recommended applications only. Please consult OSRAM Opt Semiconductors Sales Staff in advance for detailed information on other non-recommended application (e.g. automotive).
Change management for this component is aligned with the requirements of the lighting market.

For further application related informations 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 webside

Packing
Please use the recycling operators known to you. We can also help you – get in touch with your nearest sales offic
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 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.

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 +/- 5%.

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 ± 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) **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 figure 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 diffe - ences between single devices within one packing unit.

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

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

Revision History

Version	Date	Change
1.0	2019-03-06	Initial Version
1.1	2019-04-10	Taping Reel Dimensions Dimensions of Transportation Box

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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。

Стандарт Электрон Связь

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Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

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С нами вы становитесь еще успешнее!

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