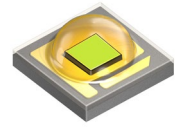


LCB CRBP

OSLON® Signal

The OSLON® Signal combine a compact size (small footprint: 3x3mm) with a high efficiency and a electrically insulated thermal pad.



Applications

- Emergency Vehicle Lighting

Features:

- Chip technology: UX:3
- Typ. Radiation: 120°
- Color: Cx = 0.16, Cy = 0.12 acc. to CIE 1931 (● converted blue)
- Corrosion Robustness Class: 3B
- ESD: 8 kV acc. to ANSI/ESDA/JEDEC JS-001 (HBM, Class 3B)

Ordering Information

| Type | Luminous Flux ¹⁾ I _F = 350 mA Φ _V | Ordering Code |
|-------------------------|--|---------------|
| LCB CRBP-JYKZ-3B6B-8E8G | 52 ... 112 lm | Q65112A5070 |

Maximum Ratings

| Parameter | Symbol | | Values |
|---|-----------|------|---------|
| Operating Temperature | T_{op} | min. | -40 °C |
| | | max. | 120 °C |
| Storage Temperature | T_{stg} | min. | -40 °C |
| | | max. | 120 °C |
| Junction Temperature | T_j | max. | 150 °C |
| Junction Temperature for short time applications* | T_j | max. | 175 °C |
| Forward Current $T_s = 25\text{ °C}$ | I_F | min. | 30 mA |
| | | max. | 1000 mA |
| Surge Current $T_s = 25\text{ °C}$ | I_{FS} | max. | 2000 mA |
| ESD withstand voltage acc. to ANSI/ESDA/JEDEC JS-001 (HBM, Class 3B) | V_{ESD} | | 8 kV |
| Reverse current ²⁾ | I_R | max. | 50 mA |

* The median lifetime (L70/B50) for $T_j = 175\text{ °C}$ is 100h.

Characteristics

$I_F = 350 \text{ mA}$; $T_s = 25 \text{ °C}$

| Parameter | Symbol | | Values |
|--|-------------------------|------|------------|
| Chromaticity Coordinate ³⁾ | C_x | typ. | 0.16 |
| | C_y | typ. | 0.12 |
| Viewing angle at 50% I_V | 2ϕ | typ. | 125 ° |
| Forward Voltage ⁴⁾ $I_F = 350 \text{ mA}$ | V_F | min. | 2.75 V |
| | | typ. | 2.95 V |
| | | max. | 3.50 V |
| Reverse voltage (ESD device) | $V_{R\text{ESD}}$ | min. | 5 V |
| Reverse voltage ²⁾ $I_R = 5 \text{ mA}$ | V_R | max. | 7 V |
| | | | |
| Real thermal resistance junction/solderpoint ⁵⁾ | $R_{\text{thJS real}}$ | typ. | 9.6 K / W |
| | | max. | 10.8 K / W |
| Electrical thermal resistance junction/solderpoint ⁵⁾ with efficiency $\eta_e = 20 \%$ | $R_{\text{thJS elec.}}$ | typ. | 7.7 K / W |
| | | max. | 8.6 K / W |

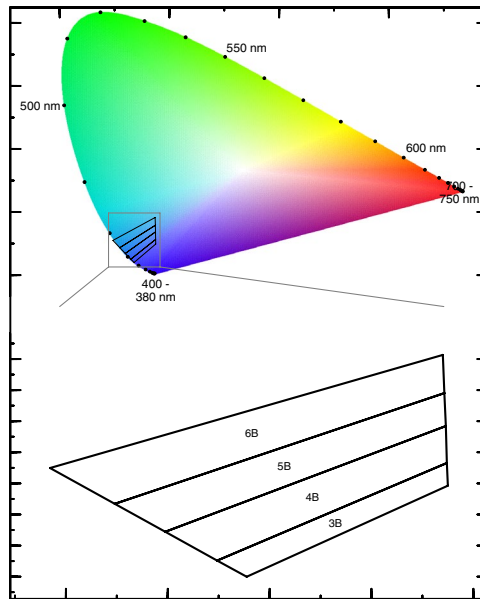
Brightness Groups

| Group | Luminous Flux ¹⁾ $I_F = 350 \text{ mA}$ min. Φ_V | Luminous Flux ¹⁾ $I_F = 350 \text{ mA}$ max. Φ_V | Luminous Intensity ⁶⁾ $I_F = 350 \text{ mA}$ typ. I_v |
|-------|---|---|---|
| JY | 52 lm | 61 lm | 17 cd |
| JZ | 61 lm | 71 lm | 19 cd |
| KX | 71 lm | 82 lm | 22 cd |
| KY | 82 lm | 97 lm | 26 cd |
| KZ | 97 lm | 112 lm | 31 cd |

Forward Voltage Groups

| Group | Forward Voltage ⁴⁾ $I_F = 350 \text{ mA}$ min. V_F | Forward Voltage ⁴⁾ $I_F = 350 \text{ mA}$ max. V_F |
|-------|--|--|
| 8E | 2.75 V | 3.00 V |
| 8F | 3.00 V | 3.25 V |
| 8G | 3.25 V | 3.50 V |

Chromaticity Coordinate Groups



Chromaticity Coordinate Groups ³⁾

| Group | Cx | Cy | Group | Cx | Cy |
|-------|--------|--------|-------|--------|--------|
| 3B | 0.1297 | 0.0503 | 5B | 0.1096 | 0.0868 |
| | 0.1748 | 0.1131 | | 0.1743 | 0.1581 |
| | 0.1750 | 0.0985 | | 0.1746 | 0.1369 |
| | 0.1355 | 0.0399 | | 0.1195 | 0.0688 |
| 4B | 0.1195 | 0.0688 | 6B | 0.0969 | 0.1099 |
| | 0.1746 | 0.1369 | | 0.1740 | 0.1827 |
| | 0.1748 | 0.1131 | | 0.1743 | 0.1581 |
| | 0.1297 | 0.0503 | | 0.1096 | 0.0868 |

Group Name on Label

Example: JY-3B-8E

Brightness

Color Chromaticity

Forward Voltage

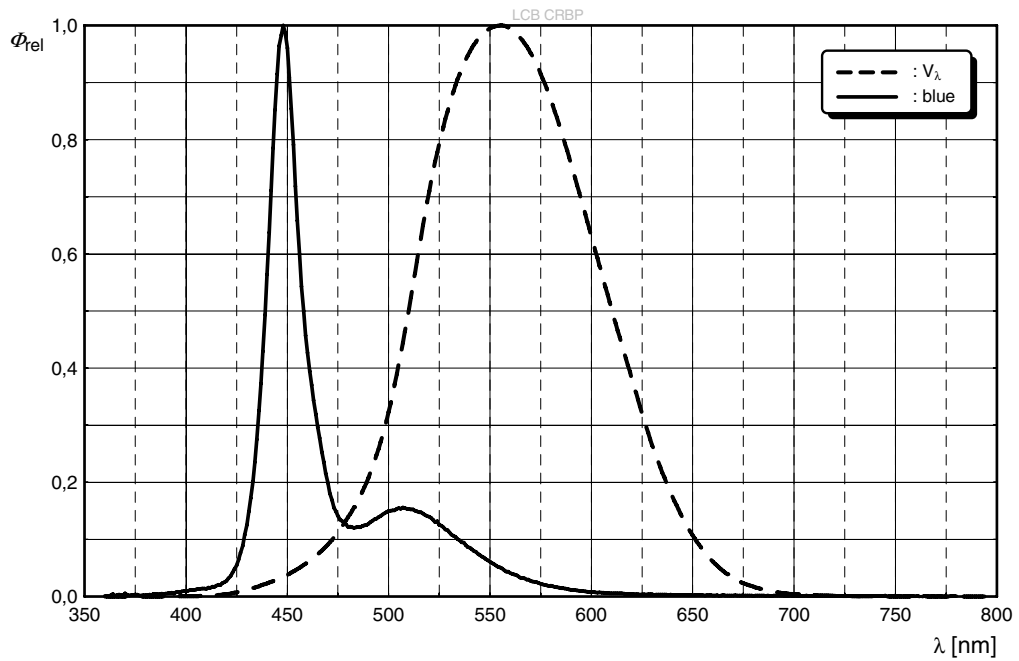
JY

3B

8E

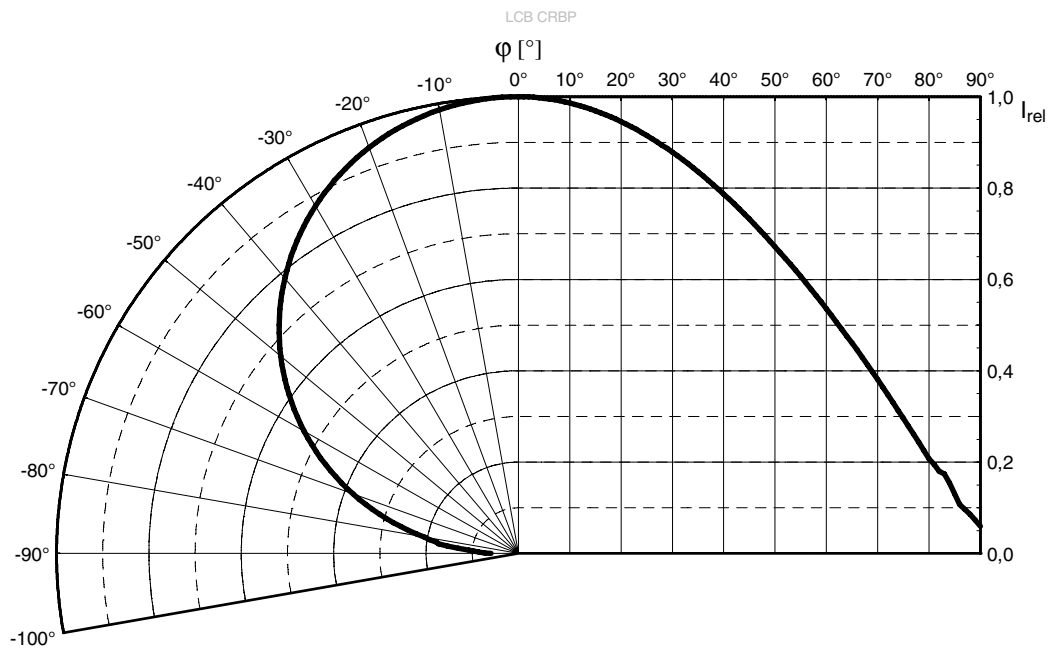
Relative Spectral Emission ⁶⁾

$\Phi_{rel} = f(\lambda); I_F = 350 \text{ mA}; T_S = 25 \text{ }^\circ\text{C}$



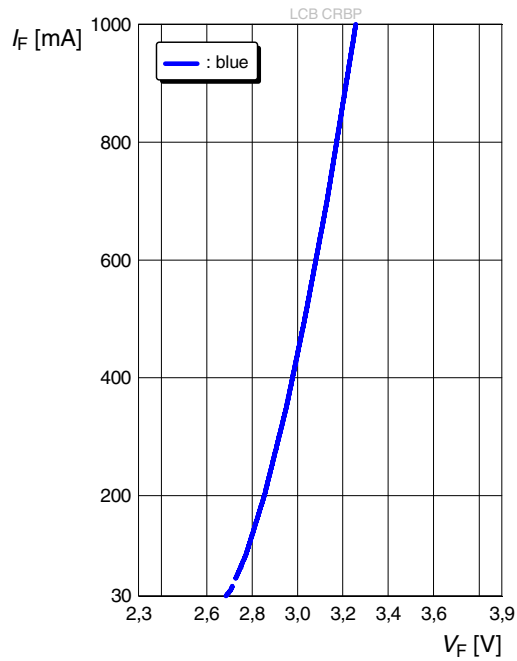
Radiation Characteristics ⁶⁾

$I_{rel} = f(\phi); T_S = 25 \text{ }^\circ\text{C}$



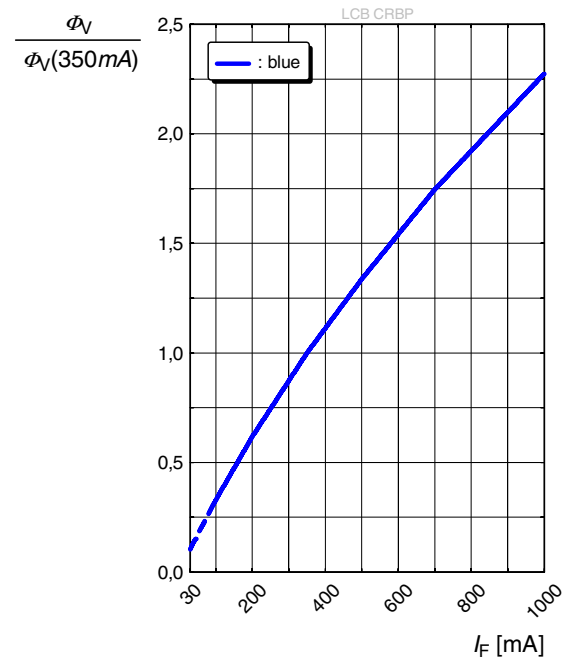
Forward current ⁶⁾

$$I_F = f(V_F); T_S = 25\text{ °C}$$



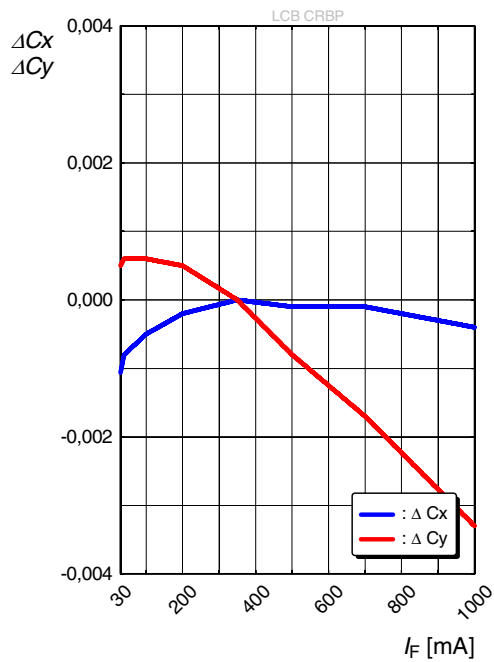
Relative Luminous Flux ^{6), 7)}

$$\Phi_V / \Phi_V(350\text{ mA}) = f(I_F); T_S = 25\text{ °C}$$



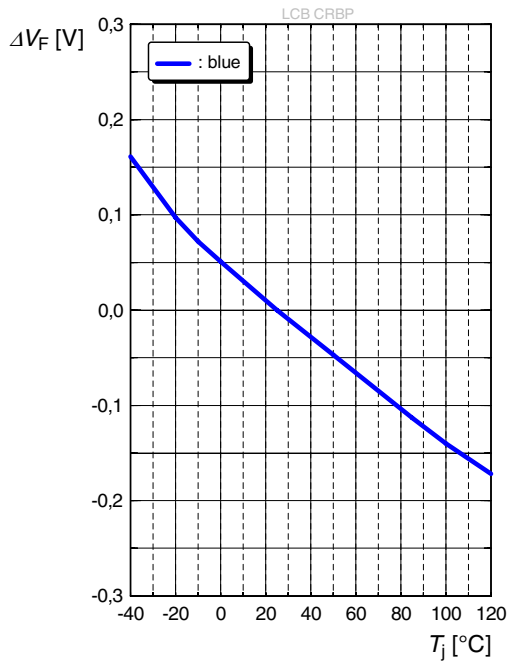
Chromaticity Coordinate Shift ⁶⁾

$$\Delta C_x, \Delta C_y = f(I_F); T_S = 25\text{ °C}$$



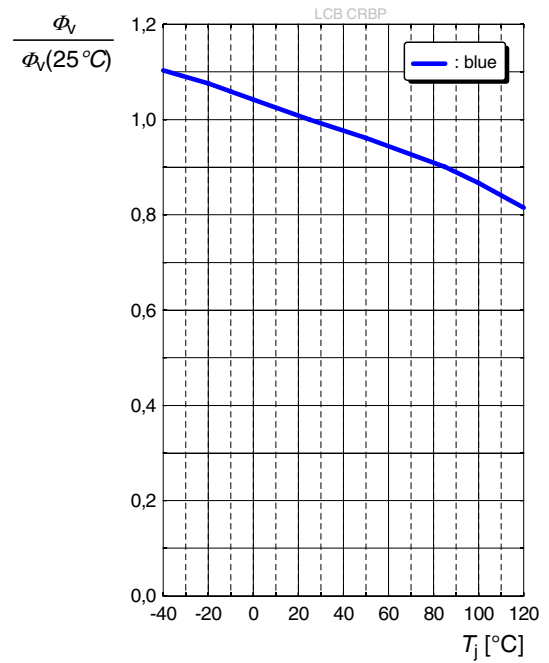
Forward Voltage ⁶⁾

$$\Delta V_F = V_F - V_F(25\text{ }^\circ\text{C}) = f(T_j); I_F = 350\text{ mA}$$



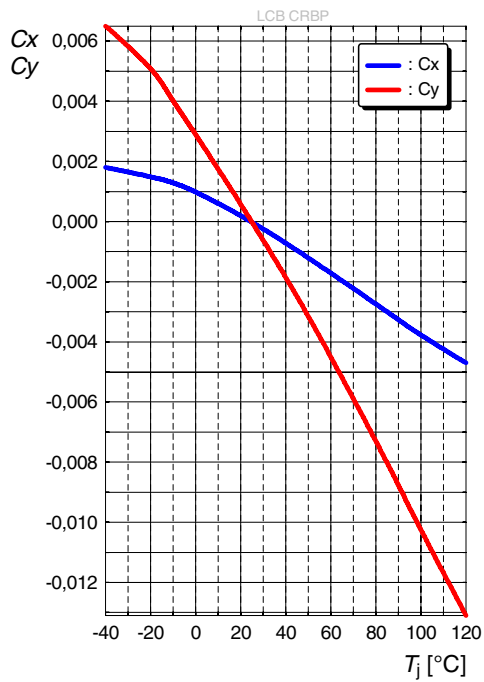
Relative Luminous Flux ⁶⁾

$$\Phi_V / \Phi_V(25\text{ }^\circ\text{C}) = f(T_j); I_F = 350\text{ mA}$$



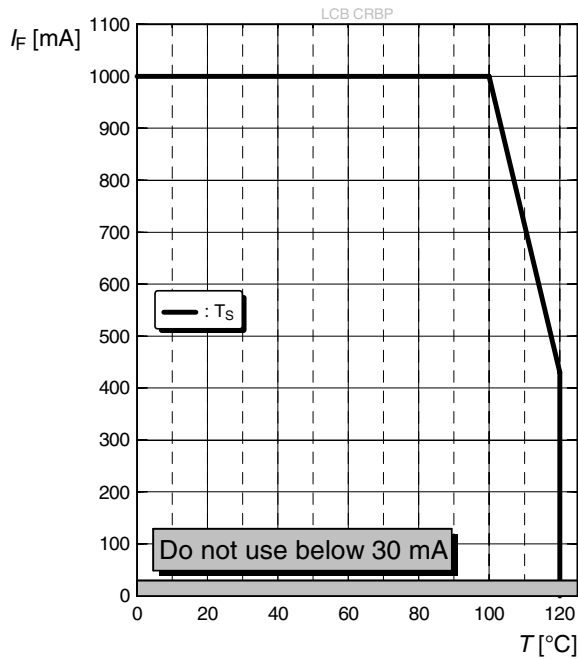
Chromaticity Coordinate Shift ⁶⁾

$$\Delta C_x, \Delta C_y = f(T_j); I_F = 350\text{ mA}$$



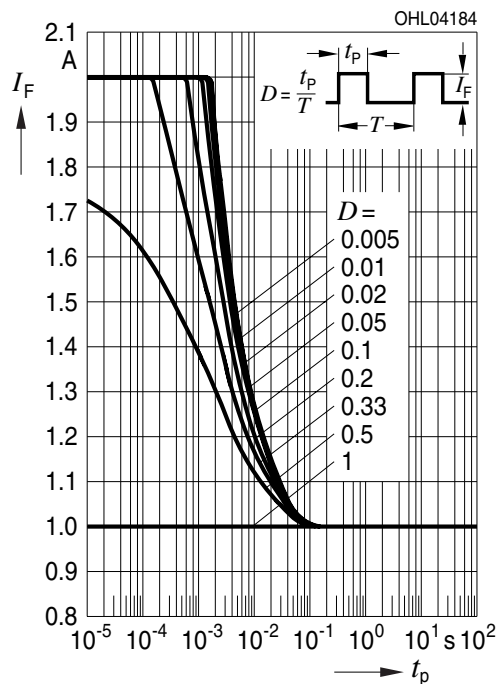
Max. Permissible Forward Current

$I_F = f(T)$



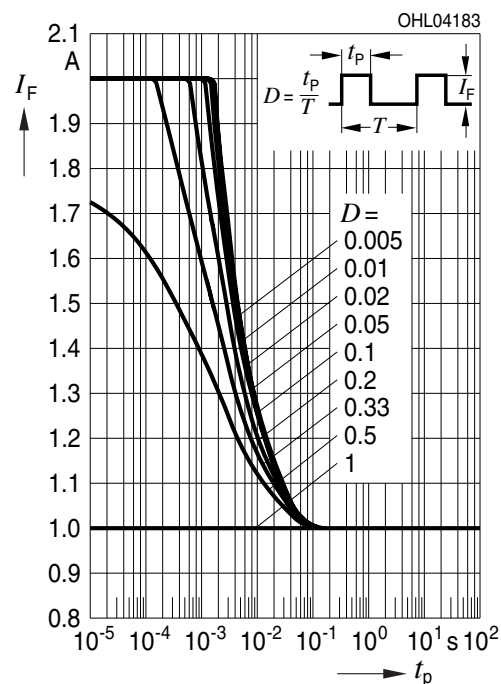
Permissible Pulse Handling Capability

$I_F = f(t_p)$; D: Duty cycle; $T_s = 25\text{ °C}$

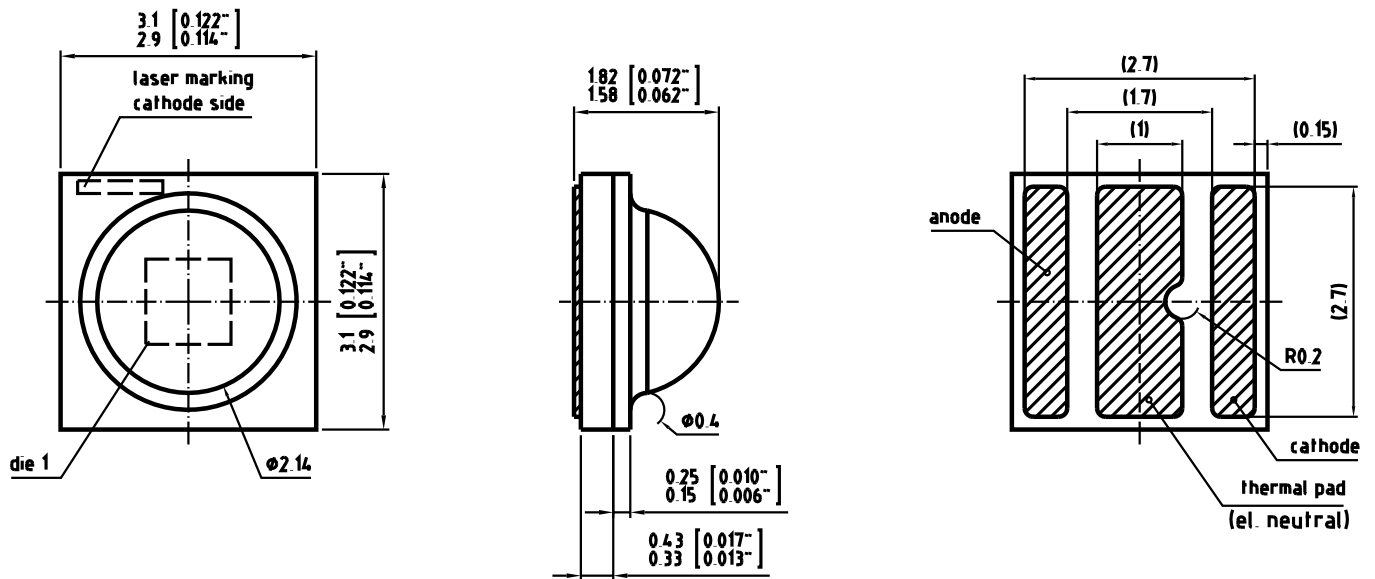


Permissible Pulse Handling Capability

$I_F = f(t_p)$; D: Duty cycle; $T_s = 85\text{ °C}$



Dimensional Drawing ⁸⁾



C63062-A4226-A1.-01

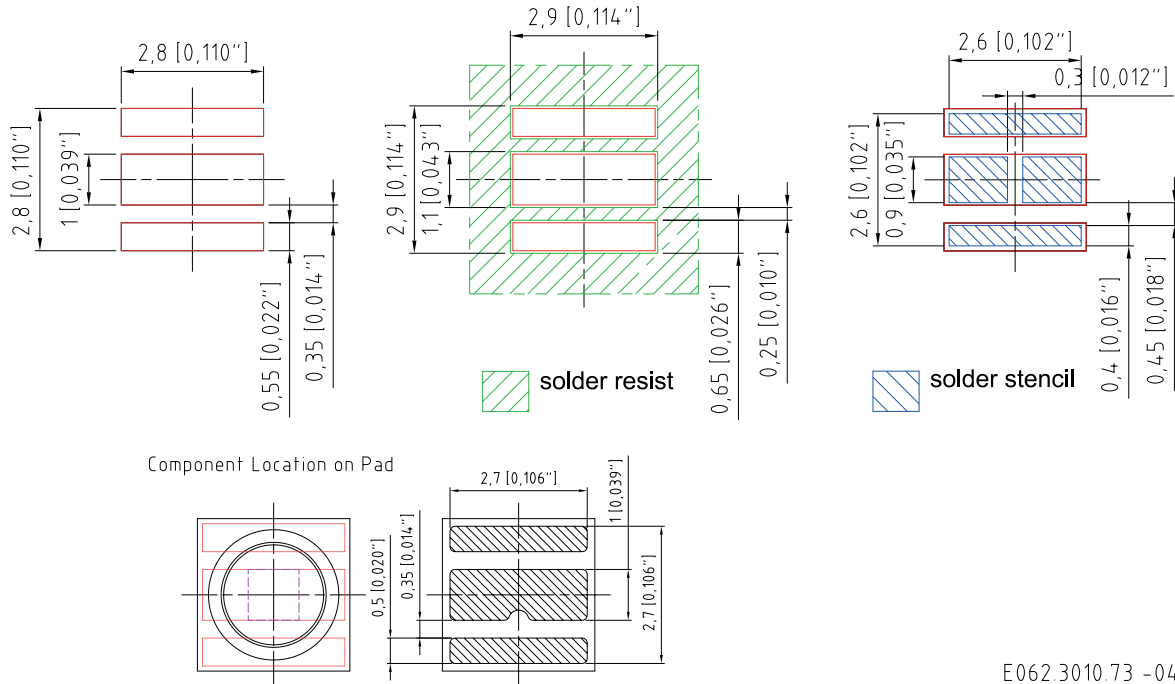
Further Information:

Approximate Weight: 25.0 mg

Corrosion test: Class: 3B
 Test condition: 40°C / 90 % RH / 15 ppm H₂S / 14 days (stricter than IEC 60068-2-43)

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

Recommended Solder Pad 8)

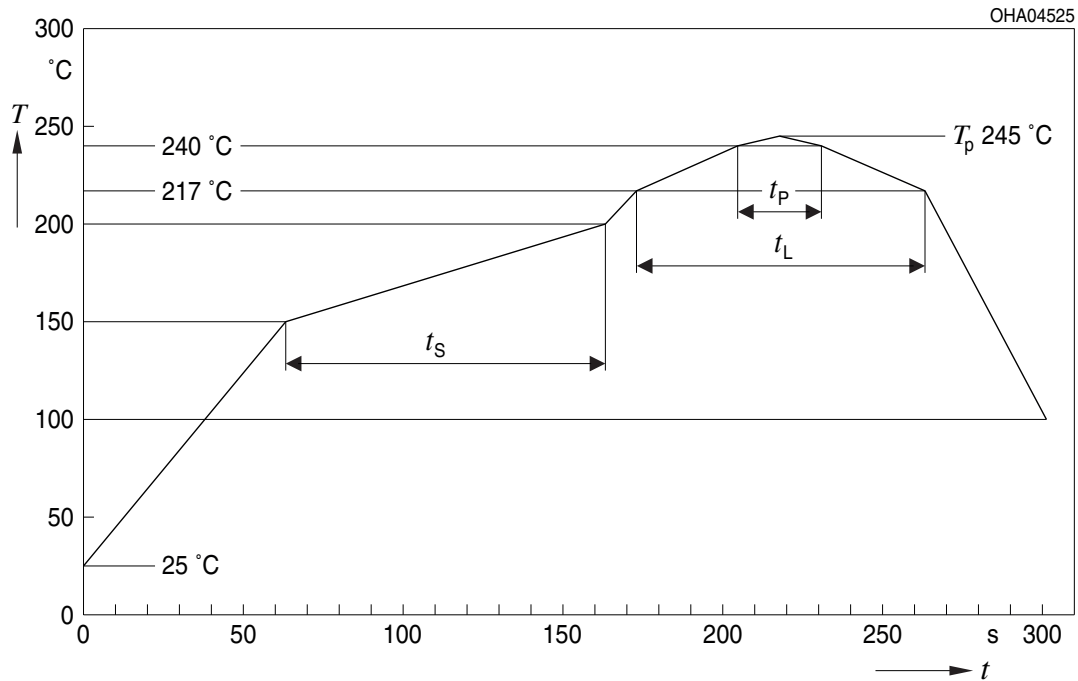


E062.3010.73 -04

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 2 acc. to JEDEC J-STD-020E

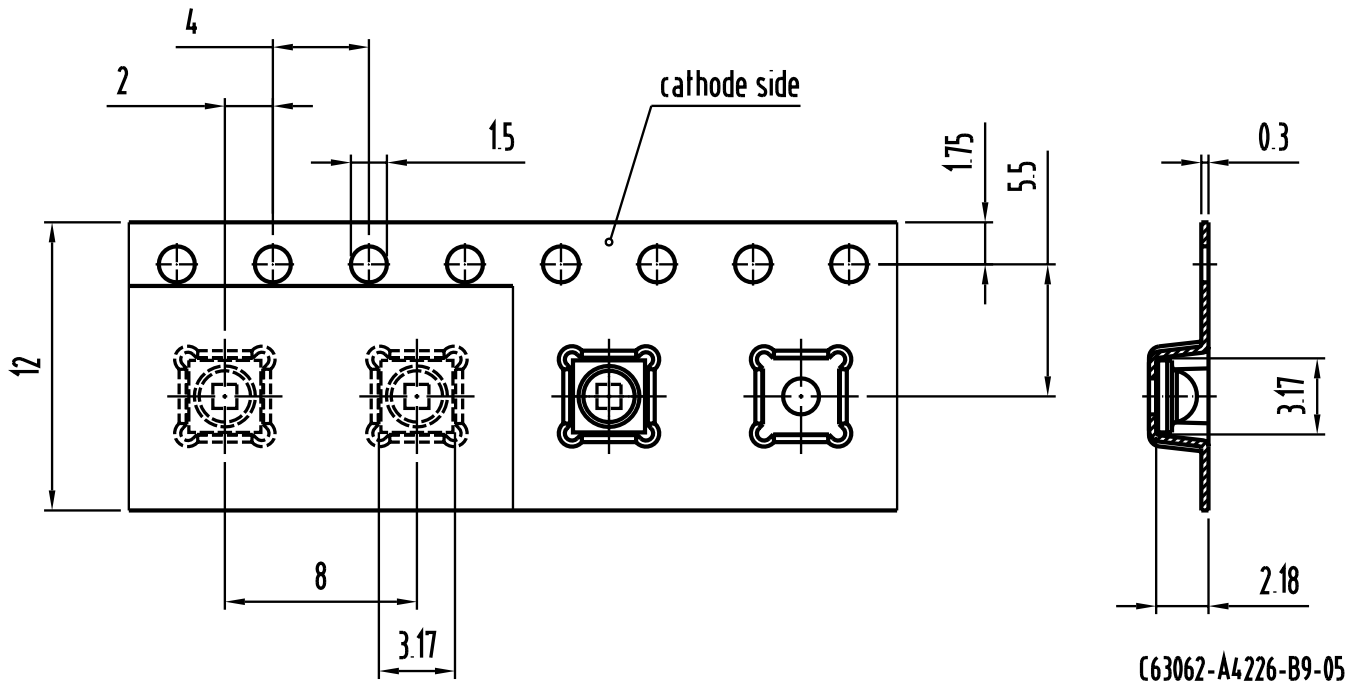


| Profile Feature | Symbol | Pb-Free (SnAgCu) Assembly | | | Unit |
|--|--------|---------------------------|----------------|---------|------|
| | | Minimum | Recommendation | Maximum | |
| Ramp-up rate to preheat ^{*)} 25 °C to 150 °C | | | 2 | 3 | K/s |
| Time t_s T_{Smin} to T_{Smax} | t_s | 60 | 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

Taping ⁸⁾



Tape and Reel ⁹⁾



Reel Dimensions

| A | W | N_{min} | W_1 | W_{2max} | Pieces per PU |
|--------|---------------------|-----------|-------------|------------|---------------|
| 180 mm | 12 + 0.3 / - 0.1 mm | 60 mm | 12.4 + 2 mm | 18.4 mm | 600 |

Barcode-Product-Label (BPL)

OSRAM Opto Semiconductors LX XXXX BIN1: XX-XX-X-XXX-X

RoHS Compliant

(6P) BATCH NO: 1234567890

(1T) LOT NO: 1234567890 (9D) D/C: 1234

(X) PROD NO: 123456789(Q)QTY: 9999 (G) GROUP: XX-XX-X-X

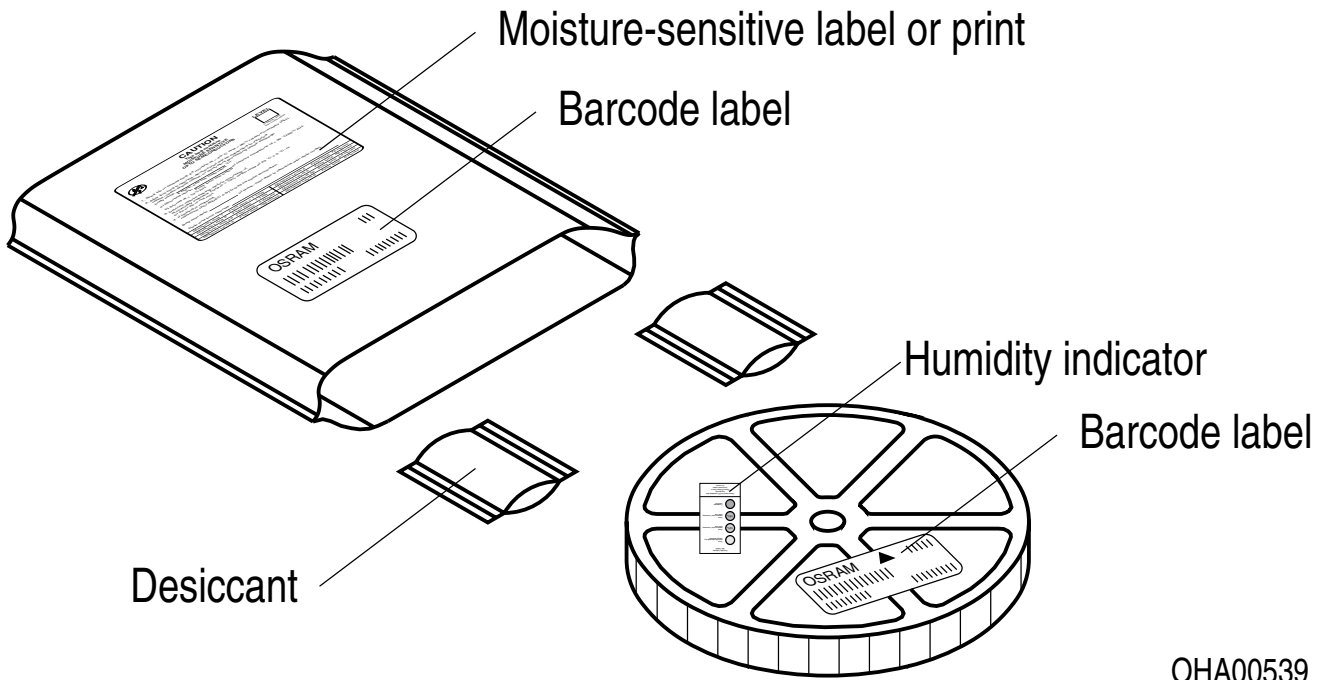
ML Temp ST
X XXX °C X

Pack: RXX
DEMY XXX
X_X123_1234.1234 X

The diagram shows a rectangular label with rounded corners. It contains the OSRAM logo and product name at the top left. To the right are fields for 'LX XXXX' and 'BIN1: XX-XX-X-XXX-X'. Below this is 'RoHS Compliant'. The main body of the label features three rows of information, each with a barcode: '(6P) BATCH NO: 1234567890', '(1T) LOT NO: 1234567890 (9D) D/C: 1234', and '(X) PROD NO: 123456789(Q)QTY: 9999 (G) GROUP: XX-XX-X-X'. To the right of the second row is a 'No Moisture' symbol (a circle with a diagonal line and three droplets) and 'ML Temp ST X XXX °C X'. Below that is 'Pack: RXX', 'DEMY XXX', and 'X_X123_1234.1234 X'. A square QR code is located on the right side of the label.

OHA04563

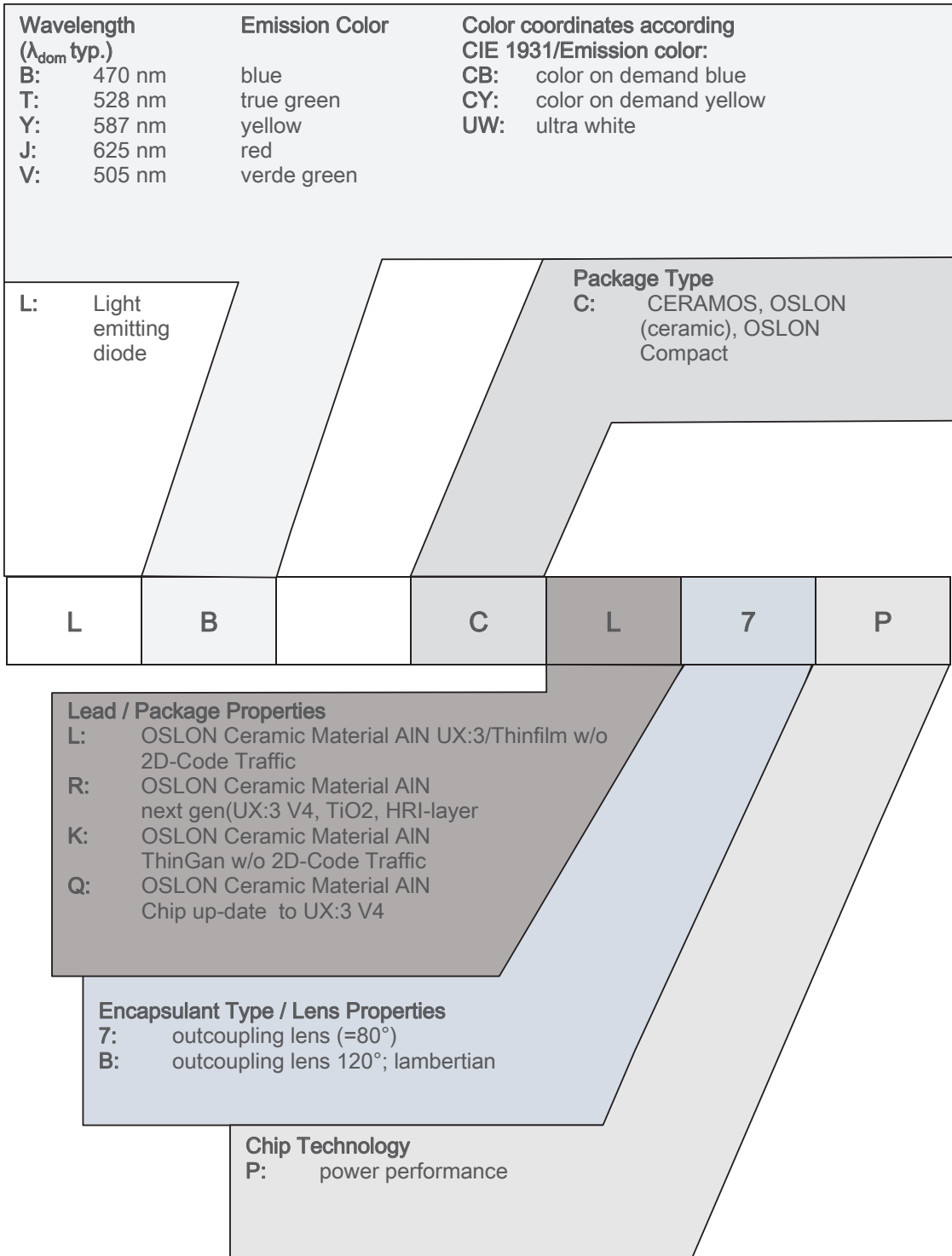
Dry Packing Process and Materials ⁸⁾



OHA00539

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

Type Designation System



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.

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 25 ms, with an internal reproducibility of $\pm 8\%$ and an expanded uncertainty of $\pm 11\%$ (acc. to GUM with a coverage factor of $k = 3$).
- 2) **Reverse Operation:** Reverse Operation of 10 hours is permissible in total. Continuous reverse operation is not allowed.
- 3) **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 $k = 3$).
- 4) **Forward Voltage:** The forward voltage is measured during a current pulse of typically 8 ms, with an internal reproducibility of $\pm 0.05\text{ V}$ and an expanded uncertainty of $\pm 0.1\text{ V}$ (acc. to GUM with a coverage factor of $k = 3$).
- 5) **Thermal Resistance:** $R_{th\ max}$ is based on statistic values (6σ).
- 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.
- 9) **Tape and Reel:** All dimensions and tolerances are specified acc. IEC 60286-3 and specified in mm.

Revision History

| Version | Date | Change |
|---------|------------|--|
| 1.7 | 2019-02-12 | New Layout Not for new design |
| 1.8 | 2019-07-19 | Not for new design removed Features Further Information |
| 1.9 | 2020-03-23 | Schematic Transportation Box Dimensions of Transportation Box |

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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。

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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Email: org@lifeelectronics.ru