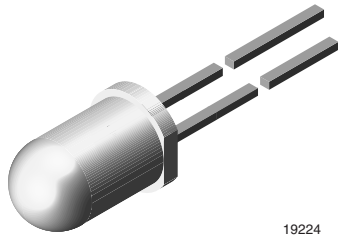


High Efficiency LED, Ø 5 mm Tinted Non-Diffused Package



19224

DESCRIPTION

The TLH.620. series was developed for standard applications like general indicating and lighting purposes.

It is housed in a 5 mm tinted non-diffused plastic package. The small viewing angle of these devices provides a high brightness.

Several selection types with different luminous intensities are offered. All LEDs are categorized in luminous intensity groups. The green and yellow LEDs are categorized additionally in wavelength groups.

That allows users to assemble LEDs with uniform appearance.

FEATURES

- Choice of three bright colors
- Standard T-1³/₄ package
- Small mechanical tolerances
- Suitable for DC and high peak current
- Small viewing angle
- Luminous intensity categorized
- Yellow and green color categorized
- TLH.620. without stand-offs
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC


RoHS
COMPLIANT

APPLICATIONS

- Status lights
- Off/on indicator
- Background illumination
- Readout lights
- Maintenance lights
- Legend light

PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Package: 5 mm
- Product series: standard
- Angle of half intensity: ± 14°

| PARTS TABLE | | |
|----------------|--|--------------|
| PART | COLOR, LUMINOUS INTENSITY | TECHNOLOGY |
| TLHG6200 | Green, I _V = 40 mcd (typ.) | GaP on GaP |
| TLHG6200-CS12 | Green, I _V = 40 mcd (typ.) | GaP on GaP |
| TLHG6200-CS12Z | Green, I _V = 40 mcd (typ.) | GaP on GaP |
| TLHR6200-CS12 | Red, I _V = 50 mcd (typ.) | GaAsP on GaP |
| TLHR6200-CS12Z | Red, I _V = 50 mcd (typ.) | GaAsP on GaP |
| TLHR6205 | Red, I _V = 70 mcd (typ.) | GaAsP on GaP |
| TLHY6200-CS12 | Yellow, I _V = 50 mcd (typ.) | GaAsP on GaP |
| TLHY6200-CS12Z | Yellow, I _V = 50 mcd (typ.) | GaAsP on GaP |

| ABSOLUTE MAXIMUM RATINGS ¹⁾ TLHR620. TLHY620. , TLHG620. | | | | |
|---|---|------------|---------------|------------------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Reverse voltage | | V_R | 6 | V |
| DC Forward current | $T_{amb} \leq 65\text{ }^\circ\text{C}$ | I_F | 30 | mA |
| Surge forward current | $t_p \leq 10\text{ }\mu\text{s}$ | I_{FSM} | 1 | A |
| Power dissipation | $T_{amb} \leq 65\text{ }^\circ\text{C}$ | P_V | 100 | mW |
| Junction temperature | | T_j | 100 | $^\circ\text{C}$ |
| Operating temperature range | | T_{amb} | - 20 to + 100 | $^\circ\text{C}$ |
| Storage temperature range | | T_{stg} | - 55 to + 100 | $^\circ\text{C}$ |
| Soldering temperature | $t \leq 5\text{ s, } 2\text{ mm from body}$ | T_{sd} | 260 | $^\circ\text{C}$ |
| Thermal resistance junction/ambient | | R_{thJA} | 350 | K/W |

Note:

¹⁾ $T_{amb} = 25\text{ }^\circ\text{C}$, unless otherwise specified

| OPTICAL AND ELECTRICAL CHARACTERISTICS ¹⁾ TLHR620., RED | | | | | | | |
|--|-------------------------------|----------|-------------|------|----------|------|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Luminous intensity ²⁾ | $I_F = 10\text{ mA}$ | TLHR6200 | I_V | 10 | 50 | | mcd |
| | | TLHR6205 | I_V | 25 | 70 | | mcd |
| Dominant wavelength | $I_F = 10\text{ mA}$ | | λ_d | 612 | | 625 | nm |
| Peak wavelength | $I_F = 10\text{ mA}$ | | λ_p | | 635 | | nm |
| Angle of half intensity | $I_F = 10\text{ mA}$ | | φ | | ± 14 | | deg |
| Forward voltage | $I_F = 20\text{ mA}$ | | V_F | | 2 | 3 | V |
| Reverse voltage | $I_R = 10\text{ }\mu\text{A}$ | | V_R | 6 | 15 | | V |
| Junction capacitance | $V_R = 0, f = 1\text{ MHz}$ | | C_j | | 50 | | pF |

Note:

¹⁾ $T_{amb} = 25\text{ }^\circ\text{C}$, unless otherwise specified

²⁾ In one packing unit $I_{Vmin.}/I_{Vmax.} \leq 0.5$

| OPTICAL AND ELECTRICAL CHARACTERISTICS ¹⁾ TLHY620., YELLOW | | | | | | | |
|---|-------------------------------|----------|-------------|------|----------|------|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Luminous intensity ²⁾ | $I_F = 10\text{ mA}$ | TLHY6200 | I_V | 10 | 50 | | mcd |
| Dominant wavelength | $I_F = 10\text{ mA}$ | | λ_d | 581 | | 594 | nm |
| Peak wavelength | $I_F = 10\text{ mA}$ | | λ_p | | 585 | | nm |
| Angle of half intensity | $I_F = 10\text{ mA}$ | | φ | | ± 14 | | deg |
| Forward voltage | $I_F = 20\text{ mA}$ | | V_F | | 2.4 | 3 | V |
| Reverse voltage | $I_R = 10\text{ }\mu\text{A}$ | | V_R | 6 | 15 | | V |
| Junction capacitance | $V_R = 0, f = 1\text{ MHz}$ | | C_j | | 50 | | pF |

Note:

¹⁾ $T_{amb} = 25\text{ }^\circ\text{C}$, unless otherwise specified

²⁾ In one packing unit $I_{Vmin.}/I_{Vmax.} \leq 0.5$

| OPTICAL AND ELECTRICAL CHARACTERISTICS ¹⁾ TLHG620., GREEN | | | | | | | |
|---|------------------------------|----------|-------------|------|----------|------|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Luminous intensity ²⁾ | $I_F = 10 \text{ mA}$ | TLHG6200 | I_V | 16 | 40 | | mcd |
| Dominant wavelength | $I_F = 10 \text{ mA}$ | | λ_d | 562 | | 575 | nm |
| Peak wavelength | $I_F = 10 \text{ mA}$ | | λ_p | | 565 | | nm |
| Angle of half intensity | $I_F = 10 \text{ mA}$ | | ϕ | | ± 14 | | deg |
| Forward voltage | $I_F = 20 \text{ mA}$ | | V_F | | 2.4 | 3 | V |
| Reverse voltage | $I_R = 10 \mu\text{A}$ | | V_R | 6 | 15 | | V |
| Junction capacitance | $V_R = 0, f = 1 \text{ MHz}$ | | C_j | | 50 | | pF |

Note:

¹⁾ $T_{amb} = 25 \text{ }^\circ\text{C}$, unless otherwise specified

²⁾ In one packing unit $I_{Vmin.}/I_{Vmax.} \leq 0.5$

TYPICAL CHARACTERISTICS

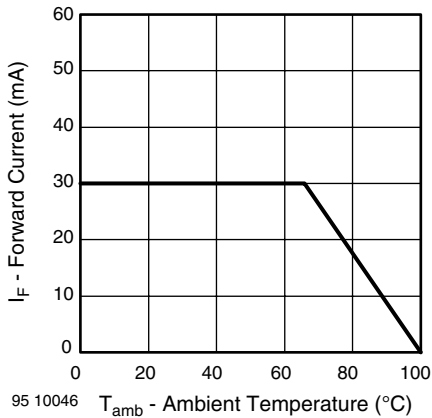
 $T_{amb} = 25 \text{ }^\circ\text{C}$, unless otherwise specified


Figure 1. Forward Current vs. Ambient Temperature

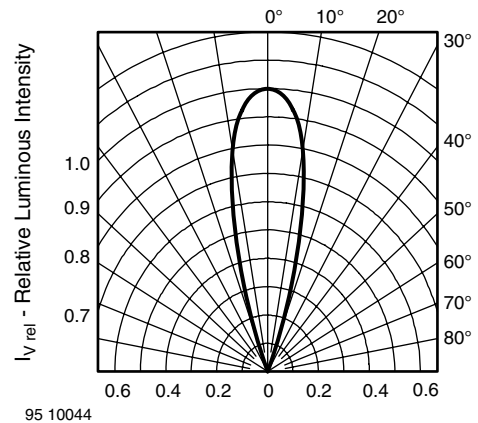


Figure 3. Rel. Luminous Intensity vs. Angular Displacement

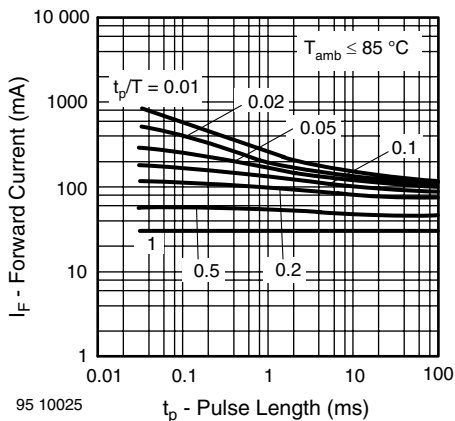


Figure 2. Forward Current vs. Pulse Length

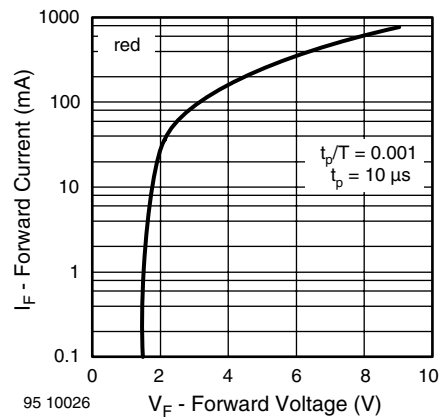


Figure 4. Forward Current vs. Forward Voltage

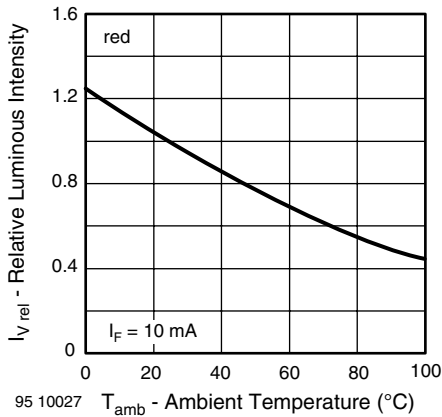


Figure 5. Rel. Luminous Intensity vs. Ambient Temperature

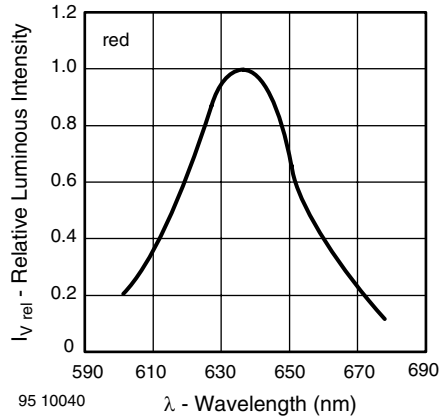


Figure 8. Relative Intensity vs. Wavelength

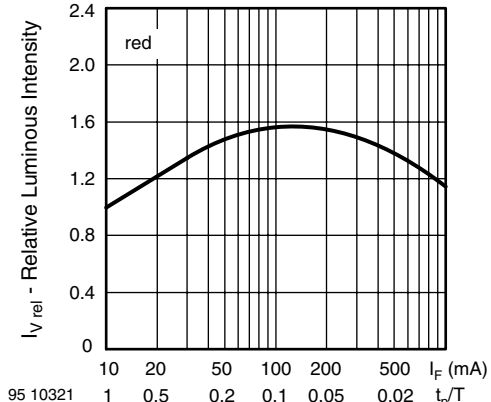


Figure 6. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

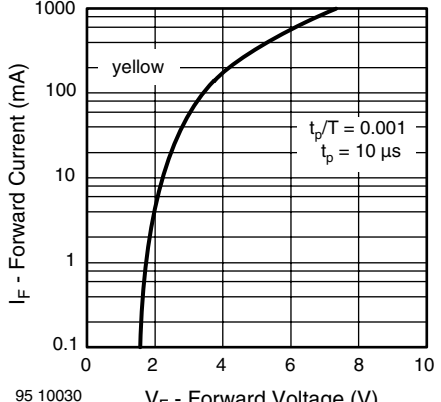


Figure 9. Forward Current vs. Forward Voltage

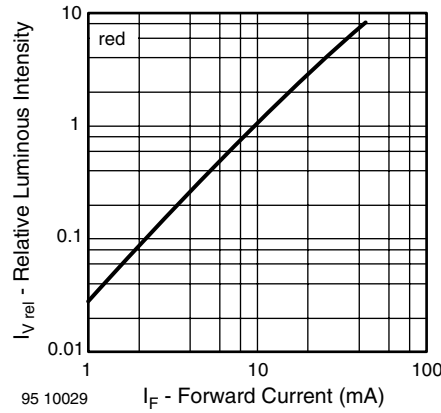


Figure 7. Relative Luminous Intensity vs. Forward Current

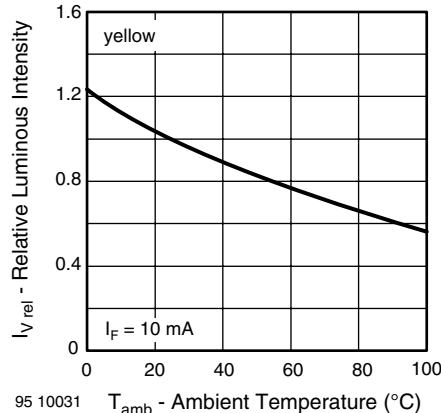


Figure 10. Rel. Luminous Intensity vs. Ambient Temperature

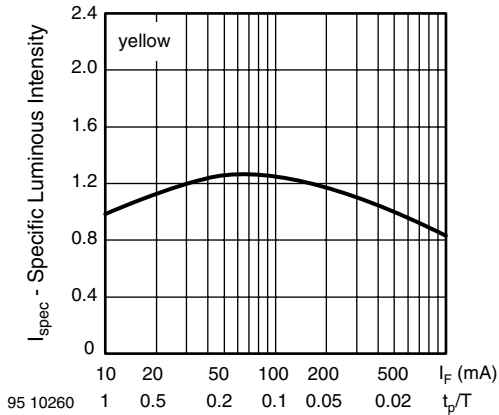


Figure 11. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

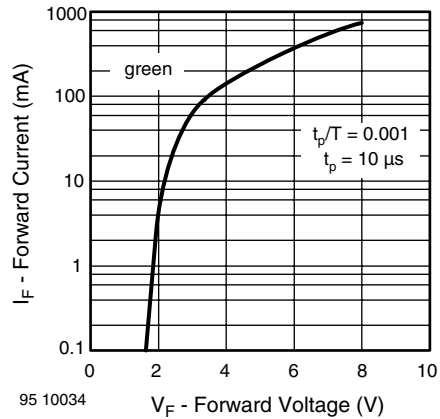


Figure 14. Forward Current vs. Forward Voltage

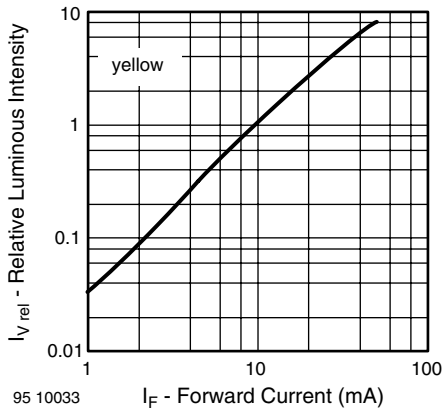


Figure 12. Relative Luminous Intensity vs. Forward Current

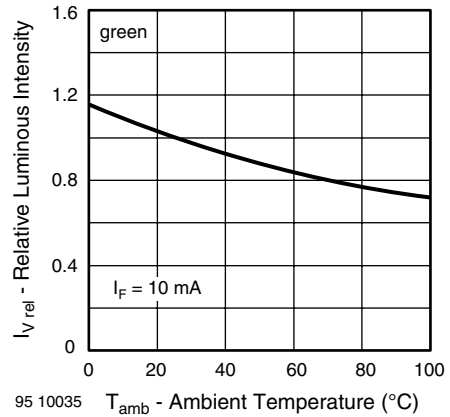


Figure 15. Rel. Luminous Intensity vs. Ambient Temperature

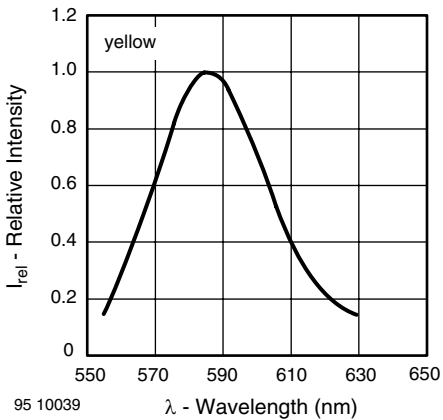


Figure 13. Relative Intensity vs. Wavelength

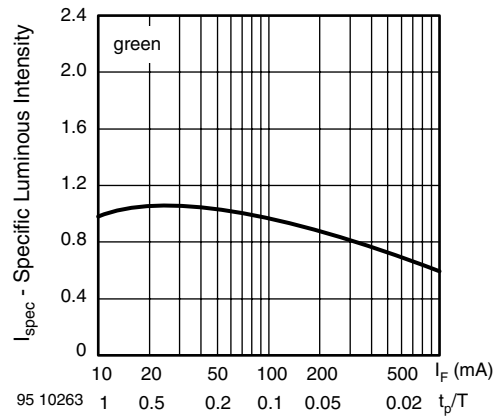


Figure 16. Specific Luminous Intensity vs. Forward Current

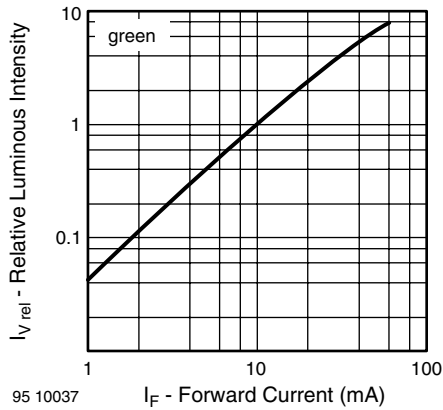


Figure 17. Relative Luminous Intensity vs. Forward Current

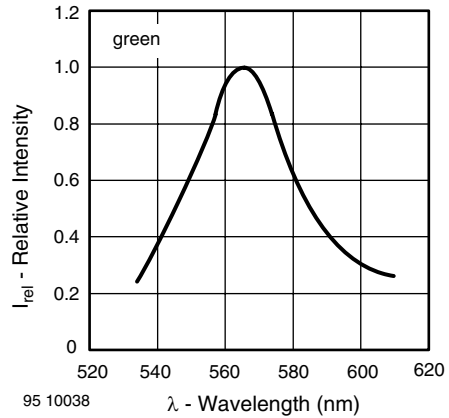
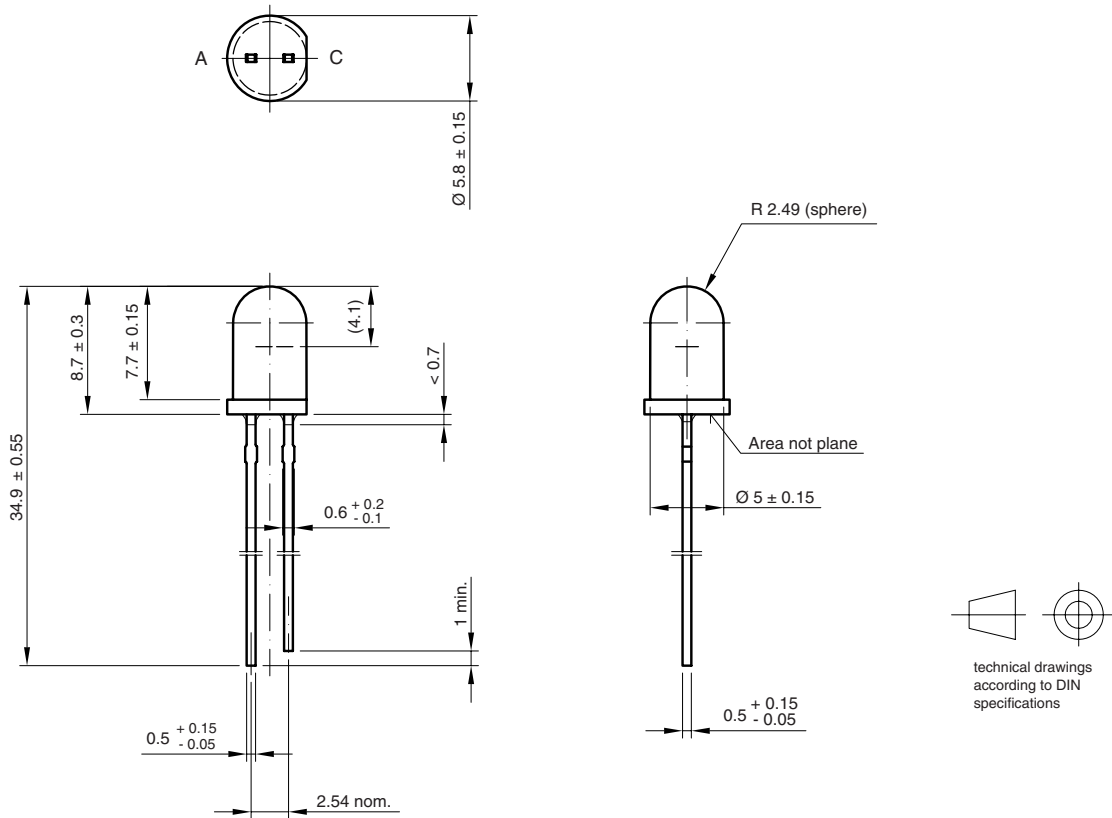


Figure 18. Relative Intensity vs. Wavelength

PACKAGE DIMENSIONS in millimeters



6.544-5259.01-4
Issue: 4; 19.05.09
96 12123

REEL



Figure 19. Reel Dimensions

AS12 = cathode leaves tape first
AS21 = anode leaves tape first

AMMOPACK



Figure 21. Tape Direction

Note:
AS12Z and AS21Z still valid for already existing types BUT NOT FOR NEW DESIGN

TAPE

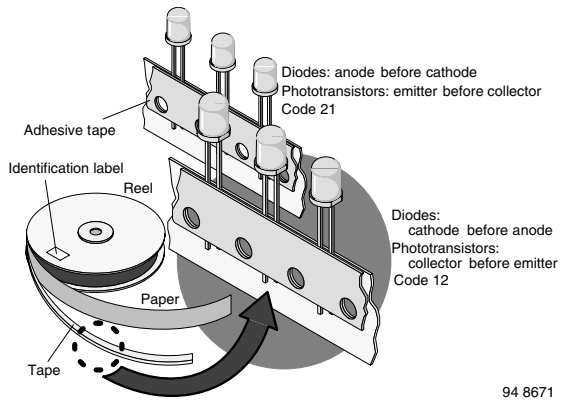


Figure 20. LED in Tape

TAPE DIMENSIONS



| | |
|---------------|-------------------------|
| Quantity per: | Reel (Mat.-no. 1764) |
| | 1000 |

94 8172

| | |
|--------|-----------------------|
| Option | Dim. "H" ± 0.5 mm |
| CS | 22.0 |



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- 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).
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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
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