Taiwan Oasis Technology Co., Ltd.
李洲科技股份有限公司

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SMD LED
LAMP LED
HIGH POWER
Product Catalogue
### SMD LED

**Back Light**
- TO-3806 10
- TO-3020 10
- TO-5730 11

**Lighting**
- TO-3228 11
- TO-3528 11
- TO-2835 12
- TO-5050 13
- TO-5730 14

**Side View**
- PLCC 2808 Package 15
- TO-2808 15
- PLCC 3806 Package 15
- TO-3806 15

**Top View**
- PLCC 3228 Package 16
- TO-3228 16
- TO-3528 16
- PLCC 5050 Package 16
- TO-5050 16

### Chip
- PCB 1005 Package 19
- TO-1005 19
- TO-1608 19
- TO-1608 19
- TO-706 Package 20
- TO-2013 Package 20
- TO-3010 Package 21
- TO-3216 Package 21
- TO-1615 Package 22
- TO-3227 Package 22

### Lamp LED

**3mm Series**
- 3mm Round 26
- 3mm Concave & Oval 26
- TOL-34 26
- TOL-36 27

**5mm Series**
- 5mm Round 27
- 5mm Concave & Oval 27
- TOL-50 28
- TOL-56 28

**Special Models**
- 4.8mm 29
- TOL-4B 29
- 8mm Round 29
- TOL-80 29
- 10mm Round 29
- TOL-A03 29
- Rectangular 29
- TOL-C9 30
Introduction

Taiwan Oasis Technology Co., Ltd., was established by Mr. Ming-Shun Lee in 1974 with an ideal to provide the marketplace simplicity, integrity reliability, progress, precision, and innovation.

The company started its life initially as a dedicated downstream LED technology manufacturing service focused on items such as plastic molding, injection, and packing.

As OasisTek expanded its business vertically and upgraded its competencies, it soon began to move into producing a complete range of products, such as High Power LEDs, LAMP LEDs, SMD LEDs, LED Displays and Lighting. Additionally, OasisTek also offers customization manufacturing services to help customers' meet their sales targets.

InLED recent years, OasisTek has proudly introduced its LED Video Display and Lumichain™ series to the marketplace. OasisTek has been applauded globally and is reputed as a pioneer in Taiwan for being the 1st Taiwanese LED manufacturer to consistently supply the Japanese market.

Today, OasisTek's complete product line-up is now well represented worldwide and is globally known for their quality and cutting-edge technology. Delivering a full range of services and meeting customers' need is its mission and OasisTek is sincerely inviting you to be a partner and step forward together.

Milestones

- 2016  The New headquarter has been relocated to U-Town Building in Xizhi Dist., New Taipei City.
- 2015  All new LED Spot Light product has been published.
- 2013  "The winner of Transformation and Upgrading of the processing Trade Industry Award held in Dongguan China, power was commended.
- 2012  Increase the new production line, the production capacity increased by more than 40KKM, Established an independent R&D department, the main R&D direction is illumination and backlight.
- 2011  Set up offices in Shenzhen and Qingdao and build up a unique channel marketing model.
- 2010  Launched a series of interior commercial lighting products.
- 2008  "Launched "Star Vesel" which is functional and designing outdoor street light.
- 2009  "Adopted a new brand identity "OasisTek" and a renewed spirit.
- 2007  "Begain offering full product range from LEDs components to LED Video Displays.
- 2003  "Inaugurated fully automated line for LED Display production.
- 2001  "Renamed to Taiwan Oasis Technology Co., Ltd. "QS 9000 Certified.
- 1996  "Kwei Shan, Taiwan factory completed. "Completed LED products launched.
- 1990  "Dong-Guan, China factory completed. "Patent awarded for assembling exchangeable plastic injection mold structures.
- 1989  "Chung-Ji, Taiwan factory completed. "Manufacturing of LED Indicators and LED Displays.
- 1984  "Nan-Ken, Taiwan Factory No.2 completed. "PCB Manufacturing.
- 1980  "Nan-Ken, Taiwan Factory No.1 completed. "Manufacturing of Plastic Molds, Plastic injections and, Reflectors for LED.
- 1974  "Taiwan Oasis Enterprise Co., Ltd. founded.

Product Line

1. LED Component Group
   - LED Lamps
   - SMD LED
   - Holder Lamp
   - LED Display
     - Seven Segment
     - Alphanumeric
     - Light Bar
     - Dot Matrix

2. Lighting Module Group
   - Lamp / Display Module
   - Backlight Module
   - Traffic Signal Module
   - Street Lamp Module

3. System Group
   - LED Cluster

4. Extended Customization Group
   - Mold
   - Plastic
   - Reflector
   - Light-guide Plate
   - Backlight Hood
   - LED Through Holder
   - LED Cover Part
   - PCB
SMD LED
TO-2835SWNQ-H1-E

1. Taiwan OasisTek

2. Illumination Color Code
   - SW: 5000-5000K
   - FW: 3100-5000K
   - TW: 2600-3500K

3. CRI Index
   - N: Ra>90
   - M: Ra>75
   - L: Ra>70

4. Viewing Angle
   - N = 20°
   - Q = 40°
   - P = 90°
   - Q = 120°
   - A = 140°
   - S = 175°
   - X = None

5. Packaging Lens Type
   - C = Small Size Chip
   - D = Small Size Chip
   - E = Medium-size Chip
   - F = Medium-sized Chip
   - H = Medium-power Chip

6. Special Type (Option)
   - B = Rubbing-up series (Black surface)
   - BU = Reverse Packaging series
   - E = Add anti-reflection coating
   - A = Triple crystal white light material, Anode connected and Cathode soldered separate
   - N = Reversed polarity material (chip)

Bi-Color
TO-3228BC-MRMGFF

1. Taiwan OasisTek

2. Package Dimension and Type
   - Code: Dimension and Lens Type
   - 3228: [3.2mm x 2.8mm] Frame Type
   - 3620: [3.0mm x 2.8mm] Frame Type
   - 3950: [2.8mm x 2.8mm] Frame Type
   - 2806: [2.8mm x 0.8mm] Side Emitting
   - 3406: [3.8mm x 0.8mm] Side Emitting

3. Lens Type
   - Code: Lens Type
   - A = Dome
   - B = Plane
   - S = Side View
   - T = Thin Thickness (0.4mm for 1608 Package)
   - D = Special Thickness (0.6mm)
   - K = Black Plane

4. Lens Color
   - Code: Lens Color
   - C = Water Clear
   - D = Color Diffused
   - R = Red Diffused (Fluorescent)
   - G = Green Diffused (Fluorescent)
   - Y = Yellow Diffused (Fluorescent)
   - W = White Diffused
   - T = Color Transparent
   - F = Use Phosphors

5. Emitting Color Code
   - Single chip
     - Code: Color & Material
     - V = Violet (GaN/NC): 405
     - B = Blue (GaN/CdS): 468
     - RC = Rich Green (GaN/CdS): 595
     - R = Pure Red (GaN/CdS): 625
     - G = Yellow Green (GaP): 570
     - MG = High Bright Green (AlGaNP): 572
     - Y = Yellow (GaP/CdS): 585
     - M = High Bright Yellow (AlGaNP): 592
     - MA = High Bright Amber (AlGaNP): 605
     - ME = High Bright Orange (AlGaNP): 633
     - E = Orange (GaP/CdS): 630
     - ME = High Bright Red (AlGaNP): 630
     - MB = High Bright Red (AlGaNP): 640
     - R = Red (GaP): 700

   - Multi-chip
     - Code: Combination of above chip codes

6. Brightness Code
   - Code: Typical Luminous Intensity (cd)
     - A = 0.1-2.2
     - B = 2.2-4.5
     - C = 4.5-7.5
     - D = 7.5-11.0
     - E = 11.0-14.0
     - F = 14.0-17.0
     - G = 17.0-21.0
     - H = 21.0-30.0
     - K = 30.0-340.0
     - M = 340.0-370.0

Tri-Color
TO-3228BC-MRPBGF

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   - Code: Dimension and Lens Type
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     - A = 0.1-2.2
     - B = 2.2-4.5
     - C = 4.5-7.5
     - D = 7.5-11.0
     - E = 11.0-14.0
     - F = 14.0-17.0
     - G = 17.0-21.0
     - H = 21.0-30.0
     - K = 30.0-340.0
     - M = 340.0-370.0
### Back Light LED Color Bins

#### TO-3806

| Chromaticity Bin | X    | 0.2738 | 0.2786 | 0.2772 | 0.2674 | 0.2674 | 0.2730 |
|                 | Y    | 0.2589 | 0.2675 | 0.2555 | 0.2579 | 0.2639 |        |
|                 | C04  | 0.2674 | 0.2722 | 0.2618 | 0.261 | 0.264 |
|                 | C05  | 0.2279 | 0.2555 | 0.2445 | 0.2469 | 0.2579 |
|                 | C06  | 0.261 | 0.2658 | 0.2534 | 0.2546 | 0.261 |
|                 | D07  | 0.2439 | 0.2453 | 0.2335 | 0.2399 | 0.2479 |
|                 | D08  | 0.2546 | 0.2594 | 0.253 | 0.2482 | 0.2546 |
|                 | D09  | 0.2339 | 0.2371 | 0.2195 | 0.2278 | 0.2339 |

#### TO-3020

| Chromaticity Bin | X    | 0.2802 | 0.2833 | 0.2866 | 0.2818 | 0.2862 |
|                 | Y    | 0.3093 | 0.3039 | 0.2939 | 0.2963 | 0.3093 |
|                 | C01  | 0.2818 | 0.2866 | 0.2802 | 0.2754 | 0.2818 |
|                 | C02  | 0.2849 | 0.2879 | 0.2819 | 0.2849 | 0.2849 |
|                 | C03  | 0.2754 | 0.2882 | 0.2736 | 0.2769 | 0.2754 |
|                 | C04  | 0.2945 | 0.2979 | 0.2936 | 0.2973 | 0.2945 |
|                 | C05  | 0.2565 | 0.2794 | 0.2674 | 0.2626 | 0.2565 |
|                 | C13  | 0.2387 | 0.2546 | 0.2438 | 0.2462 | 0.2387 |
|                 | C14  | 0.2489 | 0.2659 | 0.2369 | 0.2483 | 0.2489 |
|                 | C11  | 0.2408 | 0.2546 | 0.2482 | 0.2434 | 0.2408 |
|                 | C12  | 0.2363 | 0.2399 | 0.2219 | 0.2243 | 0.2363 |
|                 | C01  | 0.263 | 0.2578 | 0.2516 | 0.2565 | 0.263 |
|                 | C02  | 0.2466 | 0.2614 | 0.2595 | 0.2665 |
|                 | C03  | 0.2549 | 0.2515 | 0.2581 | 0.259 |
|                 | C04  | 0.2802 | 0.2831 | 0.2798 | 0.2739 | 0.2802 |
|                 | C05  | 0.2819 | 0.2795 | 0.2831 | 0.2866 | 0.2819 |

### Features
- 3.9mm x 4.9mm x 1.8mm
- High efficiency LED - K compatible
- Compatible with automatic placement equipment
- Compatible with infrared and phase change reflow solder process

### Application
- Backlight

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#### TO-3806 Product Catalog

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Wavelength λ (nm)</th>
<th>Color</th>
<th>Emitting Color</th>
<th>Forward Voltage (V)</th>
<th>Test Condition (mA)</th>
<th>IV(mA)</th>
<th>Forward Angle (°)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TO-3806CW-Q-01</td>
<td>0.255/0.285</td>
<td>White</td>
<td>2.4-3.4</td>
<td>20</td>
<td>2300</td>
<td>2-2600</td>
<td>120</td>
</tr>
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</table>

#### TO-3020 Product Catalog

<table>
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<th>Part Number</th>
<th>Wavelength λ (nm)</th>
<th>Color</th>
<th>Emitting Color</th>
<th>Forward Voltage (V)</th>
<th>Test Condition (mA)</th>
<th>IV(mA)</th>
<th>Forward Angle (°)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TO-3020CW-Q-01</td>
<td>0.220/0.255</td>
<td>White</td>
<td>2.4-3.4</td>
<td>20</td>
<td>2300</td>
<td>2-2600</td>
<td>120</td>
</tr>
</tbody>
</table>
### TO-5730

**Features**
- 5.7mm x 3.9mm x 2.1mm
- High efficiency LED
- IC compatible
- Compatible with automatic placement equipment
- Compatible with the steady state after soldering process

**Application**
- General lighting

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Wavelength (μm)</th>
<th>Emitting Color</th>
<th>Forward Voltage (V)</th>
<th>Test Current (mA)</th>
<th>Evid (lm)</th>
<th>Viewing Angle (°)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TO-5730WCLQ-11</td>
<td>395/395.255</td>
<td>White</td>
<td>2.8-3.4</td>
<td>120</td>
<td>13300-15400</td>
<td>120</td>
</tr>
<tr>
<td>TO-5730WCLQ-12</td>
<td>395/395.255</td>
<td>White</td>
<td>2.8-3.4</td>
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<td>15156-18450</td>
<td>120</td>
</tr>
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<td>TO-5730WCLQ-13</td>
<td>395/395.255</td>
<td>White</td>
<td>2.8-3.4</td>
<td>120</td>
<td>15756-18500</td>
<td>120</td>
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<td>TO-5730WCLQ-14</td>
<td>395/395.255</td>
<td>White</td>
<td>2.8-3.4</td>
<td>120</td>
<td>15756-18500</td>
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</tr>
</tbody>
</table>

### TO-2835

**Features**
- 5.5mm x 2.4mm x 0.4mm
- High efficiency LED
- IC compatible
- Compatible with automatic placement equipment
- Compatible with the steady state after soldering process

**Application**
- General lighting

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Wavelength (μm)</th>
<th>Emitting Color</th>
<th>Forward Voltage (V)</th>
<th>Test Current (mA)</th>
<th>μω[2000]</th>
<th>Viewing Angle (°)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TO-2835WCLQ-H1</td>
<td>347/347.40</td>
<td>Warm White</td>
<td>230-250</td>
<td>60</td>
<td>8730-10830</td>
<td>120</td>
</tr>
<tr>
<td>TO-2835WCLQ-H2</td>
<td>347/347.40</td>
<td>Warm White</td>
<td>230-250</td>
<td>60</td>
<td>5216-7315</td>
<td>120</td>
</tr>
<tr>
<td>TO-2835WCLQ-H3</td>
<td>347/347.40</td>
<td>Warm White</td>
<td>230-250</td>
<td>60</td>
<td>50515-71850</td>
<td>120</td>
</tr>
</tbody>
</table>

### TO-3228 TO-3528

**Features**
- 3.5mm x 2.8mm x 0.9mm
- High efficiency LED
- IC compatible
- Compatible with automatic placement equipment
- Compatible with the steady state after soldering process

**Application**
- General lighting

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Wavelength (μm)</th>
<th>Emitting Color</th>
<th>Forward Voltage (V)</th>
<th>Test Current (mA)</th>
<th>μω[2000]</th>
<th>Viewing Angle (°)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TO-3228THLQ-Z2</td>
<td>365/365.40</td>
<td>Warm White</td>
<td>2600K-3700K</td>
<td>6.5</td>
<td>70</td>
<td>120</td>
</tr>
<tr>
<td>TO-3228THLQ-Z1</td>
<td>370/370.37</td>
<td>Neutral White</td>
<td>3500K-5000K</td>
<td>7.5</td>
<td>70</td>
<td>120</td>
</tr>
<tr>
<td>TO-3228THLQ-Z1</td>
<td>370/370.37</td>
<td>Cool White</td>
<td>4000K-5500K</td>
<td>7.5</td>
<td>70</td>
<td>120</td>
</tr>
<tr>
<td>TO-3228THLQ-Z2</td>
<td>350/350.40</td>
<td>Warm White</td>
<td>2600K-3700K</td>
<td>8</td>
<td>80</td>
<td>120</td>
</tr>
<tr>
<td>TO-3228THLQ-Z2</td>
<td>350/350.40</td>
<td>Neutral White</td>
<td>3500K-5000K</td>
<td>8</td>
<td>80</td>
<td>120</td>
</tr>
<tr>
<td>TO-3228THLQ-Z2</td>
<td>350/350.40</td>
<td>Cool White</td>
<td>4000K-5500K</td>
<td>8</td>
<td>80</td>
<td>120</td>
</tr>
</tbody>
</table>
TO-5050

Features:
- 1.8mm x 1.8mm x 1.55mm
- High efficiency LED
- K-compliant
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.

Application:
- General lighting

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Wavelength 6[mm]</th>
<th>Emitting Color</th>
<th>Color Temperature</th>
<th>Forward Voltage (V)</th>
<th>Test Condition (mA)</th>
<th>Fill Factor (Lm/W)</th>
<th>CCT (K)</th>
<th>Test Angles (°)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TO-5050W1Q-J2</td>
<td>0.435/4.0</td>
<td>Warm White</td>
<td>2600K-3500K</td>
<td>22 70</td>
<td>22 70</td>
<td>22 70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TO-5050W1Q-J2</td>
<td>0.37/3.37</td>
<td>Neutral White</td>
<td>3500K-5000K</td>
<td>24 70</td>
<td>24 70</td>
<td>24 70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TO-5050W1Q-J2</td>
<td>0.435/4.0</td>
<td>Cool White</td>
<td>5000K-5700K</td>
<td>22 80</td>
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<td></td>
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<tr>
<td>TO-5050W1Q-J2</td>
<td>0.37/3.37</td>
<td>Neutral White</td>
<td>3500K-5000K</td>
<td>24 80</td>
<td>24 80</td>
<td>24 80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TO-5050W1Q-J2</td>
<td>0.435/4.0</td>
<td>Cool White</td>
<td>5000K-5700K</td>
<td>22 80</td>
<td>22 80</td>
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<tr>
<td>TO-5050W1Q-J2</td>
<td>0.37/3.37</td>
<td>Neutral White</td>
<td>3500K-5000K</td>
<td>24 80</td>
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<td>TO-5050W1Q-J2</td>
<td>0.435/4.0</td>
<td>Cool White</td>
<td>5000K-5700K</td>
<td>22 80</td>
<td>22 80</td>
<td>22 80</td>
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</tr>
</tbody>
</table>

TO-5730

Features:
- 2.7mm x 3.8mm x 0.8mm
- High efficiency LED
- K-compliant
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.

Application:
- General lighting
- Backlight

<table>
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<tr>
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<th>Wavelength 6[mm]</th>
<th>Emitting Color</th>
<th>Color Temperature</th>
<th>Forward Voltage (V)</th>
<th>Test Condition (mA)</th>
<th>Fill Factor (Lm/W)</th>
<th>CCT (K)</th>
<th>Test Angles (°)</th>
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<tbody>
<tr>
<td>TO-5730W1Q-J1</td>
<td>0.435/4.0</td>
<td>Warm White</td>
<td>2600K-3500K</td>
<td>22 70</td>
<td>22 70</td>
<td>22 70</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>Neutral White</td>
<td>3500K-5000K</td>
<td>24 80</td>
<td>24 80</td>
<td>24 80</td>
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<tr>
<td>TO-5730W1Q-J1</td>
<td>0.435/4.0</td>
<td>Cool White</td>
<td>5000K-5700K</td>
<td>22 80</td>
<td>22 80</td>
<td>22 80</td>
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</tr>
<tr>
<td>TO-5730W1Q-J1</td>
<td>0.37/3.37</td>
<td>Neutral White</td>
<td>3500K-5000K</td>
<td>24 80</td>
<td>24 80</td>
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<tr>
<td>TO-5730W1Q-J1</td>
<td>0.435/4.0</td>
<td>Cool White</td>
<td>5000K-5700K</td>
<td>22 80</td>
<td>22 80</td>
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</table>

TO-5730 | 0.2W/60mA |

TO-5730 | 0.5W/100mA |

TO-5730 | 1.0W/150mA |
### TO-2808

**PLCC 2808 Package**

**Features**
- 2.0mm x 0.8mm x 1.2mm
- High efficiency LED
- Low power consumption
- Wide viewing angle
- Various color available

**Applications**
- LCD backlight
- Indicator light

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Material</th>
<th>Emitting Color</th>
<th>$V_{F}(V)$ at $I_{F}=20mA$</th>
<th>$I_{F(20mA)}$ at $T=25^\circ C$</th>
<th>Viewing Angle 280°</th>
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<tbody>
<tr>
<td>TO-2808SC-MT</td>
<td>InGaNP</td>
<td>Blue</td>
<td>4.86</td>
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<td>TO-2808SC-MT</td>
<td>InGaNP</td>
<td>Pure Green</td>
<td>525</td>
<td>3.2, 3.6, 148, 281</td>
<td>120</td>
</tr>
<tr>
<td>TO-2808SC-MG</td>
<td>AlGaNP</td>
<td>High Brightness</td>
<td>172</td>
<td>2.0, 2.4, 51, 96</td>
<td>120</td>
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<tr>
<td>TO-2808SC-MY</td>
<td>AlGaNP</td>
<td>High Brightness</td>
<td>530</td>
<td>2.0, 2.4, 148, 281</td>
<td>120</td>
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<tr>
<td>TO-2808SC-MR</td>
<td>AlGaNP</td>
<td>High Brightness</td>
<td>630</td>
<td>1.9, 2.4, 51, 96</td>
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### TO-3228

**TO-3528 PLCC 3228 Package**

**Single Color**

<table>
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<th>Part Number</th>
<th>Material</th>
<th>Emitting Color</th>
<th>$V_{F}(V)$ at $I_{F}=20mA$</th>
<th>$I_{F(20mA)}$ at $T=25^\circ C$</th>
<th>Viewing Angle 280°</th>
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<tbody>
<tr>
<td>TO-3228SC-9F</td>
<td>InGaNP</td>
<td>Blue</td>
<td>4.68</td>
<td>3.3, 3.6, 146, 281</td>
<td>120</td>
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<tr>
<td>TO-3228SC-PG</td>
<td>InGaNP</td>
<td>Pure Green</td>
<td>525</td>
<td>3.3, 3.6, 146, 281</td>
<td>120</td>
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<tr>
<td>TO-3228SC-MG</td>
<td>AlGaNP</td>
<td>High Brightness</td>
<td>172</td>
<td>2.0, 2.4, 51, 96</td>
<td>120</td>
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<tr>
<td>TO-3228SC-MY</td>
<td>AlGaNP</td>
<td>High Brightness</td>
<td>530</td>
<td>2.0, 2.4, 146, 281</td>
<td>120</td>
</tr>
<tr>
<td>TO-3228SC-MR</td>
<td>AlGaNP</td>
<td>High Brightness</td>
<td>630</td>
<td>1.9, 2.4, 51, 96</td>
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### TO-3806

**PLCC 3806 Package**

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<th>Material</th>
<th>Emitting Color</th>
<th>$V_{F}(V)$ at $I_{F}=20mA$</th>
<th>$I_{F(20mA)}$ at $T=25^\circ C$</th>
<th>Viewing Angle 280°</th>
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</thead>
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<tr>
<td>TO-3806SC-9F</td>
<td>InGaNP</td>
<td>Blue</td>
<td>4.68</td>
<td>3.2, 3.6, 300</td>
<td>120</td>
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<tr>
<td>TO-3806SC-PG</td>
<td>InGaNP</td>
<td>Pure Green</td>
<td>525</td>
<td>3.2, 3.6, 400</td>
<td>120</td>
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<tr>
<td>TO-3806SC-MG</td>
<td>AlGaNP</td>
<td>High Brightness</td>
<td>172</td>
<td>2.0, 2.4, 60</td>
<td>120</td>
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<tr>
<td>TO-3806SC-MY</td>
<td>AlGaNP</td>
<td>High Brightness</td>
<td>530</td>
<td>2.0, 2.4, 105</td>
<td>120</td>
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<tr>
<td>TO-3806SC-MR</td>
<td>AlGaNP</td>
<td>High Brightness</td>
<td>630</td>
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### TO-3228

**TO-3528 PLCC 3228 Package**

**Double Color**

<table>
<thead>
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<th>Part Number</th>
<th>Material</th>
<th>Emitting Color</th>
<th>$V_{F}(V)$ at $I_{F}=20mA$</th>
<th>$I_{F(20mA)}$ at $T=25^\circ C$</th>
<th>Viewing Angle 280°</th>
</tr>
</thead>
<tbody>
<tr>
<td>TO-3228SC-9F</td>
<td>InGaNP</td>
<td>Blue</td>
<td>4.68</td>
<td>3.3, 3.6, 51, 96</td>
<td>120</td>
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<tr>
<td>TO-3228SC-PG</td>
<td>InGaNP</td>
<td>Pure Green</td>
<td>525</td>
<td>3.3, 3.6, 51, 96</td>
<td>120</td>
</tr>
<tr>
<td>TO-3228SC-MG</td>
<td>AlGaNP</td>
<td>High Brightness</td>
<td>172</td>
<td>2.0, 2.4, 51, 96</td>
<td>120</td>
</tr>
<tr>
<td>TO-3228SC-MY</td>
<td>AlGaNP</td>
<td>High Brightness</td>
<td>530</td>
<td>2.0, 2.4, 146, 281</td>
<td>120</td>
</tr>
<tr>
<td>TO-3228SC-MR</td>
<td>AlGaNP</td>
<td>High Brightness</td>
<td>630</td>
<td>1.9, 2.4, 146, 281</td>
<td>120</td>
</tr>
<tr>
<td>TO-3228SC-MH</td>
<td>AlGaNP</td>
<td>High Brightness</td>
<td>405</td>
<td>2.0, 2.4, 146, 281</td>
<td>120</td>
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<tr>
<td>TO-3228SC-PM</td>
<td>AlGaNP</td>
<td>High Brightness</td>
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<td>1.9, 2.4, 146, 281</td>
<td>120</td>
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<tr>
<td>TO-3228SC-MH</td>
<td>AlGaNP</td>
<td>High Brightness</td>
<td>405</td>
<td>2.0, 2.4, 146, 281</td>
<td>120</td>
</tr>
</tbody>
</table>

**Features**
- 3.0mm x 0.8mm x 1.1mm
- High efficiency LED
- Low power consumption
- Wide viewing angle
- Various color available

**Applications**
- Backlight
- Sign display
- General lighting
- Wall wash lighting
- Residential lighting
### Top LED

**Full Color**

**Features**
- 3.2mm x 2.8mm x 1.9mm
- High efficacy LED
- Low power consumption
- Wide viewing angle
- Wall-wash lighting
- Residential lighting

**Applications**
- Backlight
- Sign display
- General lighting
- Wall-wash lighting
- Residential lighting

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Chip</th>
<th>Material</th>
<th>Emitting Color</th>
<th>Lumen</th>
<th>V (V) at I=20mA</th>
<th>TYP.</th>
<th>MAX.</th>
<th>MIN.</th>
<th>TYP.</th>
<th>Viewing Angle (20%)</th>
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</thead>
<tbody>
<tr>
<td>TO-5228BC-3MYTH</td>
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<td>High Bright Yellow</td>
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<td>High Bright Amber</td>
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</table>

### TO-5050

**PLCC 5050 Package**

**Features**
- 3.8mm x 5.8mm x 1.5mm
- High efficacy LED
- Low power consumption
- Wide viewing angle
- Various color available

**Applications**
- Office lighting
- Indoor display
- Residential lighting
- General lighting
- Backlight and indicator

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Chip</th>
<th>Material</th>
<th>Emitting Color</th>
<th>Lumen</th>
<th>V (V) at I=20mA</th>
<th>TYP.</th>
<th>MAX.</th>
<th>MIN.</th>
<th>TYP.</th>
<th>Viewing Angle (20%)</th>
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<tbody>
<tr>
<td>TO-5505BC-143FK</td>
<td>AlGaN</td>
<td>Pure Green</td>
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<td>3.6</td>
<td>2812</td>
<td>2711</td>
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<tr>
<td>TO-5505BC-139HM</td>
<td>AlGaN</td>
<td>High Bright Yellow</td>
<td>570</td>
<td>3.2</td>
<td>3.6</td>
<td>97</td>
<td>1466</td>
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<td>TO-5505BC-3MAG</td>
<td>AlGaN</td>
<td>High Bright Green</td>
<td>605</td>
<td>3.2</td>
<td>3.6</td>
<td>417</td>
<td>660</td>
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<td>High Bright Orange</td>
<td>623</td>
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<td>3.6</td>
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<td>1466</td>
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<td>TO-5505BC-139HKG</td>
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<td>Pure Red</td>
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<td>3.6</td>
<td>417</td>
<td>660</td>
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### Additional Table

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<th>Lumen</th>
<th>V (V) at I=20mA</th>
<th>TYP.</th>
<th>MAX.</th>
<th>MIN.</th>
<th>TYP.</th>
<th>Viewing Angle (20%)</th>
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<tbody>
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<tr>
<td>TO-5505BC-139FG</td>
<td>AlGaN</td>
<td>High Bright Yellow</td>
<td>525</td>
<td>3.2</td>
<td>3.6</td>
<td>417</td>
<td>667</td>
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<tr>
<td>TO-5505BC-139FG</td>
<td>AlGaN</td>
<td>Pure Red</td>
<td>623</td>
<td>3.2</td>
<td>3.6</td>
<td>417</td>
<td>667</td>
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<tr>
<td>TO-5505BC-139FG</td>
<td>AlGaN</td>
<td>High Bright Green</td>
<td>630</td>
<td>3.2</td>
<td>3.6</td>
<td>417</td>
<td>667</td>
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</table>
### TO-3010
**PCB 3010 Package**

**Features:**
- 5.9mm x 1.9mm x 1.3mm
- Low power consumption
- Wide viewing angle
- Various color available

**Application:**
- Indicator light
- Backlight
- Automotive interior light
- Indoor display board

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Material</th>
<th>Emitting Color</th>
<th>Chip</th>
<th>V_{ON} at I=20mA</th>
<th>I_{L_MAX} at I=20mA</th>
<th>Viewing Angle (°)</th>
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<tbody>
<tr>
<td>TO-3010AC-BC</td>
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<td>NC</td>
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<td>FFF</td>
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<td>TO-3010AC-HCF6</td>
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<td>TO-3010AC-HCF5</td>
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<td>TO-3010AC-MHE</td>
<td>AlGaP</td>
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<td>TO-3010AC-MHH</td>
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<td>Pure Bright Orange</td>
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### TO-1615
**PCB 1615 Package**

**Features:**
- 7.9mm x 3.5mm x 0.6mm
- Dual color
- Low power consumption
- Wide viewing angle
- Various color available

**Application:**
- Indicator light
- Backlight
- Automotive interior light
- Indoor display board

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Material</th>
<th>Emitting Color</th>
<th>Chip</th>
<th>V_{ON} at I=20mA</th>
<th>I_{L_MAX} at I=20mA</th>
<th>Viewing Angle (°)</th>
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<tr>
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<td>Pure Bright Orange</td>
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<tr>
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<td>Pure Bright Orange</td>
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</table>

### TO-3216
**PCB 3216 Package**

**Features:**
- 3.2mm x 1.4mm x 1.1mm
- Low power consumption
- Wide viewing angle
- Various color available

**Application:**
- Indicator light
- Backlight
- Automotive interior light
- Indoor display board

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Material</th>
<th>Emitting Color</th>
<th>Chip</th>
<th>V_{ON} at I=20mA</th>
<th>I_{L_MAX} at I=20mA</th>
<th>Viewing Angle (°)</th>
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<tbody>
<tr>
<td>TO-3216BC-MF7</td>
<td>InGaP</td>
<td>NC</td>
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<td>InGaP</td>
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<td>TO-3216BC-HCF6</td>
<td>AlGaP</td>
<td>High Bright Green</td>
<td>572</td>
<td>2.0</td>
<td>2.4</td>
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<tr>
<td>TO-3216BC-HCF5</td>
<td>AlGaP</td>
<td>High Bright Green</td>
<td>592</td>
<td>2.0</td>
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<tr>
<td>TO-3216BC-MHPF</td>
<td>AlGaP</td>
<td>High Bright Yellow</td>
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<td>2.0</td>
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<tr>
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<tr>
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<td>Ultra Bright Red</td>
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### TO-3227
**PCB 3227 Package**

**Features:**
- 5.9mm x 2.7mm x 1.1mm
- Dual color
- Low power consumption
- Wide viewing angle
- Various color available

**Application:**
- Indicator light
- Backlight
- Automotive interior light
- Indoor display board

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Material</th>
<th>Emitting Color</th>
<th>Chip</th>
<th>V_{ON} at I=20mA</th>
<th>I_{L_MAX} at I=20mA</th>
<th>Viewing Angle (°)</th>
</tr>
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<tbody>
<tr>
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<td>2.0</td>
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<tr>
<td>TO-3227BC-MHMGE2</td>
<td>InGaP</td>
<td>High Bright Yellow</td>
<td>590</td>
<td>2.0</td>
<td>2.4</td>
<td>51</td>
</tr>
<tr>
<td>TO-3227BC-MHMGE1</td>
<td>InGaP</td>
<td>High Bright Yellow</td>
<td>590</td>
<td>2.0</td>
<td>2.4</td>
<td>51</td>
</tr>
<tr>
<td>TO-3227BC-MHMGF</td>
<td>InGaP</td>
<td>High Bright Orange</td>
<td>605</td>
<td>3.2</td>
<td>3.6</td>
<td>146</td>
</tr>
<tr>
<td>TO-3227BC-MHMGD</td>
<td>InGaP</td>
<td>High Bright Orange</td>
<td>625</td>
<td>3.2</td>
<td>3.6</td>
<td>146</td>
</tr>
<tr>
<td>TO-3227BC-MHMGF</td>
<td>InGaP</td>
<td>High Bright Orange</td>
<td>625</td>
<td>3.2</td>
<td>3.6</td>
<td>146</td>
</tr>
<tr>
<td>TO-3227BC-MHMGD</td>
<td>InGaP</td>
<td>High Bright Orange</td>
<td>630</td>
<td>2.0</td>
<td>2.4</td>
<td>51</td>
</tr>
<tr>
<td>TO-3227BC-MHMD</td>
<td>InGaP</td>
<td>Pure Bright Orange</td>
<td>625</td>
<td>2.0</td>
<td>2.4</td>
<td>51</td>
</tr>
<tr>
<td>TO-3227BC-MHMDF</td>
<td>InGaP</td>
<td>Pure Bright Orange</td>
<td>625</td>
<td>2.0</td>
<td>2.4</td>
<td>51</td>
</tr>
<tr>
<td>TO-3227BC-MHME</td>
<td>InGaP</td>
<td>Pure Bright Orange</td>
<td>630</td>
<td>2.0</td>
<td>2.4</td>
<td>51</td>
</tr>
<tr>
<td>TO-3227BC-MMME</td>
<td>InGaP</td>
<td>Pure Bright Orange</td>
<td>630</td>
<td>2.0</td>
<td>2.4</td>
<td>51</td>
</tr>
</tbody>
</table>
# High Power LED

## TOP (1W/3W)

### RED (InGaN)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Forward Voltage (V)</th>
<th>Luminous Flux (Lm)</th>
<th>Dominant wavelength (nm)</th>
<th>Test Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOP-1R01</td>
<td>2.0</td>
<td>40</td>
<td>420.9</td>
<td>1A=150mA</td>
</tr>
<tr>
<td>TOP-1R02</td>
<td>2.1</td>
<td>50</td>
<td>422.5</td>
<td>1A=750mA</td>
</tr>
</tbody>
</table>

**Features**
- High brightness, high performance
- High color purity, good uniformity
- Low light decline, long working life

**Application**
- General Lighting

### GREEN (InGaN)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Forward Voltage (V)</th>
<th>Luminous Flux (Lm)</th>
<th>Dominant wavelength (nm)</th>
<th>Test Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOP-1G01</td>
<td>3.0</td>
<td>60</td>
<td>520.3</td>
<td>1A=150mA</td>
</tr>
<tr>
<td>TOP-1G02</td>
<td>3.1</td>
<td>70</td>
<td>522.0</td>
<td>1A=750mA</td>
</tr>
</tbody>
</table>

**Features**
- High brightness, high performance
- High color purity, good uniformity
- Low light decline, long working life

**Application**
- General Lighting

### BLUE (InGaN)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Forward Voltage (V)</th>
<th>Luminous Flux (Lm)</th>
<th>Dominant wavelength (nm)</th>
<th>Test Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOP-1B01</td>
<td>3.0</td>
<td>100</td>
<td>465.0</td>
<td>1A=150mA</td>
</tr>
<tr>
<td>TOP-1B02</td>
<td>3.1</td>
<td>110</td>
<td>462.0</td>
<td>1A=750mA</td>
</tr>
</tbody>
</table>

**Features**
- High brightness, high performance
- High color purity, good uniformity
- Low light decline, long working life

**Application**
- General Lighting

### WHITE (InGaN)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Forward Voltage (V)</th>
<th>Luminous Flux (Lm)</th>
<th>Dominant wavelength (nm)</th>
<th>Test Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOP-1W01</td>
<td>3.0</td>
<td>140</td>
<td>4000</td>
<td>1A=150mA</td>
</tr>
<tr>
<td>TOP-1W02</td>
<td>3.1</td>
<td>150</td>
<td>4000</td>
<td>1A=750mA</td>
</tr>
</tbody>
</table>

**Features**
- High brightness, high performance
- High color purity, good uniformity
- Low light decline, long working life

**Application**
- General Lighting

---

# New Release Product

**SMD LED Lamp LED & MEANWELL Product Catalogue**

**Coming soon**
### Lamp LED

#### Color

<table>
<thead>
<tr>
<th>Code</th>
<th>Emitting Color</th>
<th>Color Material</th>
<th>Wavelength (nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UR</td>
<td>Ultra Red (AlGaNP)</td>
<td>-</td>
<td>635</td>
</tr>
<tr>
<td>SR</td>
<td>Super Red (AlGaNP)</td>
<td>-</td>
<td>615</td>
</tr>
<tr>
<td>LE</td>
<td>Ultra Green (AlGaNP)</td>
<td>-</td>
<td>525</td>
</tr>
<tr>
<td>PG</td>
<td>Pure Green (InGaN)</td>
<td>-</td>
<td>520,530</td>
</tr>
<tr>
<td>SBC</td>
<td>Blue Green (InGaN)</td>
<td>-</td>
<td>470</td>
</tr>
<tr>
<td>FR</td>
<td>Pure Red (CaSb/GaP)</td>
<td>-</td>
<td>700 (UV)</td>
</tr>
<tr>
<td>SR</td>
<td>Super Red (CaSb/GaP)</td>
<td>-</td>
<td>660</td>
</tr>
<tr>
<td>HSC</td>
<td>High Orange (CaSb/GaP)</td>
<td>-</td>
<td>670</td>
</tr>
<tr>
<td>HSC</td>
<td>High Orange (CaSb/GaP)</td>
<td>-</td>
<td>670</td>
</tr>
<tr>
<td>HSC</td>
<td>High Yellow (CaSb/GaP)</td>
<td>-</td>
<td>650</td>
</tr>
<tr>
<td>HSC</td>
<td>High Yellow (CaSb/GaP)</td>
<td>-</td>
<td>650</td>
</tr>
<tr>
<td>SG</td>
<td>Super Green (CaSb/GaP)</td>
<td>-</td>
<td>560</td>
</tr>
<tr>
<td>SG</td>
<td>Super Green (CaSb/GaP)</td>
<td>-</td>
<td>560</td>
</tr>
<tr>
<td>HGC</td>
<td>High Red</td>
<td>-</td>
<td>660</td>
</tr>
</tbody>
</table>

#### Dual Color

<table>
<thead>
<tr>
<th>Code</th>
<th>Emitting Color</th>
<th>Color Material</th>
<th>Wavelength (nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RB</td>
<td>Red and Blue</td>
<td>-</td>
<td>635</td>
</tr>
<tr>
<td>RG</td>
<td>Red and Green</td>
<td>-</td>
<td>625</td>
</tr>
<tr>
<td>RD</td>
<td>Red and Yellow</td>
<td>-</td>
<td>615</td>
</tr>
<tr>
<td>RO</td>
<td>Orange and Red</td>
<td>-</td>
<td>605</td>
</tr>
<tr>
<td>OR</td>
<td>Orange and Red</td>
<td>-</td>
<td>605</td>
</tr>
<tr>
<td>YC</td>
<td>Yellow and Clear</td>
<td>-</td>
<td>580</td>
</tr>
<tr>
<td>YB</td>
<td>Yellow and Blue</td>
<td>-</td>
<td>580</td>
</tr>
<tr>
<td>GC</td>
<td>Green and Red</td>
<td>-</td>
<td>570</td>
</tr>
<tr>
<td>GO</td>
<td>Green and Orange</td>
<td>-</td>
<td>570</td>
</tr>
<tr>
<td>GR</td>
<td>Green and Yellow</td>
<td>-</td>
<td>570</td>
</tr>
<tr>
<td>RG</td>
<td>Red and Green</td>
<td>-</td>
<td>560</td>
</tr>
<tr>
<td>RC</td>
<td>Red and Clear</td>
<td>-</td>
<td>550</td>
</tr>
<tr>
<td>RB</td>
<td>Red and Blue</td>
<td>-</td>
<td>540</td>
</tr>
<tr>
<td>BG</td>
<td>Blue and Green</td>
<td>-</td>
<td>480</td>
</tr>
</tbody>
</table>

#### Drive Mode

<table>
<thead>
<tr>
<th>Code</th>
<th>Meaning</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>RD</td>
<td>Required double-package</td>
<td>-</td>
</tr>
<tr>
<td>RT</td>
<td>Required turn package</td>
<td>-</td>
</tr>
<tr>
<td>FT</td>
<td>Filled turn package</td>
<td>-</td>
</tr>
<tr>
<td>RT</td>
<td>Required turn package</td>
<td>-</td>
</tr>
<tr>
<td>RT</td>
<td>Required turn package</td>
<td>-</td>
</tr>
<tr>
<td>RT</td>
<td>Required turn package</td>
<td>-</td>
</tr>
<tr>
<td>HFS</td>
<td>High-fine turn package</td>
<td>-</td>
</tr>
<tr>
<td>HFR</td>
<td>High-fine turn package</td>
<td>-</td>
</tr>
<tr>
<td>HFL</td>
<td>Hight-fine turn package</td>
<td>-</td>
</tr>
<tr>
<td>WFS</td>
<td>Wight-fine turn package</td>
<td>-</td>
</tr>
<tr>
<td>FTS</td>
<td>Filled turn package</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Example

**TOL-5025SWVC-A**

<table>
<thead>
<tr>
<th>View Angle</th>
<th>Lens Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>15°</td>
<td>C</td>
</tr>
<tr>
<td>30°</td>
<td>W</td>
</tr>
</tbody>
</table>

#### Lens Color

<table>
<thead>
<tr>
<th>Code</th>
<th>Lens Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Color Clear</td>
</tr>
<tr>
<td>W</td>
<td>White Diffused</td>
</tr>
<tr>
<td>T</td>
<td>Color Transparent</td>
</tr>
<tr>
<td>D</td>
<td>Color Diffused</td>
</tr>
<tr>
<td>R</td>
<td>Dark Blue</td>
</tr>
<tr>
<td>K</td>
<td>Special Package Color</td>
</tr>
</tbody>
</table>

### Typical Luminous Intensity

<table>
<thead>
<tr>
<th>Code</th>
<th>Typical Luminous Intensity (mcd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>17.2</td>
</tr>
<tr>
<td>2</td>
<td>6.2</td>
</tr>
<tr>
<td>3</td>
<td>1.1</td>
</tr>
<tr>
<td>4</td>
<td>0.3</td>
</tr>
<tr>
<td>5</td>
<td>0.07</td>
</tr>
</tbody>
</table>

### Lens Dimension

<table>
<thead>
<tr>
<th>Code</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ø 1.5 mm</td>
</tr>
<tr>
<td>3</td>
<td>Ø 0.9 mm</td>
</tr>
<tr>
<td>4</td>
<td>Ø 0.9 mm</td>
</tr>
<tr>
<td>5</td>
<td>Ø 0.5 mm</td>
</tr>
<tr>
<td>A</td>
<td>Ø 0.8 mm</td>
</tr>
<tr>
<td>B</td>
<td>Ø 0.8 mm</td>
</tr>
<tr>
<td>C</td>
<td>Ø 0.5 mm</td>
</tr>
<tr>
<td>D</td>
<td>3 x 5 mm</td>
</tr>
<tr>
<td>E</td>
<td>0.7 x 6.5 mm</td>
</tr>
</tbody>
</table>

### Lamp Type

<table>
<thead>
<tr>
<th>Code</th>
<th>Lamp Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>LED Lamp</td>
</tr>
<tr>
<td>F</td>
<td>Flash LED Lamp</td>
</tr>
<tr>
<td>B</td>
<td>MI LED Lamp</td>
</tr>
<tr>
<td>FS</td>
<td>Flash Strobe</td>
</tr>
</tbody>
</table>

#### 3mm Round

**Features**
- Superior brightness
- Low power consumption
- Robustness for test confirmed
- JYV LED withstanded

**Application**
- Residential lighting
- Automotive interior lighting
- Highway variable message signs
- Medical and industrial equipments
- Consumer and gaming application
- Home appliances and electronics application

<table>
<thead>
<tr>
<th>Color</th>
<th>Chip</th>
<th>Diameter</th>
<th>Voltage (L=20mA)</th>
<th>Current (L=20mA)</th>
<th>Luminous Angle</th>
<th>Luminous Brightness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>TOL-3025RRC</td>
<td>513</td>
<td>1.9</td>
<td>2.5</td>
<td>1000</td>
<td>2000</td>
</tr>
<tr>
<td>Yellow</td>
<td>TOL-3025YRC</td>
<td>513</td>
<td>2.0</td>
<td>2.4</td>
<td>1000</td>
<td>2000</td>
</tr>
<tr>
<td>Green</td>
<td>TOL-3025GRC</td>
<td>513</td>
<td>2.0</td>
<td>2.4</td>
<td>1000</td>
<td>2000</td>
</tr>
</tbody>
</table>

#### 3mm Round (Bi-Color)

**Features**
- Superior brightness
- Low power consumption
- Robustness for test confirmed
- JYV LED withstanded

**Application**
- Residential lighting
- Automotive interior lighting
- Highway variable message signs
- Medical and industrial equipments
- Consumer and gaming application
- Home appliances and electronics application

<table>
<thead>
<tr>
<th>Color</th>
<th>Chip</th>
<th>Diameter</th>
<th>Voltage (L=20mA)</th>
<th>Current (L=20mA)</th>
<th>Luminous Angle</th>
<th>Luminous Brightness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bi-Red</td>
<td>TOL-3078RCAW</td>
<td>513</td>
<td>1.8</td>
<td>2.1</td>
<td>34</td>
<td>80</td>
</tr>
<tr>
<td>Bi-Yellow</td>
<td>TOL-3078YCAW</td>
<td>513</td>
<td>2.2</td>
<td>2.5</td>
<td>34</td>
<td>80</td>
</tr>
<tr>
<td>Bi-Green</td>
<td>TOL-3078GCAW</td>
<td>513</td>
<td>3.0</td>
<td>4.0</td>
<td>110</td>
<td>160</td>
</tr>
</tbody>
</table>

### TOL-34

**3mm Conicals**

**Features**
- Superior brightness
- Low power consumption
- Robustness for test confirmed
- JYV LED withstanded

**Application**
- Residential lighting
- Automotive interior lighting
- Highway variable message signs
- Medical and industrial equipments
- Consumer and gaming application

<table>
<thead>
<tr>
<th>Color</th>
<th>Chip</th>
<th>Diameter</th>
<th>Voltage (L=20mA)</th>
<th>Current (L=20mA)</th>
<th>Luminous Angle</th>
<th>Luminous Brightness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bi-Red</td>
<td>TOL-3436RCAW</td>
<td>513</td>
<td>2.0</td>
<td>2.5</td>
<td>125</td>
<td>250</td>
</tr>
<tr>
<td>Bi-Yellow</td>
<td>TOL-3436YCAW</td>
<td>513</td>
<td>2.0</td>
<td>2.4</td>
<td>125</td>
<td>250</td>
</tr>
<tr>
<td>Bi-Green</td>
<td>TOL-3436GCAW</td>
<td>513</td>
<td>2.0</td>
<td>2.4</td>
<td>125</td>
<td>250</td>
</tr>
</tbody>
</table>
**Lamp LED / 3mm Series**

**TOL-36**
3mm Oval

**Features**
- Superior brightness
- Low power consumption
- Reliability IxS test confirmed
- 3KV ESD withstanded

**Application**
- Full color video screens
- Variable Message Signs (VMS)
- Outdoor advertising towers

**Part Number**
- TOL-36U01K-A: AlGaP: Orange 630 nm
- TOL-36U01K-B: AlGaP: Green 525 nm
- TOL-36U01K-C: InGaN: Blue 470 nm

**Lamp LED / 5mm Series**

**TOL-50**
5mm Round

**Features**
- Superior brightness
- Low power consumption
- Reliability IxS test confirmed
- 3KV ESD withstanded

**Application**
- Traffic signs
- Residential/Street lighting
- Automotive interior lighting
- Highways variable message signs
- Medical and industrial equipment
- Consumer and gaming application
- Home appliances lighting application

**Part Number**
- TOL-50U01NC: AlGaP: Red 630 nm
- TOL-50U01NC: AlGaP: Yellow 590 nm
- TOL-50U01NC: InGaN: Blue 470 nm

**TOL-56**
5mm Oval

**Features**
- Superior brightness
- Low power consumption
- Reliability IxS test confirmed
- 3KV ESD withstanded

**Application**
- Full color video screens
- Variable Message Signs (VMS)
- Outdoor advertising towers

**Part Number**
- TOL-56U01K-A: AlGaP: Orange 630 nm
- TOL-56U01K-B: InGaN: Blue 470 nm

**Lamp LED / 5mm Series**

**TOL-109RCAW**
5mm Round (RGB)

**Features**
- Superior brightness
- Low power consumption
- Reliability IxS test confirmed
- 3KV ESD withstanded

**Application**
- Traffic signs
- Home appliance & lighting
- Automotive interior lighting
- Highway variable Message Signs
- Medical and Industrial Equipments
- Consumer and Gaming Electronic application

**Part Number**
- TOL-109RCAW: AlGaP: Orange 640 nm
- TOL-109RCAW: InGaN: Blue 470 nm

**TOL-109RMAW**
5mm Round (RGB)

**Features**
- Superior brightness
- Low power consumption
- Reliability IxS test confirmed
- 3KV ESD withstanded

**Application**
- Traffic signs
- Home appliance & lighting
- Automotive interior lighting
- Highway variable Message Signs
- Medical and Industrial Equipments
- Consumer and Gaming Electronic application

**Part Number**
- TOL-109RMAW: AlGaP: Orange 640 nm
- TOL-109RMAW: InGaN: Blue 470 nm

**Material**
- Material: AlGaP, InGaN
- Emitting Color: Red, Green, Blue
- Voltage: 2.0V, 2.4V, 2.8V
- Luminance: 20000, 40000, 100000
### TOL-4B
4.4mm Round

**Features**
- Superior brightness
- Low power consumption
- Reliability life test confirmed
- 26V ESD withstanded

**Application**
- Full color video screens
- Variable Message Signs (VMS)
- Outdoor advertising boards

**Part Number**
- TOL-4BE1/2DC
- TOL-4DE1/2DC
- TOL-4FE1/2DC

**Chips**
- AlGaNP

**Lens Color**
- Green

**V (V) at L=12mA**
- Typ: 2.0
- Max: 2.4
- Min: 1.5
- Typ: 170

**Luminous Intensity Measurement Distance: 177mm**

#### TOL-C9
Rectangular (4.4mm x 9.0mm)

**Features**
- Superior brightness
- Low power consumption
- Reliability life test confirmed
- 26V ESD withstanded

**Application**
- Automobile interior lighting
- Medical and industrial equipments
- Consumer and gaming application

**Part Number**
- TOL-C9U13K
- TOL-C9U15K
- TOL-C9U17K
- TOL-C9U19K
- TOL-C9U21K

**Chips**
- AlGaNP

**Lens Color**
- Orange

**V (V) at L=12mA**
- Typ: 2.0
- Max: 2.4
- Min: 1.5
- Typ: 170

**Luminous Intensity Measurement Distance: 177mm**

### TOL-80
8.0mm Round

**Features**
- Superior brightness
- Low power consumption
- Reliability life test confirmed
- 26V ESD withstanded

**Application**
- Indicator light
- Medical and industrial equipments
- Consumer and gaming application

**Part Number**
- TOL-88U8DC
- TOL-88U9BC

**Chips**
- GaAlNP

**Lens Color**
- Orange

**V (V) at L=12mA**
- Typ: 2.0
- Max: 2.4
- Min: 1.5
- Typ: 170

**Luminous Intensity Measurement Distance: 177mm**

### TOL-A03
10mm Round

**Features**
- Superior brightness
- Low power consumption
- Reliability life test confirmed
- 26V ESD withstanded

**Application**
- Indicator light
- Medical and industrial equipments
- Consumer and gaming application

**Part Number**
- TOL-A9U3HC
- TOL-A9U3DC
- TOL-A9U3BC

**Chips**
- GaAlNP

**Lens Color**
- Blue

**V (V) at L=12mA**
- Typ: 2.0
- Max: 2.4
- Min: 1.5
- Typ: 170

**Luminous Intensity Measurement Distance: 177mm**

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**Note:** All measurements are at 177mm distance.
coming soon