## Laser Diode Line Up

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Product Code</th>
<th>Internal Circuit</th>
<th>Maximum Ratings</th>
<th>Optical and Electrical Characteristics (typical)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HL40071MG**</td>
<td>KF</td>
<td>CC</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>HL40095MG**</td>
<td>KD</td>
<td>TN</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>HL40095MG**</td>
<td>KD</td>
<td>CT</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>HL40003MG**</td>
<td>KG</td>
<td>TN</td>
<td>1,100</td>
<td>1,100</td>
</tr>
<tr>
<td>HL40003MG**</td>
<td>KG</td>
<td>CT</td>
<td>1,100</td>
<td>1,100</td>
</tr>
<tr>
<td>HL40003MG</td>
<td>KG</td>
<td>BN</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>HL63287HD*1</td>
<td>JG</td>
<td>CC</td>
<td>1,200</td>
<td>1,200</td>
</tr>
<tr>
<td>HL63287HD*1</td>
<td>JG</td>
<td>AC</td>
<td>1,200</td>
<td>1,200</td>
</tr>
<tr>
<td>HL63287HD*1</td>
<td>JG</td>
<td>BN</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>HL63287HD</td>
<td>JG</td>
<td>AC</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>HL63287HD*1</td>
<td>JG</td>
<td>TN</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>HL63287HD*1</td>
<td>JG</td>
<td>CT</td>
<td>600</td>
<td>600</td>
</tr>
</tbody>
</table>

*1: Under development (New): New product
**: Multi-transverse mode (The other products without *1 are single-transverse mode)
*: Multi-transverse mode and low-emission
**: Multi-transverse mode and low-emission

### Part Numbering

1. **HL6354MG**
   - **A**: RoHS compliant
   - **B**: HL6354MG

2. **HL63101MG**
   - **A**: RoHS compliant
   - **B**: HL63101MG

---

#### Example 1: HL6354MG -A

- **W**
- **C**
- **D**
- **E**
- **F**
- **G**
- **H**
- **I**
- **J**
- **K**
- **L**
- **M**
- **N**
- **O**
- **P**
- **Q**
- **R**
- **S**
- **T**
- **U**
- **V**
- **W**
- **X**
- **Y**
- **Z**

---

#### Example 2: HL63101MG

- **W**
- **X**
- **Y**
- **Z**
- **A**
- **B**
- **C**
- **D**
- **E**
- **F**
- **G**
- **H**
- **I**
- **J**
- **K**
- **L**
- **M**
- **N**
- **O**
- **P**
- **Q**
- **R**
- **S**
- **T**
- **U**
- **V**
- **W**
- **X**
- **Y**
- **Z**
### Laser Diode Line Up

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<th>Optical and Electrical Characteristics (typical)</th>
</tr>
</thead>
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<tr>
<td>HL4004MG**</td>
<td>KC CC</td>
<td>190 &lt;0 to 50</td>
<td>150 60 150 0.05 404 0.05 0.05</td>
</tr>
<tr>
<td>HL4005MG**</td>
<td>KK TN</td>
<td>500 &lt;5 to 50</td>
<td>500 110 570 - 404 0.05 0.05</td>
</tr>
<tr>
<td>HL4006MG**</td>
<td>KG CN</td>
<td>280 &lt;0 to 75</td>
<td>280 33 230 (10%)</td>
</tr>
<tr>
<td>HL4008G**</td>
<td>KG FN</td>
<td>500 &lt;0 to 75</td>
<td>500 1000 1000 1.05 406 0.05 0.05</td>
</tr>
<tr>
<td>HL4009D**</td>
<td>MC RC</td>
<td>200 &lt;0 to 50</td>
<td>200 60 300 - 406 0.05 0.05</td>
</tr>
<tr>
<td>HL63283HD*1</td>
<td>QZ TN</td>
<td>1,100 &lt;0 to 50</td>
<td>1,100 320 1,000 (10%)</td>
</tr>
<tr>
<td>HL63290HD*1</td>
<td>QZ TN</td>
<td>1,300 &lt;0 to 50</td>
<td>1,300 320 1,000 (10%)</td>
</tr>
<tr>
<td>HL63392DG</td>
<td>QZ TN</td>
<td>1,100 &lt;0 to 50</td>
<td>1,100 320 1,000 (10%)</td>
</tr>
</tbody>
</table>

### Part Numbering

**Example 1:**
HL 63 54 MG –A

- **(a)**: HL, UOS Laser Diode
- **(b)**: Wavelength: (first 2-number of wavelength)
  - **(c)**: 60-624nm
- **(d)**: 03-033-042nm
- **(e)**: 06-003-066nm
- **(f)**: 07-083-093nm
- **(g)**: 70-703nm
- **(h)**: 73-703nm
- **(i)**: 85-830nm (or 850nm)
- **(j)**: **(a)**: RSIR compliant

#### Internal circuit diagram:

- **Cmp**: Common
- **1**: **(a)**
- **2**: **(a)**
- **3**: **(a)**
- **4**: **(a)**
- **5**: **(a)**

**Example 2:**
HL 63 10 1 MG

- **(a)**: HL, UOS Laser Diode
- **(b)**: Wavelength: (first 2-number of wavelength)
- **(c)**: 60-624nm
- **(d)**: 03-033-042nm
- **(e)**: 06-003-066nm
- **(f)**: 07-083-093nm
- **(g)**: 70-703nm
- **(h)**: 73-703nm
- **(i)**: 85-830nm (or 850nm)
- **(j)**: **(a)**: ROHS compliant

#### Internal circuit diagram:

- **Cmp**: Common
- **1**: **(a)**
- **2**: **(a)**
- **3**: **(a)**
- **4**: **(a)**
- **5**: **(a)**
Marking

Package Type : MG, DG, G, FM, HD
Combination of numerical and alphabetical letters are laser marked on cap.

1st line:
- 1st and 2nd letters: Product identification code
  - If code is one character, 1st line is 3 characters, please refer to the Product ID code in the table on page 3-4
- 3rd letter: Year code
  - The year code is the last number of the produced year.
  - (e.g., “9” means the year 2015)
- 4th letter: Month code
  - The month code is marked with alphabetical character, see Table-1

2nd line:
- 5th to 8th letters: UOS internal management code

Package Type : TG, AT
Combination of numerical and alphabetical letters are laser marked on cap.

1st line:
- 1st and 2nd letters: Product identification code
  - Please refer to the Product ID code in the table on page 3-4
- 3rd letter: Year code
  - The year code is the last number of the produced year.
  - (e.g., “9” means the year 2015)

2nd line:
- 4th letter: Month code
  - The month code is marked with alphabetical character, see Table-1
- 5th to 8th letters: UOS internal management code

Table-1: Month code

<table>
<thead>
<tr>
<th>Month</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
<td>H</td>
<td>J</td>
<td>K</td>
<td>L</td>
<td>M</td>
</tr>
</tbody>
</table>

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Sales for Asia
USHIO SHANGHAI, INC.
Sales for Asia
USHIO TAIWAN, INC.
Sales for Asia
USHIO HONG KONG LTD.
Sales for North America
USHIO AMERICA, INC.
Marking

Package Type : MG, DG, G, FM, HD
combination of numerical and alphabetical letters are laser marked on cap.

1st line:
1st and 2nd letters: Product identification code
Product identification code is one character. 1st line is 3 characters.
(Please refer to the Product ID code in the table on page 3-4)
3rd letter: Year code
Year code is the last number of the produced year.
(see “F” means the year 2015)
4th letter: Month code
The month code is marked with alphabet character, (see Table-1)
5th to 8th letters: UOS internal management code

Package Type : TG, AT
combination of numerical and alphabetical letters are laser marked on cap.

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( Please refer to the Product ID code in the table on page 3-4)
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Year code is the last number of the produced year.
(see “F” means the year 2015)
2nd line:
4th letter: Month code
The month code is marked with alphabet character, (see Table-1)
5th to 8th letters: UOS internal management code

Table 1: Month code

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<thead>
<tr>
<th>Month</th>
<th>1</th>
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<th>3</th>
<th>4</th>
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<th>7</th>
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<th>12</th>
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