

MVL-324GD  
MVL-324YD  
MVL-324HRD  
MVL-324DRD  
MVL-324URD

## Description

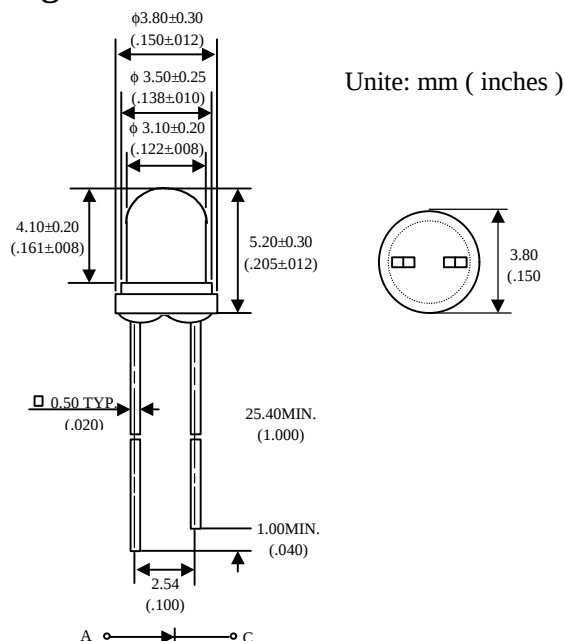
The MVL-324xxD series package are T-1 (φ3mm) standard flange water clear plastic lens package. The Hi-EFF red (HR) and yellow LED chips are made with Gallium Arsenide Phosphide on Gallium Phosphide diode. The green LED chip is made with Gallium Phosphide on Gallium Phosphide diode. The red (DR) chip is made with Aluminum Gallium Arsenide on Gallium Arsenide diode. The red (UR) chip is made with Aluminum Gallium Arsenide on Aluminum Gallium Arsenide diode.

## Applications

- Popular T-1 (φ3mm) diameter package
- Selected minimum intensities
- General purpose leads
- Reliable and rugged

## Absolute Maximum Ratings

## Package Dimensions



Notes :

1. Tolerance is  $\pm 0.25$  mm (.010") unless otherwise noted.
2. Protruded resin under flange is 1.5 mm (.059") max.
3. Lead spacing is measured where the leads emerge from the package.

| Parameter                                                           | Symbol         | Maximum Rating   |        |     |       | Unit  |
|---------------------------------------------------------------------|----------------|------------------|--------|-----|-------|-------|
|                                                                     |                | GREEN            | YELLOW | HR  | DR/UR |       |
| Power Dissipation                                                   | Pad            | 100              | 60     | 100 | 100   | mW    |
| Peak Forward Current (1/10 Duty Cycle 0.1ms pulse width)            | Ipf            | 120              | 80     | 120 | 120   | A     |
| Continuous Forward Current                                          | Iaf            | 30               | 20     | 30  | 40    | mA/°C |
| Derating Linear From 25°C                                           |                | 0.4              | 0.25   | 0.4 | 0.5   | mA    |
| Reverse Voltage                                                     | V <sub>R</sub> | 5                | 5      | 5   | 5     | V     |
| Operating Temperature Range                                         | Topr           | -55°C to + 100°C |        |     |       |       |
| Storage Temperature Range                                           | Tstg           | -55°C to + 100°C |        |     |       |       |
| Lead Soldering Temperature (1.6mm from body) for 3 seconds at 260°C |                |                  |        |     |       |       |

## Optical -Electrical Characteristics

### Part No. : MVL-324GD

@T<sub>A</sub>=25°C

| Parameter                | Test Conditions      | Symbol            | Min . | Typ . | Max . | Unit . |
|--------------------------|----------------------|-------------------|-------|-------|-------|--------|
| Luminous Intensity       | I <sub>F</sub> =10mA | I <sub>V</sub>    | 14.0  | 45    | -     | mcd    |
| Forward Voltage          | I <sub>F</sub> =20mA | V <sub>F</sub>    | -     | 2.1   | 2.8   | V      |
| Reverse Current          | V <sub>R</sub> =5V   | I <sub>R</sub>    | -     | -     | 100   | μA     |
| Wavelength               | I <sub>F</sub> =20mA | λ <sub>p</sub>    | -     | 565   | -     | nm     |
| Spectral Line Half Width | I <sub>F</sub> =20mA | Δλ                | -     | 30    | -     | nm     |
| Viewing Angle            | I <sub>F</sub> =20mA | 2θ <sub>1/2</sub> | -     | 45    | -     | deg    |

### Part No. : MVL-324YD

@T<sub>A</sub>=25°C

| Parameter                | Test Conditions      | Symbol            | Min . | Typ . | Max . | Unit . |
|--------------------------|----------------------|-------------------|-------|-------|-------|--------|
| Luminous Intensity       | I <sub>F</sub> =10mA | I <sub>V</sub>    | 8.0   | 30    | -     | mcd    |
| Forward Voltage          | I <sub>F</sub> =20mA | V <sub>F</sub>    | -     | 2.1   | 2.8   | V      |
| Reverse Current          | V <sub>R</sub> =5V   | I <sub>R</sub>    | -     | -     | 100   | μA     |
| Wavelength               | I <sub>F</sub> =20mA | λ <sub>p</sub>    | -     | 585   | -     | nm     |
| Spectral Line Half Width | I <sub>F</sub> =20mA | Δλ                | -     | 35    | -     | nm     |
| Viewing Angle            | I <sub>F</sub> =20mA | 2θ <sub>1/2</sub> | -     | 45    | -     | deg    |

### Part No. : MVL-324HRD

@T<sub>A</sub>=25°C

| Parameter                | Test Conditions      | Symbol            | Min . | Typ . | Max . | Unit . |
|--------------------------|----------------------|-------------------|-------|-------|-------|--------|
| Luminous Intensity       | I <sub>F</sub> =10mA | I <sub>V</sub>    | 12.0  | 40    | -     | mcd    |
| Forward Voltage          | I <sub>F</sub> =20mA | V <sub>F</sub>    | -     | 2.0   | 2.8   | V      |
| Reverse Current          | V <sub>R</sub> =5V   | I <sub>R</sub>    | -     | -     | 100   | μA     |
| Wavelength               | I <sub>F</sub> =20mA | λ <sub>p</sub>    | -     | 640   | -     | nm     |
| Spectral Line Half Width | I <sub>F</sub> =20mA | Δλ                | -     | 40    | -     | nm     |
| Viewing Angle            | I <sub>F</sub> =20mA | 2θ <sub>1/2</sub> | -     | 45    | -     | deg    |

### Part No. : MVL-324DRD

@T<sub>A</sub>=25°C

| Parameter                | Test Conditions      | Symbol            | Min . | Typ . | Max . | Unit . |
|--------------------------|----------------------|-------------------|-------|-------|-------|--------|
| Luminous Intensity       | I <sub>F</sub> =20mA | I <sub>V</sub>    | 50    | 200   | -     | mcd    |
| Forward Voltage          | I <sub>F</sub> =20mA | V <sub>F</sub>    | -     | 1.8   | 2.4   | V      |
| Reverse Current          | V <sub>R</sub> =5V   | I <sub>R</sub>    | -     | -     | 100   | μA     |
| Wavelength               | I <sub>F</sub> =20mA | λ <sub>p</sub>    | -     | 660   | -     | nm     |
| Spectral Line Half Width | I <sub>F</sub> =20mA | Δλ                | -     | 20    | -     | nm     |
| Viewing Angle            | I <sub>F</sub> =20mA | 2θ <sub>1/2</sub> | -     | 45    | -     | deg    |

### Part No. : MVL-324URD

@T<sub>A</sub>=25°C

| Parameter                | Test Conditions      | Symbol            | Min . | Typ . | Max . | Unit . |
|--------------------------|----------------------|-------------------|-------|-------|-------|--------|
| Luminous Intensity       | I <sub>F</sub> =20mA | I <sub>V</sub>    | 100   | 400   | -     | mcd    |
| Forward Voltage          | I <sub>F</sub> =20mA | V <sub>F</sub>    | -     | 1.8   | 2.4   | V      |
| Reverse Current          | V <sub>R</sub> =5V   | I <sub>R</sub>    | -     | -     | 100   | μA     |
| Wavelength               | I <sub>F</sub> =20mA | λ <sub>p</sub>    | -     | 660   | -     | nm     |
| Spectral Line Half Width | I <sub>F</sub> =20mA | Δλ                | -     | 20    | -     | nm     |
| Viewing Angle            | I <sub>F</sub> =20mA | 2θ <sub>1/2</sub> | -     | 45    | -     | deg    |

## Typical Optical-Electrical Characteristic Curves

