



**EXCEED PERSEVERANCE ELECTRONIC INDUSTRY CO., LTD.**

**深圳市超毅光电子有限公司**

**Φ 5.1mm ROUND TYPE WITH FLANGE LEDS.**

**Part Number:**

RL512-RD313

RL512-SR113

RL512-HO313

RL512-HY213

RL512-YG413

RL512-SO423

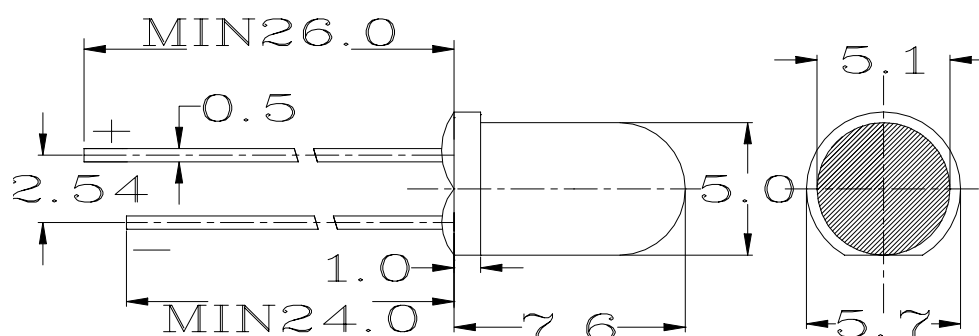
**Features**

- 1.LOW POWER CONSUMPTION.
- 2.RELIABLE AND RUGGED.
- 3.EXCELLENT UNIFORMITY OF LIGHT OUTPUT.
- 4.SUITABLE FOR LEVEL INDICATOR.
- 5.I.C COMPATIBLE.
- 6.LONG LIFE-SOLIDSTATE RELIABILTY.

**Notes:**

- 1.All dimensions are in millimeters (inches)
- 2.Tolerance is  $\pm 0.25(0.01'' )$  unless otherwise niter
- 3.Lead spacing is measured where the lead emerge package
- 4.Speciflcations are subject to change without notice

**Package Dimensions**



**Selection Guide**

| Part NO.    | Lens Type               | Chip        |          |       |               |
|-------------|-------------------------|-------------|----------|-------|---------------|
|             |                         | Material    | IV (mcd) |       | Viewing Angle |
|             |                         |             | @10mA    | *20mA |               |
|             |                         |             | Min.     | Typ.  | 2 θ 1/2       |
| RL512-RD313 | Bright Red Diffused     | GaP/GaP     | 1.3      | 2.1   | 45°           |
| RL512-SR113 | Super Red Diffused      | GaAlAs/GaAs | 44       | 82    | 45°           |
| RL512-HO313 | Orange Red Diffused     | GaAsP/GaP   | 36       | 58    | 45°           |
| RL512-HY213 | Yellow Diffused         | GaAsP/GaP   | 25       | 40    | 45°           |
| RL512-YG413 | Yellow Green Diffused   | GaP/GaP     | 32       | 56    | 45°           |
| RL512-SO423 | Super Amber Transparent | GaAsP/GaP   | 36       | 60    | 25°           |

1. θ 1/2 is the angle from optical centerline where the luminous intensity is 1/2the optical centerline value.

2. \*Luminous intensity with measured at 20mA.



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**Electrical/Optical characteristics at TA=25°C.**

| Symbol                 | Parameter             | Device                                                                         | Type.                                  | Max.                                   | Units | Test Conditions |
|------------------------|-----------------------|--------------------------------------------------------------------------------|----------------------------------------|----------------------------------------|-------|-----------------|
| $\lambda_{peak}$       | Peak Wavelength       | Bright Red<br>Super Red<br>Orange Red<br>Yellow<br>Yellow Green<br>Super Amber | 700<br>660<br>630<br>585<br>570<br>610 |                                        | nm    | IF-20mA         |
| $\lambda_D$            | Dominate Wavelength   | Bright Red<br>Super Red<br>Orange Red<br>Yellow<br>Yellow Green<br>Super Amber | 690<br>640<br>610<br>580<br>560<br>600 |                                        | nm    | IF-20mA         |
| $\Delta \lambda_{1/2}$ | Spectral Line Halfwit | Bright Red<br>Super Red<br>Orange Red<br>Yellow<br>Yellow Green<br>Super Amber | 45<br>20<br>45<br>35<br>30<br>45       |                                        | nm    | IF-20mA         |
| C                      | Capacitance           | Bright Red<br>Super Red<br>Orange Red<br>Yellow<br>Yellow Green<br>Super Amber | 40<br>45<br>15<br>20<br>15<br>15       |                                        | pF    | VF=0V; f=1MHZ   |
| VF                     | Forward Voltage       | Bright Red<br>Super Red<br>Orange Red<br>Yellow<br>Yellow Green<br>Super Amber | 2.1<br>1.8<br>2.0<br>2.0<br>2.1<br>2.0 | 2.8<br>2.4<br>2.8<br>2.8<br>2.8<br>2.8 | V     | IF-20mA         |
| IR                     | Reverse Current       | All                                                                            |                                        | 10                                     | uA    | VR=5V           |

**Absolute Maximum Ratings at TA=25°C.**

| Parameter            | Bright Red | Super Red | Orange Red | Yellow | Yellow Green | Super Amber | Units |
|----------------------|------------|-----------|------------|--------|--------------|-------------|-------|
| Power dissipation    | 45         | 110       | 100        | 85     | 100          | 100         | mW    |
| DC Forward Current   | 25         | 25        | 25         | 25     | 25           | 25          | mA    |
| Peak Forward Current | 50         | 200       | 160        | 160    | 160          | 160         | mA    |
| Reverse Voltage      | 5          | 5         | 5          | 5      | 5            | 5           | V     |

**NOTES:**

1. Operating temperature: 40°C. TO 80°C.
2. Lead soldering: 260°C for 5 seconds.