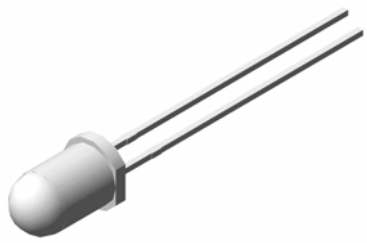
# 5mm Round Super Bright LED

## VT 5W78.52

### Description

These series high brightness White emitting LED are made from the most efficient InGaN technology. Its chip material is of InGaN technology, able to reach high light output efficiency. These series of LED come in moisture resistance water clear lens while offering 30 degree viewing angles. The most suitable is for light source application. The color and luminous Intensities of this series are grouped under 20mA for uniformity.



### Applications

- Lighting indicator
- Status lights
- ON/OFF indicator
- Backlight illumination

RoHS

Pb
pb-free

### Electronic Optical Characteristics (at 20mA):

| Part Number | Emitted Color | C.C. | | Lens Color | Iv(mcd) | | View Angle (2θ1/2) | $V_F$(V) | |
|---|---|---|---|---|---|---|---|---|---|
| | | X | Y | | Min. | Typ. | | Typ. | Max. |
| VT 5W78.52 | White | 0.33 | 0.34 | Clear | 4500 | 7400 | 30 | 3.2 | 3.6 |

### Absolute Maximum Ratings (at Ta=25℃)

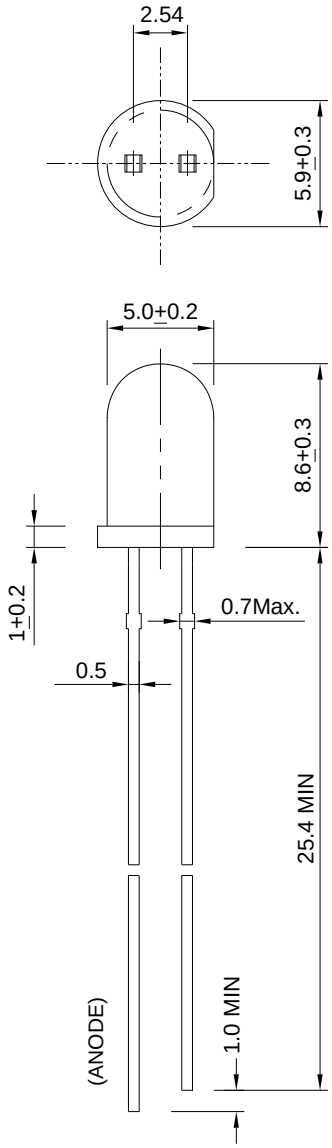
| $P_D$(mW) | $I_F$(mA) | $I_{FP}$(mA) | ESD(V) | Tsol(℃) | $I_R$(uA)@$V_{R=}$5V | Topr(℃) | Tstg(℃) |
|---|---|---|---|---|---|---|---|
| 110 | 30 | 100 | 1000 | 260±5 fro 5 sec | 50 | -40~+85 | -40~+100 |

Note: Please take note the Absolute Maximum Rating values. Any operation beyond the specified ratings in this table will result degradation of LED life-span and may cause LED to fail.

＊$I_{FP}$: Peak Forward Current under 1/10 duty, 1KHz condition

**Package Dimension:**

unit: mm

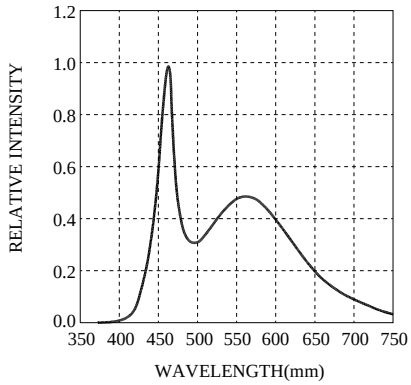



**Notes:**

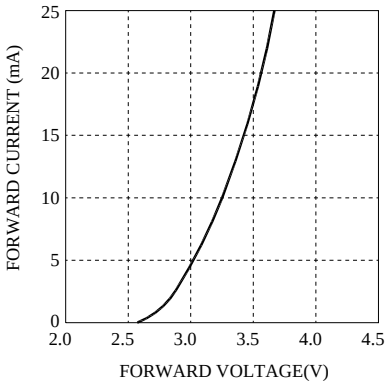
1. All dimensions are millimeters.
2. Dimensional tolerance is +/- 0.2mm unless otherwise specified.
3. Epoxy meniscus under flange is 1.5 mm max.
4. Specifications are subject to change without notice.

## Typical Electro-optical Characteristics Curves

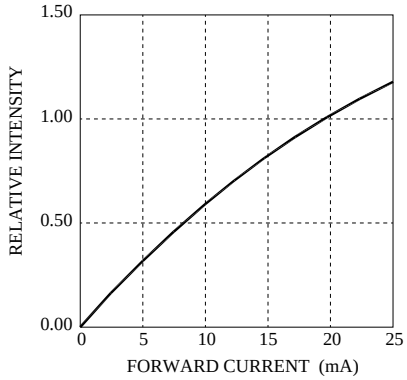
Relative Intensity vs. Wavelength



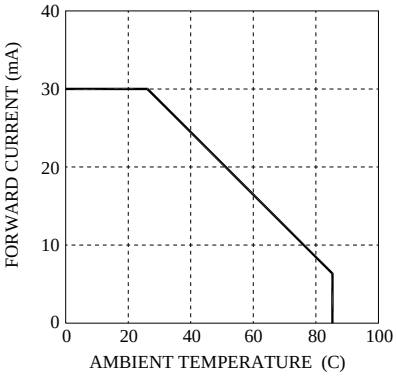

Forward Current vs. Forward Voltage



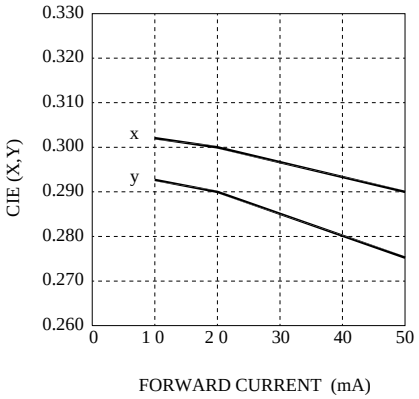

Relative Intensity vs. Forward Current



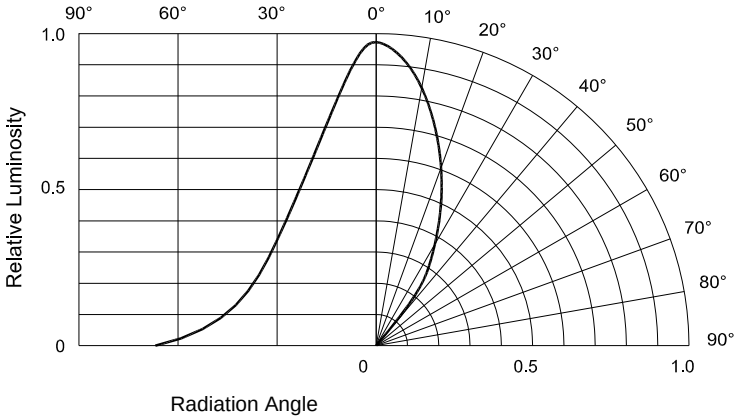

Forward Current vs. Ambient Temp.




Chromaticity Coordinate vs. Forward Current




Radiation Characteristics



**Color Ranks ($I_F$=20mA, Ta=25℃)**

| Rank | CIE x | CIE y | Rank | CIE x | CIE y |
|---|---|---|---|---|---|
| B5 | 0.287 | 0.295 | C0 | 0.330 | 0.360 |
| | 0.307 | 0.315 | | 0.361 | 0.385 |
| | 0.311 | 0.294 | | 0.355 | 0.350 |
| | 0.296 | 0.276 | | 0.330 | 0.318 |
| B6 | 0.307 | 0.315 | --- | -- | --- |
| | 0.330 | 0.339 | | --- | --- |
| | 0.330 | 0.318 | | --- | --- |
| | 0.311 | 0.294 | | --- | --- |

Measurement uncertainty of the color coordinates: ±0.01

**Specification for Bin Grade at 20mA Condition**

| Iv (mcd) | | | $V_F$(Volt) | | |
|---|---|---|---|---|---|
| Code | Min. | Max. | Code | Min. | Max. |
| 52 | 4500 | 5650 | 1 | 3.0 | 3.2 |
| 53 | 5650 | 7150 | 2 | 3.2 | 3.4 |
| 53 | 7150 | 9000 | 3 | 3.4 | 3.6 |
| -- | -- | -- | | | |