



**THE DATASHEET OF  
VAOL-5701DE4**



# VAOL-5701DE4

## T-1 3/4 (5mm) through-hole LED with high intensity light output



Green T-1 3/4 (5mm) LED with water transparent lens

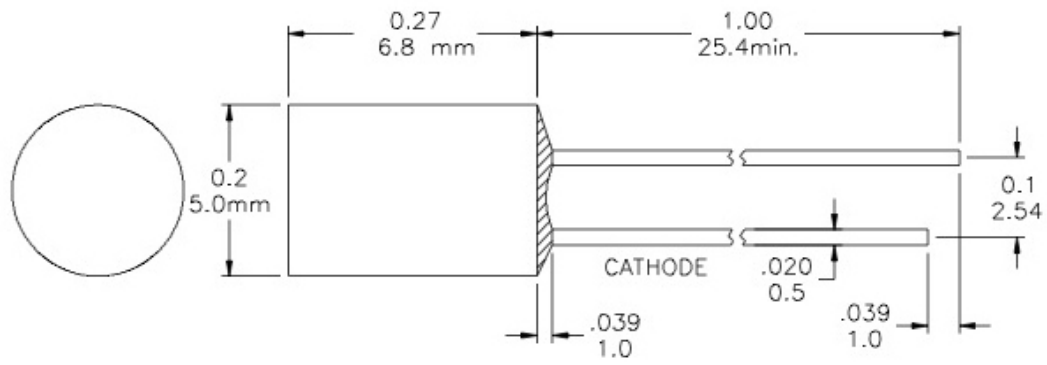
### Application

- Automotive
- Front Panel Indicator
- Residential and Landscape Lighting
- Railway
- Commercial Outdoor Sign Board
- Indoor and Outdoor Indicating
- Electronic Devices
- Storage Servers
- Dot-Matrix Module

### Key Features

- Color: Green
- LED Size 5mm T-1 3/4
- Low power consumption
- I.C. compatible
- GaAsP/GaP material technology
- Water Transparent Lens
- Viewing Angle: 100°
- MSL rating: 2
- RoHS and REACH Compliant

## Product Dimensions



### Notes:

1. All dimensions are in inches [millimeters]
2. Tolerance is  $\pm 0.01$ " [0.25mm] unless otherwise noted
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

## Product Specifications

### Absolute Maximum Ratings (Ta=25°C)

| Symbol  | Parameter                             | Max         | Unit  |
|---|---------------------------------------|-------------|-------|
| PD  | Power Dissipation                     | 100         | mW    |
| VR  | Reverse Voltage                       | 5           | V     |
| IAF   | Average Forward Current               | 30          | mA    |
| IPF   | Peak Forward Current (Duty=0.1, 1kHz) | 100         | mA    |
| -   | Derating Linear Form 25°C             | 0.4         | mA/°C |
| Topr  | Operating Temperature Range           | -40 to +80  | °C    |
| Tstg  | Storage Temperature Range             | -40 to +100 | °C    |
| Lead Soldering Temperature [1.6mm(0.063inch)From Body] 260°C For 5 Seconds. |                                       |             |       |

### Electrical / Optical Characteristics and Curves at Ta=25°C

| Symbol | Parameter            | Test Condition | Min | Typ | Max | Unit |
|--------|----------------------|----------------|-----|-----|-----|------|
| VF     | Forward Voltage      | IF= 20 mA      |     | 2.0 | 2.4 | V    |
| IR     | Reverse Current      | VR=5 V         |     |     | 100 | µA   |
| Δθ     | Half Intensity Angle | IF= 20 mA      |     | 100 |     | Deg. |
| IV     | Luminous Intensity   | IF= 20 mA      |     | 100 |     | mcd. |
| λd     | Dominant Wavelength  | IF= 20 mA      |     | 570 |     | nm   |

# Product Specifications

## Electrical Characteristics at (Ta=25°C)

| Symbol    | Iv                 |        | V <sub>F</sub>  |         | λD                  |         |
|-----------|--------------------|--------|-----------------|---------|---------------------|---------|
| Parameter | Luminous Intensity |        | Forward Voltage |         | Dominant Wavelength |         |
| Condition | IF=20mA            |        | IF=20mA         |         | IF=20mA             |         |
| Unit      | mcd                |        | V               |         | nm                  |         |
| Binning   | Grade              | Range  | Grade           | Range   | Grade               | Range   |
|           | BIN 9              | 90~125 | C               | 1.9~2.0 | G9                  | 569~571 |
|           |                    |        | D               | 2.0~2.1 | G10                 | 571~573 |
|           |                    |        | E               | 2.1~2.2 | G11                 | 573~575 |
|           |                    |        | F               | 2.2~2.3 |                     |         |
|           |                    |        | G               | 2.3~2.4 |                     |         |

Intensity: Tolerance of minimum and maximum = ± 15%

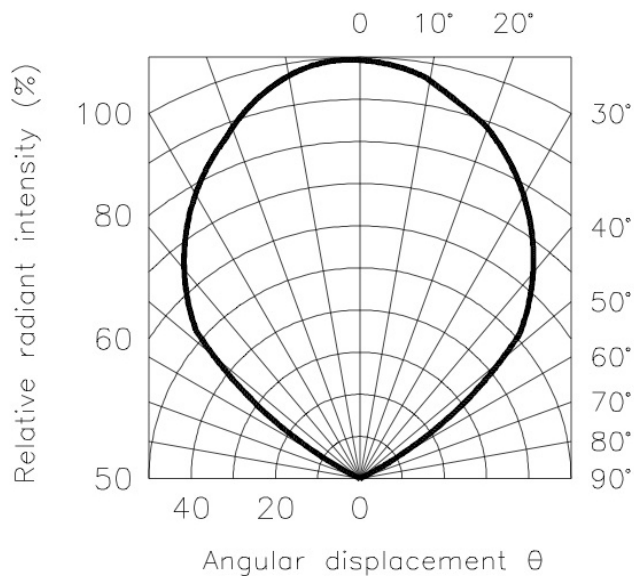
Vf: Tolerance of minimum and maximum = ± 0.05v

**Notes:**

1. Static electricity and surge damages the LED. It is recommend to use a anti-static wrist band or anti-electrostatic glove when handing the LEDs. All devices, equipment and machinery must be properly grounded.
2. Specific binning requirements – Contact VCC

## Radiation Diagram

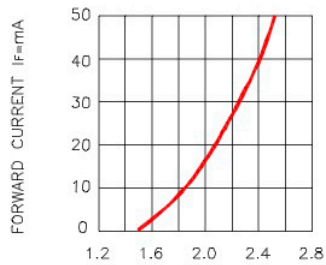
IF=20 mA    50% Power Angle    Angle =100°



# Product Specifications

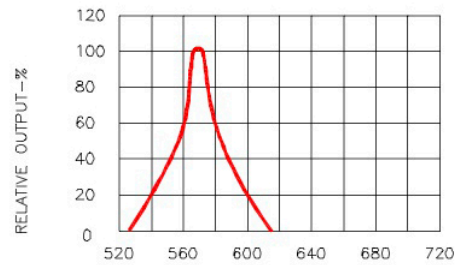
## Typical Electro-optical Characteristics Curves (25°C Free Air Temperature Unless Otherwise Specified)

### Green



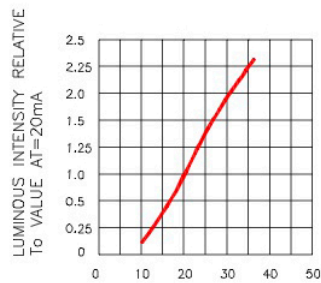
FORWARD VOLTAGE(Vf)-VOLTS

Fig.1 FORWARD CURRENT VS FORWARD VOLTAGE



WAVELENGTH(λ)-nm

Fig.2 SPECTRAL RESPONSE



If-FORWARD CURRENT-mA

Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

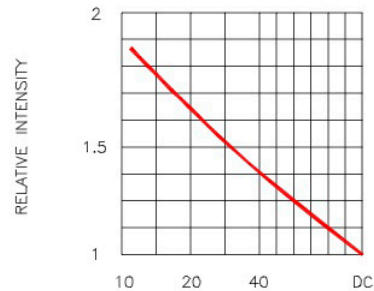
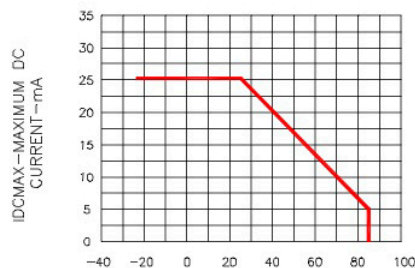


Fig.4 LUMINOUS INTENSITY VS.DUTY CYCLE



Ta AMBIENT TEMPERATURE °C

Fig.5 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

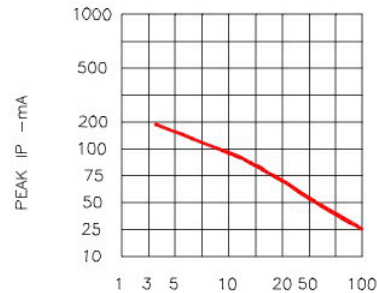


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1KHz)

## Compliances and Approvals



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