

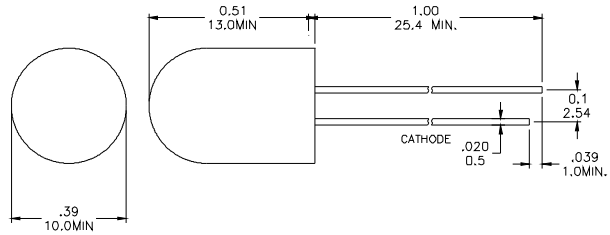
# LED LAMP

## VAOL-10GCE4

### Feature

- Low Power Consumption
- High Intensity
- I.C. compatible

### Package Dimension



### Applications

- Commercial Outdoor Sign Board
- Front Panel Indicator
- Dot-Matrix Module
- LED Bulb

### Description

- These High Intensity LEDs are Based on GaAsP/GaP Material Technology
- Emitted color: Yellow
- Water Transparent Lens

\*Tolerance :  $\pm \frac{0.01}{0.25}$  Unit :  $\pm \frac{\text{inch}}{\text{mm}}$

### Absolute Maximum Ratings at Ta = 25°C

Symbol	Parameter	Max.	Unit
PD	Power Dissipation	100	mW
VR	Reverse Voltage	5	V
IAF	Average Forward Current	25	mA
IPF	Peak Forward Current (Duty=0.1 · 1kHz)	85	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
$\Delta\theta$	Half Intensity Angle	IF = 20 mA		30		Deg.
IV	Luminous Intensity	IF = 20 mA		200		mcd.
$\lambda_p$	Peak Wavelength	IF = 20 mA		593		nm
$\lambda_d$	Dominant Wavelength	IF = 20 mA		590		nm

**Electrical Characteristics at Ta = 25°C**

Symbol	Iv		VF		λ D	
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
			B	1.8~1.9	Y3	589~591
			C	1.9~2.0	Y4	591~593
			D	2.0~2.1	Y5	593~595
			E	2.1~2.2		
			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

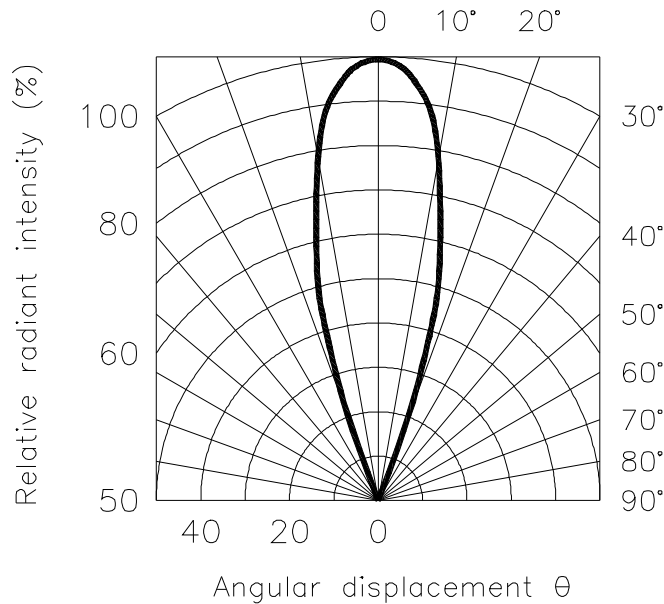
NOTE:

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.

**Radiation Diagram**

**IF=20 mA    50% Power Angle    Angle =30°**

Radiation Diagram



# LED LAMP VAOL-10GCE4

## YELLOW

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

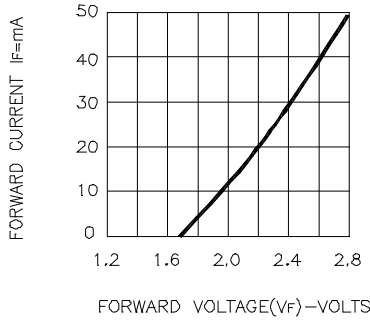


Fig.1 FORWARD CURRENT VS FORWARD VOLTAGE

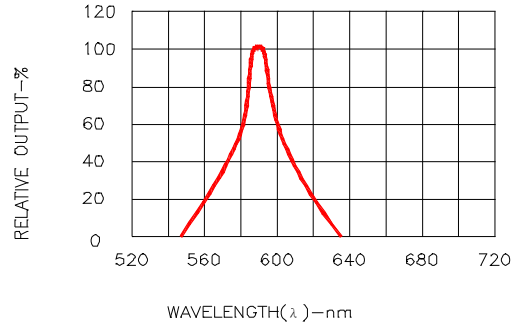


Fig.2 SPECTRAL RESPONSE

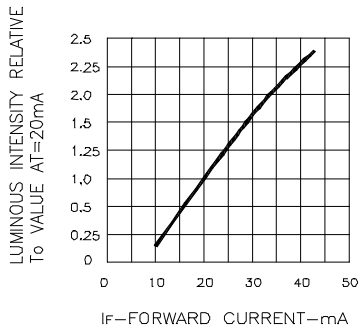


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

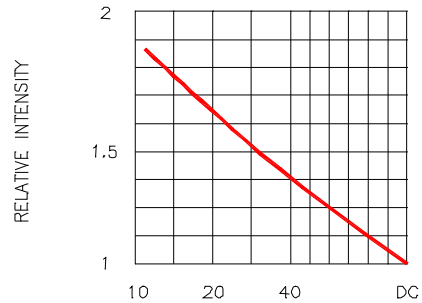


Fig.4 LUMINOUS INTENSITY VS. DUTY CYCLE (AVERAGE I<sub>F</sub>=10mA)

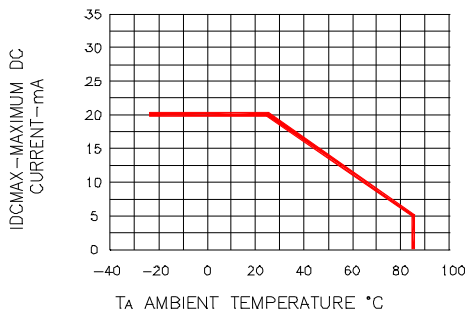


Fig.5 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

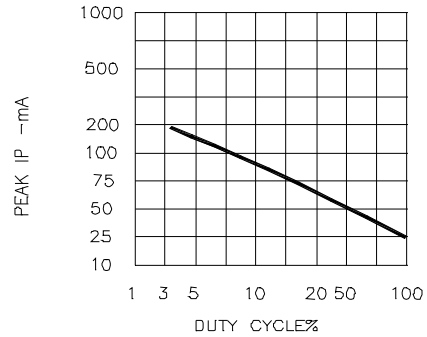


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1KHz)