

# STANDARD LAMP

## VAOL-3GCE4

### Feature

- Low Power Consumption
- I.C. compatible

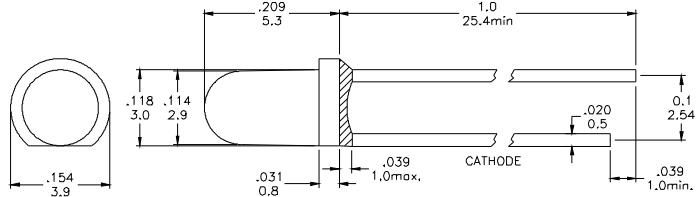
### Applications

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

### Description

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

### Package Dimension



\* 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	120	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 + 85	°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		1.8	2.0	V
IR	Reverse Current	VR = 5 V			50	μA
$\Delta\theta$	Half Intensity Angle	IF = 20 mA		30		Deg.
IV	Luminous Intensity	IF = 20 mA		150		mcd.
$\lambda d$	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
	--	--	A	1.7~1.8	Y3	587~589
	--	--	B	1.8~1.9	Y4	589~591
	--	--	C	1.9~2.0	Y5	591~593

Intensity: Tolerance of minimum and maximum = ± 15%

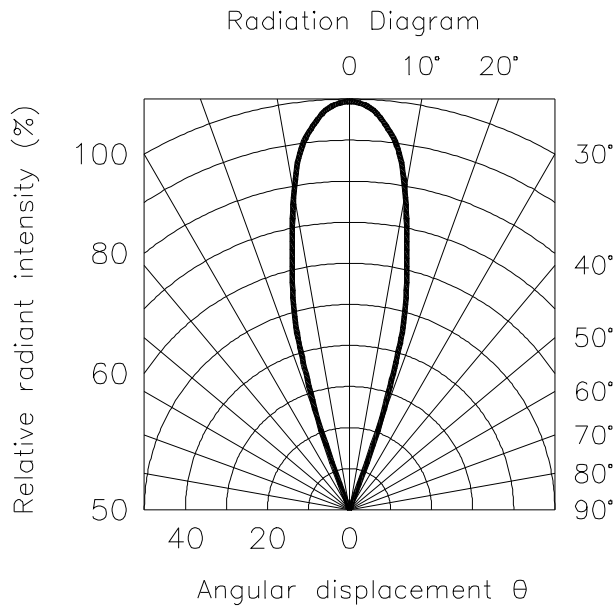
Vf: Tolerance of minimum and maximum = ± 0.05v

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°**

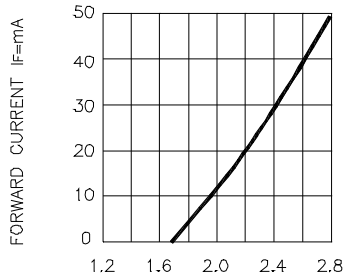


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## VAOL-3GCE4

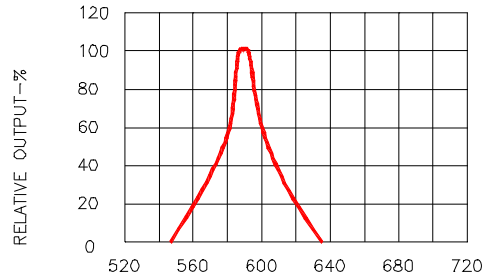
### YELLOW

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



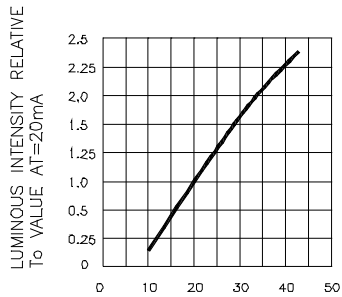
FORWARD VOLTAGE(V<sub>f</sub>)—VOLTS

Fig.1 FORWARD CURRENT VS FORWARD VOLTAGE



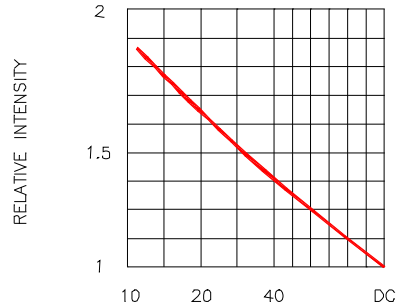
WAVELENGTH(λ)—nm

Fig.2 SPECTRAL RESPONSE



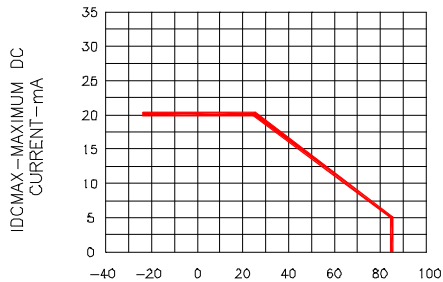
I<sub>f</sub>—FORWARD CURRENT—mA

Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



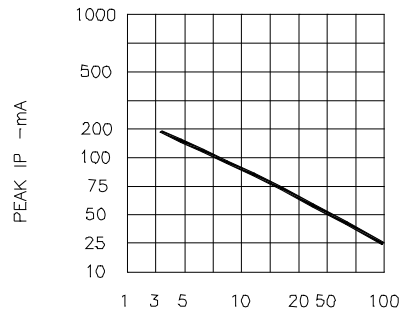
DUTY CYCLE% PER SEGMENT (AVERAGE I<sub>f</sub>=10mA)

Fig.4 LUMINOUS INTENSITY VS.DUTY CYCLE



T<sub>a</sub> AMBIENT TEMPERATURE °C

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



DUTY CYCLE%

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