

LL-U48UY1C-001

DATA SHEET

QC:

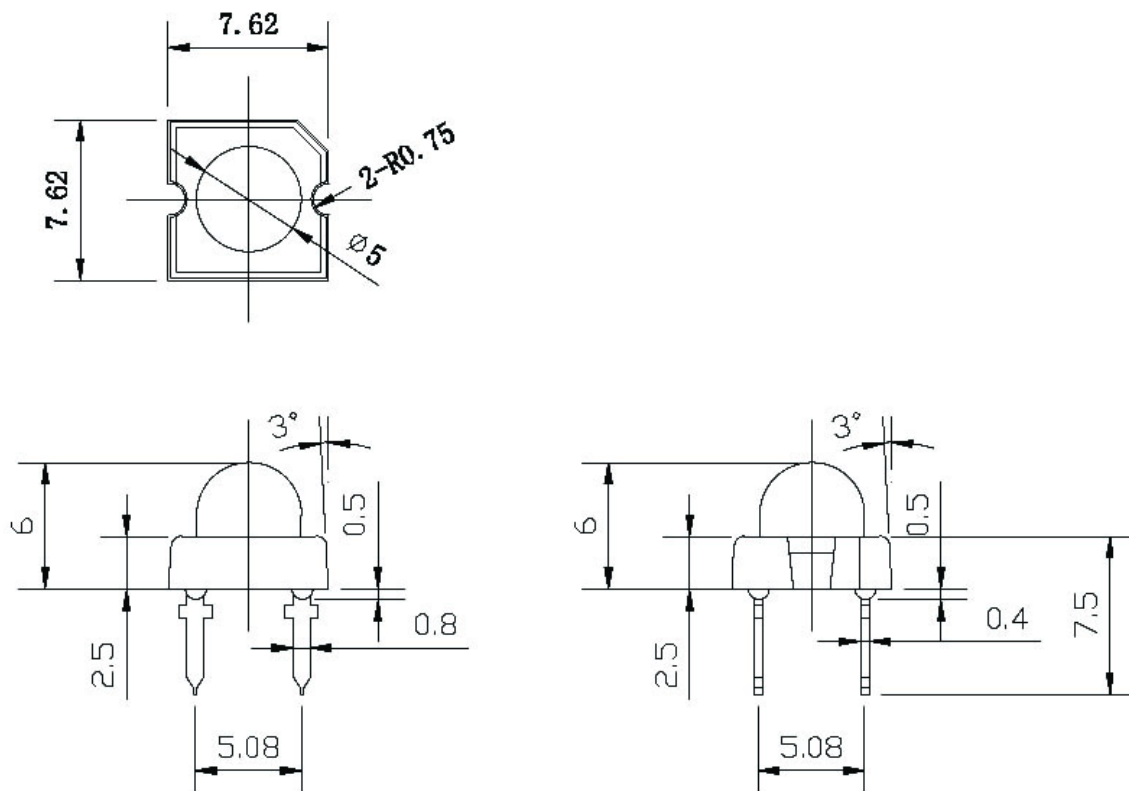
ENG:

Prepared By:

Features

- SUPER FLUX OUTPUT
- DESIGN FOR HIGH CURRENT OPERATION
- OUT STANDING MATERIAL EFFICIENCY
- RELIABLE AND RUGGED

Package Dimension:



Part NO.	Material	Lens Color	Source Color
LL-U48UY1C-001	AlGaInP	Water Clear	Ultra Yellow

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25 (.010") mm unless otherwise noted.
3. Protruded resin under flange is 1.0mm (.04") max.
4. Lead spacing is measured where the leads emerge from the package.
5. Specifications are subject to change without notice.

Reliability

Test items and Results

Type	Test Item	REF.Standard	Test Condition	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	JIS C 7021 (1977)A-4	-40°C→25°C→100°C→25°C 30mins,5mins,30mins,5mins	100cycles	0/100
	Thermal Shock	MIL-STD-107D	-40°C→100°C 15mins,15mins	100cycles	0/100
	High Humidity Heat Cycle	JIS C 7021 (1977)A-5	30°C→65°C 90% RH 24hrs/1 cycle	10cycles	0/100
	High Temperature Storage	JIS C 7021 (1977)B-10	Ta=100°C	1000hrs	0/100
	Humidity Heat Storage	JIS C 7021 (1977)B-11	Ta=60°C RH90%	1000hrs	0/100
	Low Temperature Life Test	JIS C 7021 (1977)B-12	Ta=40°C	1000hrs	0/100
Operation Sequence	Life Test	JIS C 7035 (1985)	Ta=60°C If=20mA	1000hrs	0/100
	High Humidity Heat Life Test	---	60°C RH=90% If=20mA	500hrs	0/100
	Low Temperature Life Test	---	Ta=-30°C If=20mA	1000hrs	0/100
Destructive Sequence	Resistance to Soldering Heat	JIS C 7021 (1977)A-11	Tsol=260±5°C 10sec (3mm from the base of the epoxy bulb)	1 time	0/20
	Solder ability	JIS C 7021 (1977)A-2	Tsol=235±5°C 5sec (using flux)	1 time (over 95%)	0/20
	Lead Pull/Bend Test	JIS C 7021 (1977)A-11	Load 2.5N(0.25kgf) 0°→90°→0° bend 3 times	No noticeable damage	0/20

Refer to reliability test standard specification for in this line.

Criteria for Judging The Damage

Item	Symbol	Test Condition	Criteria For Judgment	
			Min.	Max
Forward Voltage	Vf	If=20mA	---	Initial Data x 1.1
Reverse Current	Ir	Vr=5V	---	Initial Data x 2.0
Luminous Intensity	Iv	If=20mA	Initial Data x 0.7	---

Absolute Maximum Ratings at Ta=25°C

Parameter	MAX.	Unit
Power Dissipation	100	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	100	mA
Continuous Forward Current	35	mA
Derating Linear From 50°C	0.4	mA/°C
Reverse Voltage	5	V
Operating Temperature Range	-40°C to +80°C	
Storage Temperature Range	-40°C to +80°C	
Lead Soldering Temperature [4mm(.157") From Body]	260°C for 5 Seconds	

Electrical Optical Characteristics at Ta=25°C

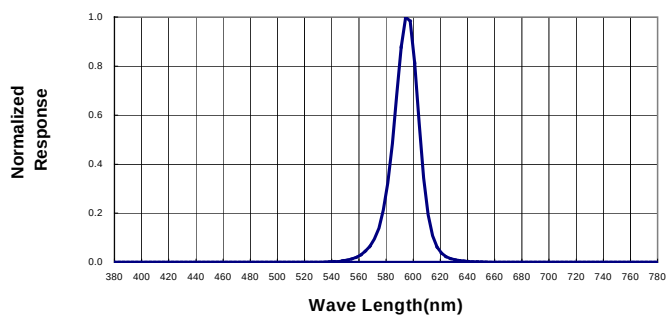
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I_v	1000	2000	4000	mcd	$I_F=20\text{mA}$ (Note 1)
Viewing Angle	$2\theta_{1/2}$	40	46	52	Deg	(Note 2)
Peak Emission Wavelength	λ_p	587	592	597	nm	$I_F=20\text{mA}$ (Note 3)
Spectral Line Half-Width	$\Delta\lambda$	16	20	25	nm	$I_F=20\text{mA}$
Forward Voltage	V_F	1.8	2.25	2.8	V	$I_F=20\text{mA}$
Reverse Current	I_R	---	---	100	μA	$V_R=5\text{V}$

Note:

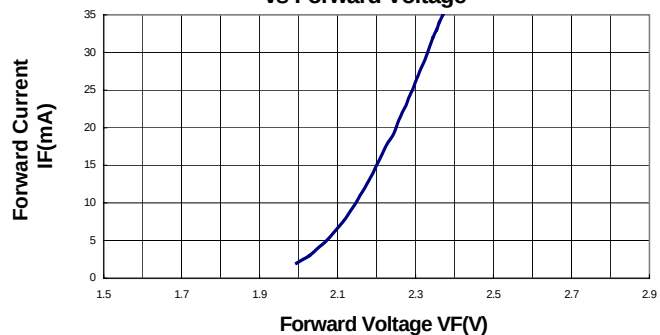
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity
3. The dominant wavelength(λ_p) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

Typical Electrical / Optical Characteristics Curves
(25°C Ambient Temperature Unless Otherwise Noted)

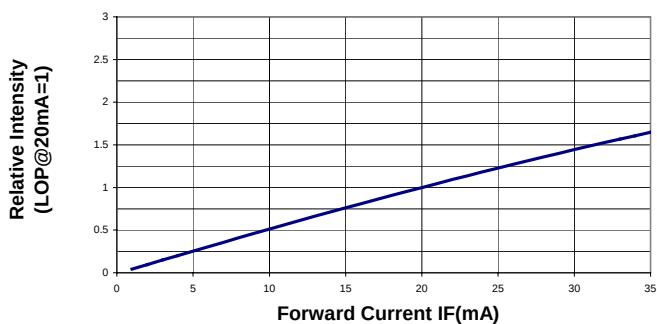
Spectral Radiance (Peak @ 592nm)



Forward Current vs Forward Voltage



Relative Luminous Intensity vs Forward Current



Beam Pattern

