5mm Yellow LED

Order code: **55-1814**

MPN: OSYL5111A-PQ

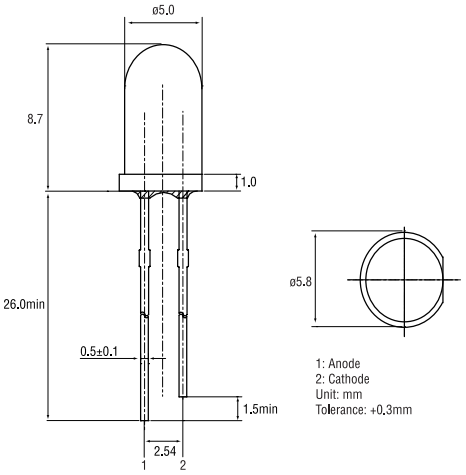
Features:

- High luminous LEDs
- 5mm round standard directivity
- Superior weather-resistance
- UV Resistant epoxy
- Water clear type

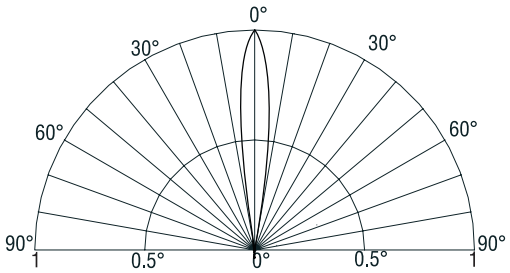
Applications

- Electronic Signs and Signals
- Small Area Illuminations
- Back Lighting
- Other Lighting

Outline dimensions:



Directivity:



Absolute maximum rating (Ta=25°C)

Item	Symbol	Value	Unit
DC forward current	I_F	30	mA
Pulse forward current*	I_{FP}	100	mA
Reverse voltage	V_R	5	V
Power dissipation	P_D	78	mW
Operating temperature	T_{opr}	–30 to +85	°C
Storage temperature	T_{stg}	–40 to +100	°C
Lead soldering temperature	T_{sol}	260°C/5 sec	–
*Pulse width max. 10ms. Duty ratio max. 1/10			

Electrical – Optical characteristics (Ta=25°C)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
DC Forward voltage	V_F	I_F = 20mA	1.8	2.1	2.6	V
DC Reverse current	I_R	V_R = 5V	–	–	10	µA
Domi. Wavelength*	λ_D	I_F = 20mA	585	590	595	nm
Luminous intensity†	I_V	I_F = 20mA	4200	5800	7000	mcd
50% Power angle	$2\theta_{1/2}$	I_F = 20mA	–	15	–	deg

* Tolerance of dominant wavelength is ±1nm
† Tolerance of luminous intensity is ±15%

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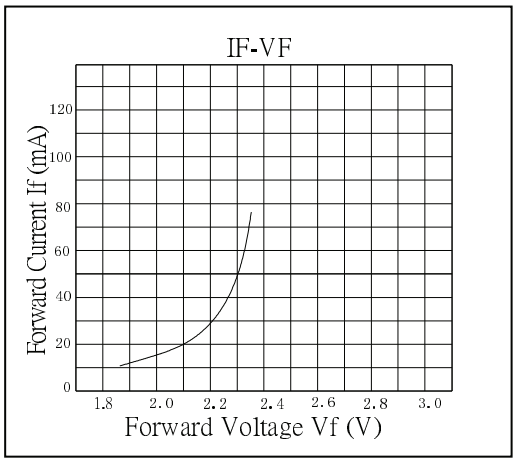
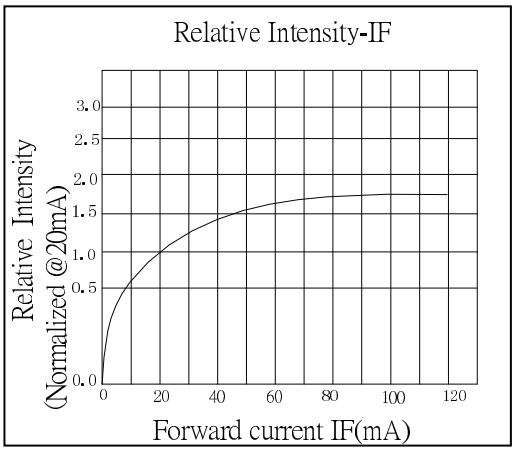
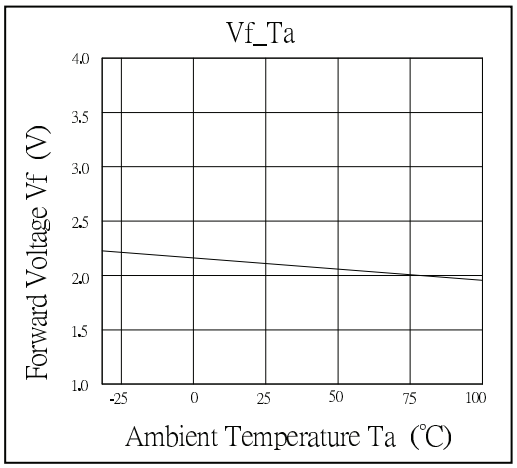
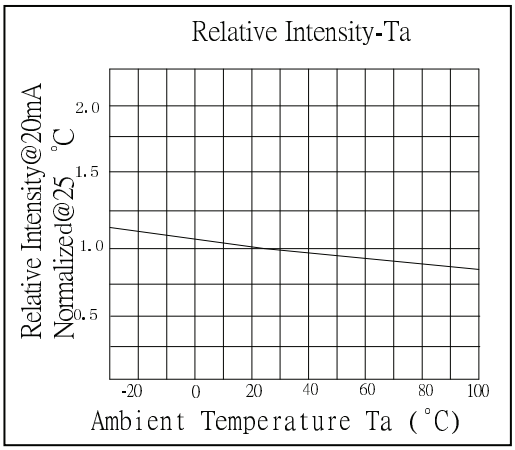
AlGaInP LED

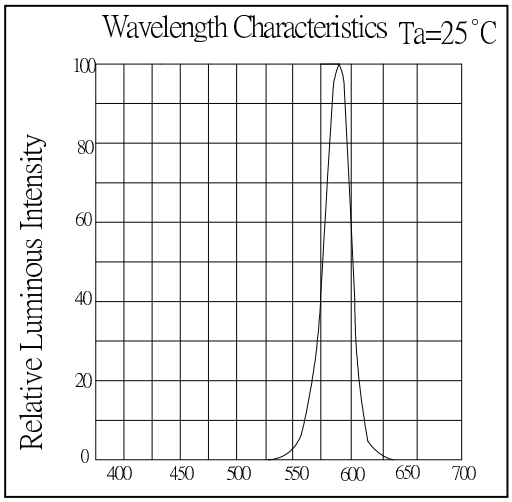
TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES

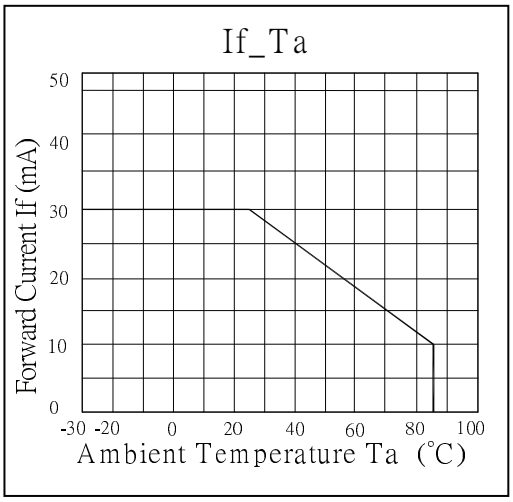












RELIABILITY TEST REPORT

CLASSIFICATION	TEST ITEM	TEST CONDITION
ENDURANCE TEST	OPERATION LIFE	If:20mA Ta:25+5 TEST TIME=1000HRS (–24HRS,+72HRS)
	HIGH TEMPERTURE HIGH HUMIDITY STORAGE	R.H:90~95% Ta:65+5°C TEST TIME=240HRS (+2HRS)
	HIGH TEMPERTURE STORAGE	Ta:105±5°C TEST TIME=500HRS (–24HRS,+48HRS)
	LOW TEMPERTURE STORAGE	Ta:–55±5°C TEST TIME=500HRS (–24HRS,+48HRS)
ENVIRONMENTAL TEST	TEMPERTURE CYCLING	105°C~25°C~–55°C~25°C 60min 10min 60min 10min 20cycles
	THERMAL SHOCK	105°C~–55°C 10min 10min 10cycles
	SOLDER RESISTANCE	Ta:260±5°C TEST TIME=10±1sec
	SOLDERABILITY	Ta:230±5°C TEST TIME=5±1sec

JUDGMENT CRITERIA OF FAILURE FOR THE RELIABILITY

MEASURING TIME	SYMBOL	CONDITIONS	FAILURE
LUMINOUS INTENSITY	IV	IF=20mA	IV<0.5*INITIAL VALUE
FORWARD VOLTAGE	VF	IF=20mA	VF>1.2*INITIAL VALUE
REVERSE CURRENT	IR	Vr=5V	IR>2*SPEC

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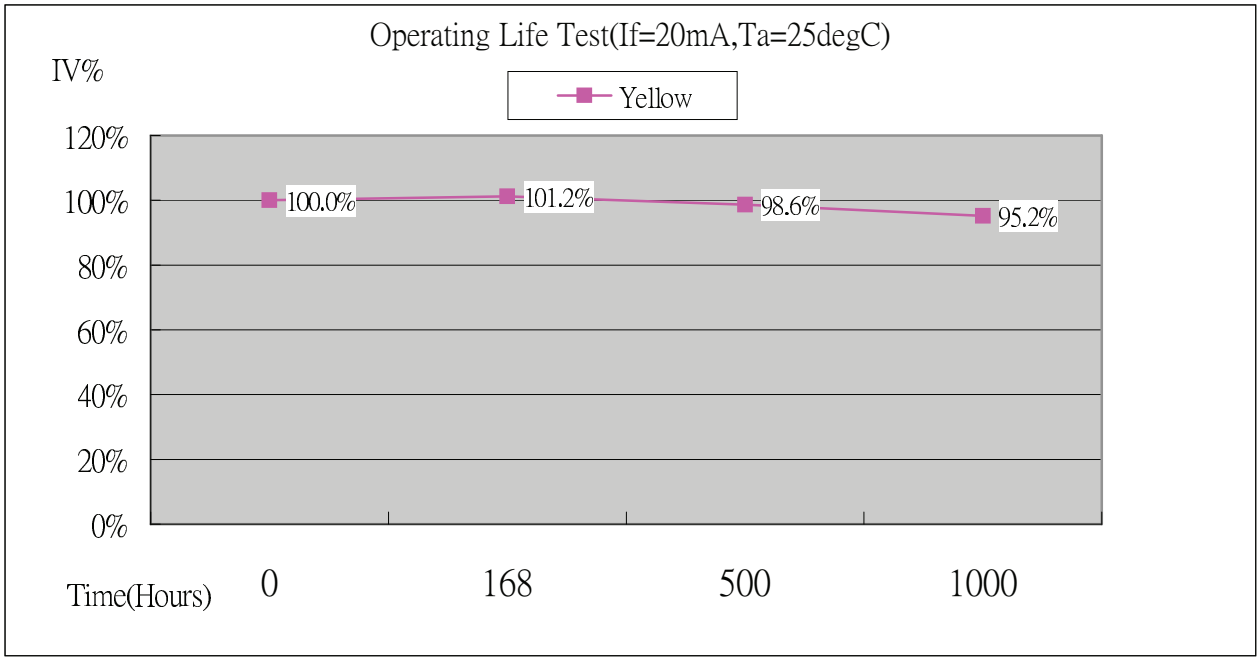


※ Burn-in condition: 20mA

※ Projection of Statistical Average Light Output Degradation Performance for LED Technology Extrapolated from TruOpto QA Dept. Test Data.

※ According to TruOpto outgoing Packaged Products Specification

※ MTBF:50,000hrs, 90% Confidence (A Failure is Any LED Which is Open, shorted or fails to Emit Light)

※ The Projected Data is Base on The Feature of LED Itself Under Normal Operation Conditions.

※ Any Improper Circuit Design or External Factors Might Cause a Different Result.

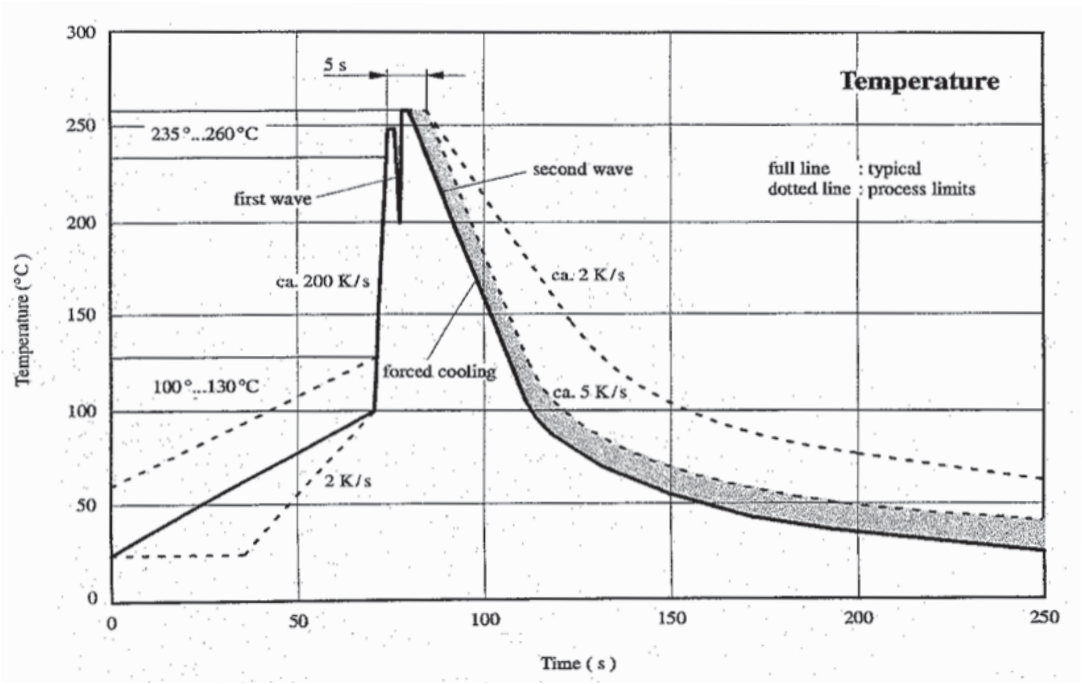
LAMP APPLICATION (PB FREE SOLDERING)

Apply to LAMP (DIP) SERIES

Description:

(1) Manual soldering (Solder Iron)
- (1.1) Temperature at tip of the iron: 300 °C Max.
- (1.2) It's banned to load any stress on the resin during soldering.
- (1.3) Soldering time: 3sec. Max. (one time only.)
- (1.4) Leave 3mm of minimum distance from the base of the epoxy.

(2) Dip Soldering (Wave Soldering-Solder Bath)
- (2.1) Leave 3mm of minimum distance from the base of the epoxy. Soldering beyond the base of the tie bar (stand off) is recommended.
- (2.2) When soldering, do not put stress on the LEDs during heating.
- (2.3) Cutting the lead frames at high temperatures may cause LED failure.
- (2.4) Never take next process until the component is cooled down to room temperature after reflow.
- (2.5) After soldering, do not warp the circuit board.
- (2.6) The recommended dip soldering profile is the following.



Wave soldering of double wave optodevices