

SMD LED

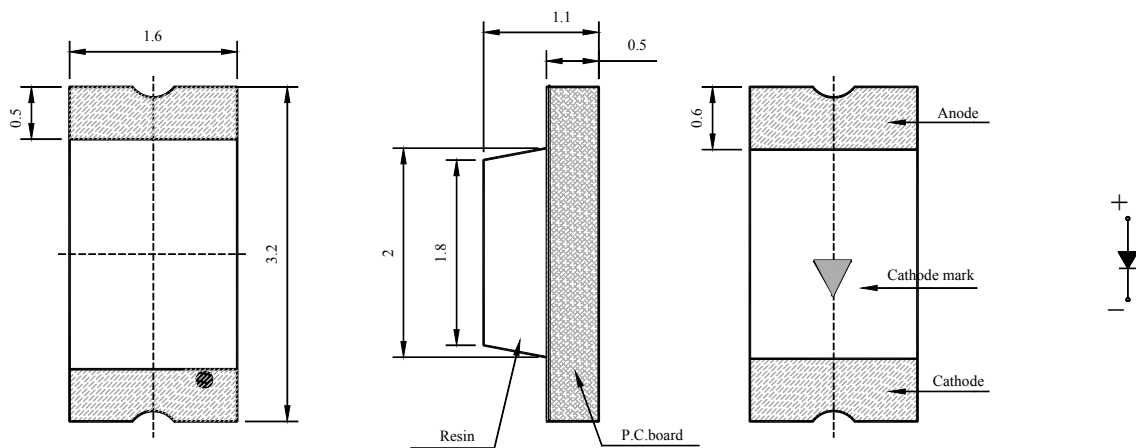
★ Features:

- Compatible with automatic placement equipment
- Compatible with reflow solder process
- Low power consumption and wide viewing angle
- This product doesn't contain restriction Substance, comply ROHS standard.

★ Applications:

- Automotive and Telecommunication
- Flat backlight for LCD ,switch and symbol in telephone and fax
- General use for indicators

★ Package Dimensions (1206 Package 3.2x1.6x1.1mm)



Unit : mm
Tolerance:±0.1

Electrodes: Au Plating
Encapsulating Resin: Epoxy Resin
Package: BT Resin

★ Selection Guide

Part NO.	Chip		Lens Color	Viewing Angle 2θ 1/2(deg)
	Material	Emitted Color		
1206-FLWC-UHR	AlGaInP	High Super Red	Water Clear	120

SMD LED**Part No: 1206-FLWC-UHR****★Absolute Maximum Ratings****(Ta=25°C)**

Parameter	Symbol	Max.	Unit
Power Dissipation	P_M	60	Mw
Pulse Forward Current	I_{FP}	80	mA
DC Forward Current	I_F	20	mA
Reverse Voltage	V_R	5	V
Operating Temperature Range	T_{opr}	-40°C~85°C	°C
Storage Temperature Range	T_{stg}	-40°C~100°C	°C

* I_{FP} condition: pulse width $\leq 1ms$,duty cycle $\leq 1/10$ **★Electric-Optical Characteristics**

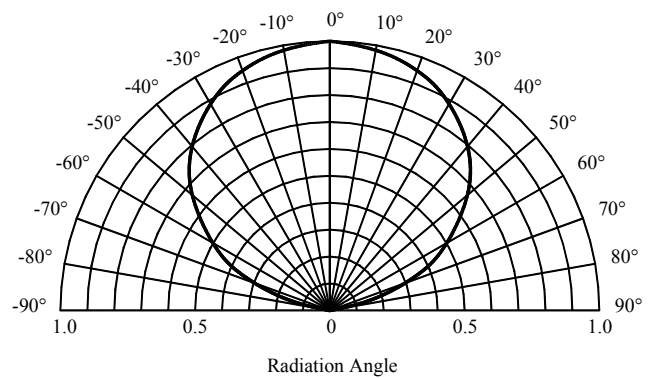
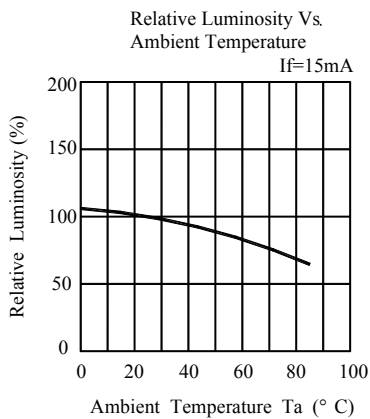
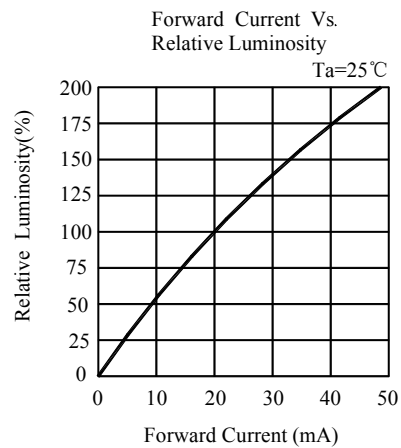
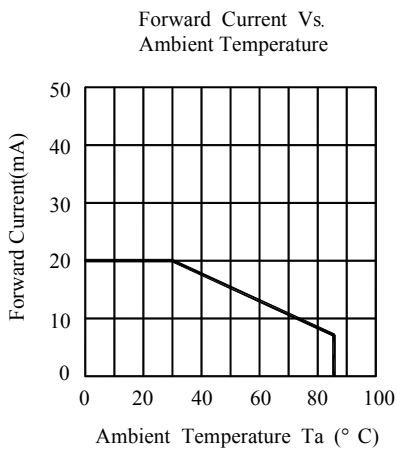
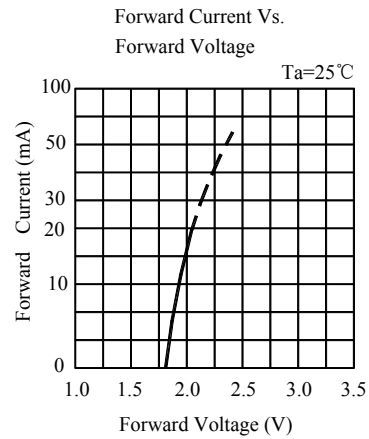
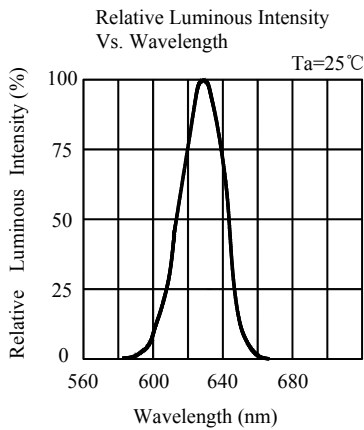
Parameter	Symbol	Min	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I_V	45	--	130	mcd	$I_F=15mA$
Forward Voltage	V_F	1.8	--	2.2	V	$I_F=15mA$
Reverse Current	I_R	--	--	10	μA	$V_R=5V$
Dominant Wavelength	λ_d	616	--	628	nm	$I_F=15mA$
Spectral Line Half Width	$\Delta\lambda$	--	30	--	nm	$I_F=15mA$
Viewing Angle	$2\theta_{1/2}$	--	120	--	Deg.	$I_F=15mA$

- Notes: 1. Tolerance of Luminous Intensity $\pm 10\%$
 2. Tolerance of Dominant Wavelength $\pm 2nm$
 3. Tolerance of Forward Voltage $\pm 0.05V$
 4. Luminous Intensity is measured on bare chips

SMD LED

Part No: 1206-FLWC-UHR

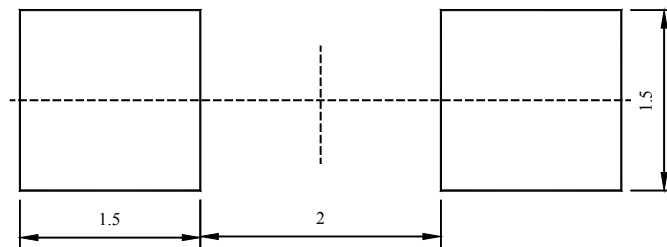
★Characteristics Diagrams



SMD LED

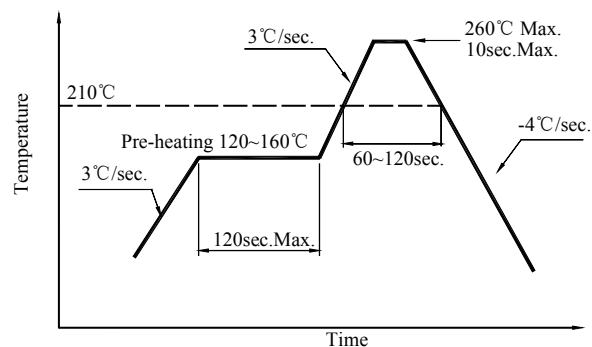
Part No: 1206-FLWC-UHR

★ Soldering Pad Dimensions:



★ Soldering Conditions (Maximum allowable soldering conditions)

Reflow soldering profile
<Pb-free solder>



- Reflow soldering should not be done more than two times.
- Do not stress its resin while soldering.
- After soldering, do not warp the circuit board.

SMD LED

Part No: 1206-FLWC-UHR

★ Reliability

(1) Test Items and Conditions

NO	Test Item	Test Conditions	Sample	Ac/Re
1	Temperature Cycle	-40±5°C→25±5°C→100±5°C→25±5°C (30min, 5min, 30min, 5min) 100 Cycles	20	0/1
2	High Temperature Storage	Ta: 100±5°C Test time=1000HRS(-24HRS,+72HRS)	20	0/1
3	High Temperature And High Humidity Working	Ta: 85±5°C, RH:85±5%, IF=15mA Test time=500HRS(-24HRS,+72HRS)	20	0/1
4	Low Temperature Storage	Ta: -40±5°C Test time=1000HRS(-24HRS,+72HRS)	20	0/1
5	Operating Life Test	Connect with a power IF=15mA Ta=Under room temperature Test time=1000HRS(-24HRS,+72HRS)	20	0/1
6	Thermal Shock	-40±5°C→100±5°C (15min, 15min) 100 Cycles	20	0/1
7	IR-Reflow Pb-Free Process	①80°C②100°C③120°C④160°C⑤170°C⑥235°C⑦270°C⑧255°C, 60cm/min, 2 times	20	0/1

(2)Criteria of judging the damage

Item	Symbol	Test condition	Criteria for judgement	
			Min.	Max.
Forward voltage	VF	IF=Test Current	/	U.S.L*1.1
Reverse current	IR	VR=5V	/	15uA
Luminous intensity	IV	IF=Test Current	L.S.L*0.7	/
Wave length	λ D/ λ P	IF=Test Current	/	U.S.L±2nm
Appearance	/	View check	No mechanical damage	

* U.S.L: Upper standard level

L.S.L: Lower standard level