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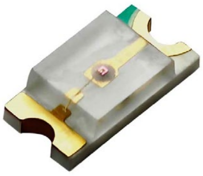
ChipLED 1206 Series
3.2*1.6*0.9mm
Single Color Package



A representative image

ChipLED 1206 Green Series

Description

- These ChipLEDs are designed in an industry-standard package.

- Various LED colors are available in seven compact, single-color packages.

- The YY1206 has the industry-standard 3.2 mm × 1.6 mm footprint, which is excellent for all-around use.

- These ChipLEDs are packaged in tape and reel with 3000 units in general per reel.

- All packages are compatible with IR reflow solder processes.

- The small size and wide viewing angle,

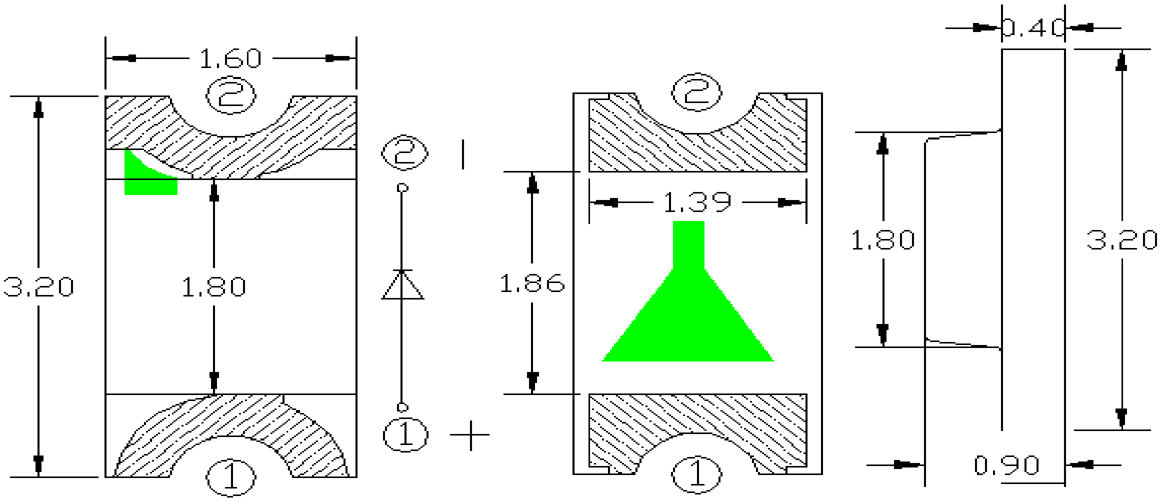
Features and Benefits

- Small size, Industry-standard footprint
- Compatible with Infrared solder process
- Compatible with automatic placement equipment
- Operating temperature range of –40°C to +85°C
- Viewing angle: 140°
- Right angle and reverse mount package available
- Various colors available
- Available in 8-mm tape, 7" reel (3000 pcs/reel), Meets EIA STD package
- Moisture sensitivity level: 3
- Halogen-free , RoHS and REACH compliant

Applications

- Keypad backlighting
- Push-button and switch backlighting
- LCD backlighting
- Symbol backlighting
- Front-panel indicator
- Optical indicator
- Home and smart appliances
- Wearable and portable devices
- Toys
- Displays for industrial control systems

Package Drawing



Top View

Bottom View

Side View

Note:

1. All dimensions are in millimeters.
2. Tolerance is ±0.1 mm unless otherwise specified.

Part Table

#	Part Number	Emission Color	Polarity	Znener	Binning Current (mA)	Luminous Intensity (mcd)	Dominant Wavelength (nm)	Forward Voltage (V)	Remark
1	YY1206GR-NN1S0-T5AR4	Green			5	175-620	516-531	2.4-3.1	
2	YY1206GR-NZ1S0-T5AR4	Green		Zener	5	300-620	516-534	2.4-3.0	
3	YY1206GR-NN1S2-T5AR4	Green			5	300-620	516-531	2.4-3.0	Higher Intensity

Absolute Maximum Ratings for at Ta = 25°C

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	5	V
Forward Current	I_F	20	mA
Peak Forward Current(Duty 1/10 @1KHz)	I_{FP}	60	mA
Power Dissipation	Pd	70	mW
Electrostatic Discharge	ESD_{HBM}	> 2000	V
Operating Temperature	Topr	-40 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +85	℃
Soldering Temperature	Tsol	Reflow Soldering : 260 °C for 10 sec.	
		Hand Soldering : 300 °C for 3 sec.	

Luminous Intensity (Iv) Bin Limits

Bin ID	Luminous Intensity(mcd)	
	Min.	Max.
P23	175	210
P24	210	250
P25	250	300
P26	300	360
P27	360	430
P27	430	520
P28	430	520
P29	520	620
P30	620	750

Forward Voltalge(V) Bin Limits

Bin ID	Forward Voltage(V)	
	Min.	Max.
VK	2.4	2.5
VL	2.5	2.6
VM	2.6	2.7
VN	2.7	2.8
VO	2.8	2.9
VP	2.9	3
VQ	3	3.1
VR	3.1	3.2

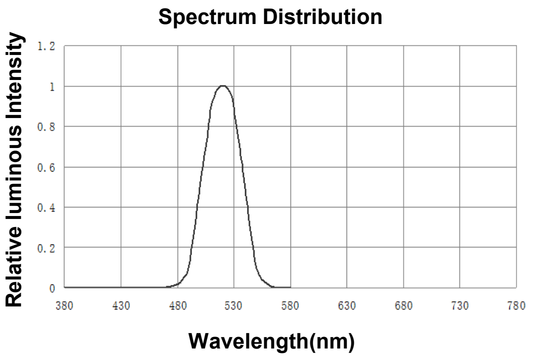
Dominant Wavelength (nm) Bin Limits

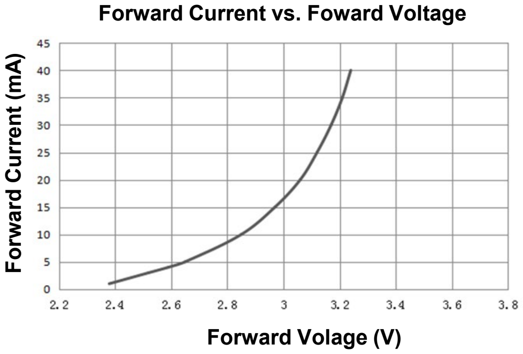
Bin ID	Dominant Wavelength (nm)	
	Min.	Max.
G2	513	516
G3	516	519
G4	519	522
G5	522	525
G6	525	528
G7	528	531
G8	531	534

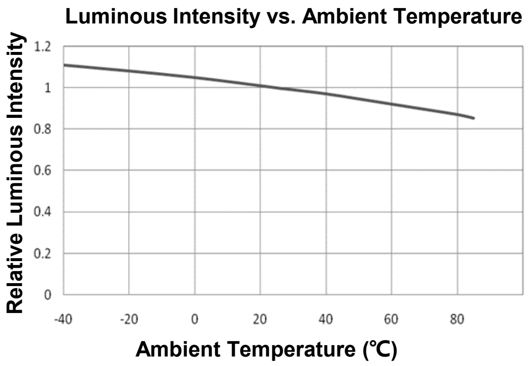
* Tolerance of measurement of luminous intensity is ±10%.
* Tolerance of measurement of dominant wavelength is ±1 nm.
* Tolerance of measurement of forward voltage is ±0.05V.

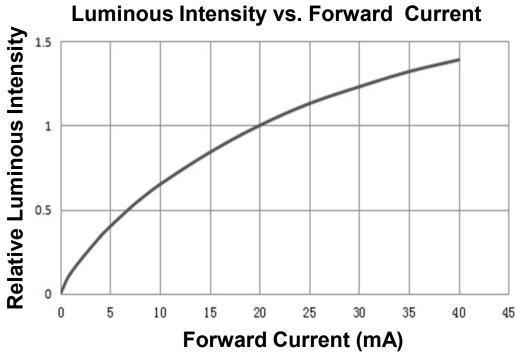
TYPICAL ELECTRO-OPTICAL CHARATERISTICS CURES(Ta=25℃)

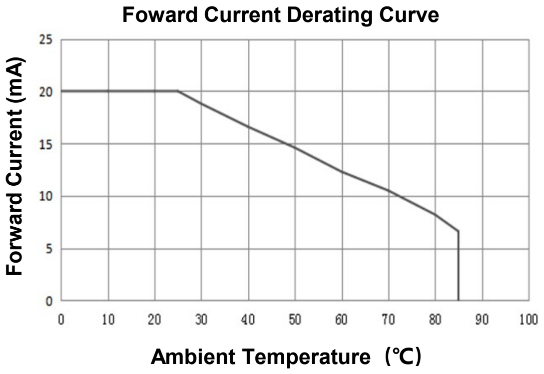
The data below are collected from statistical figures that do not necessarily correspond to the actual parameters of each single LED. Hence, these data will be changed without further notice.

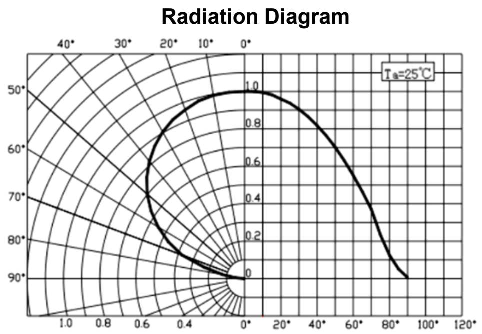

Spectrum Distribution


Forward Current vs. Foward Voltage


Luminous Intensity vs. Ambient Temperature

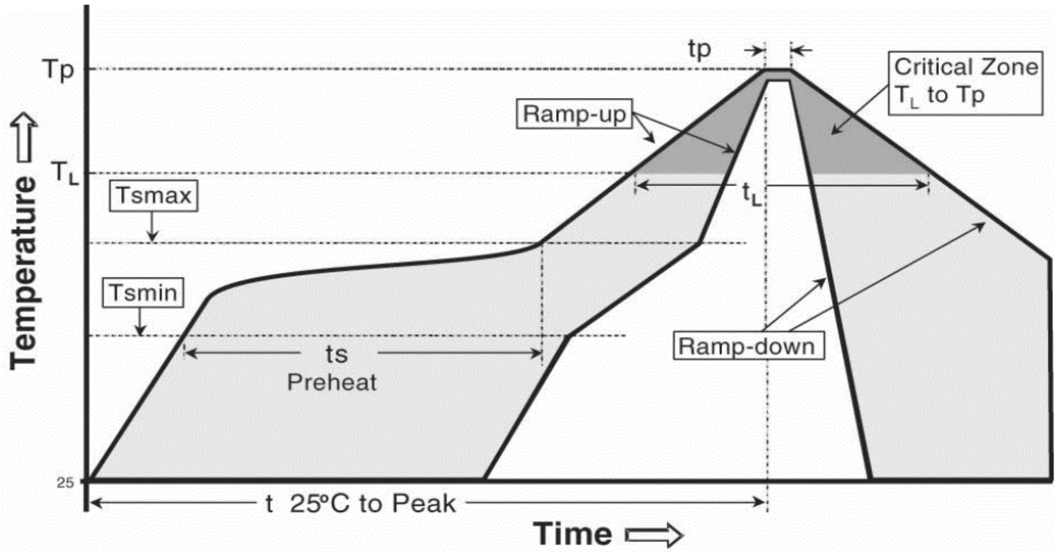

Luminous Intensity vs. Forward Current


Foward Current Derating Curve


Radiation Diagram

REFLOW SOLDERING

- The ChipLED is rated as a MSL3 as general request product.
- The recommended floor life out of bag is 24hrs.
- The temperature profile is as below.



IPC/JEDEC J-STD-020C

Profile Feature	Pb-Free Assembly
Average ramp-up rate(Tsmax to Tp)	3°C/second max.
Preheat	
- Temperature Min(Ts_{min})	150℃
- Temperature Max(Ts_{max})	200℃
- Time(Tsmin to Ts_{max})	60-180 seconds
Time mainted above	
- Temperature(T_L)	217℃
- Time(T_L)	60-150 seconds
Peak Temperature(Tp)	260℃
Time within 5°C of actual peak Temperature(tp)^2	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to peak Temperature	8 minutes max.

Moisture Sensitivity

- Yongyu recommends keeping ChipLEDs in the provided, resealable moisture-barrier packaging (MBP) until immediately prior to soldering. Unopened MBPs that contain ChipLEDs do not need special storage for moisture sensitivity.

- Once the MBP is opened, ChipLEDs may be stored as MSL 3 per IPC/JEDEC J-STD-020C, meaning they have one year of floor life in conditions of ≤ 30 ºC/60% relative humidity (RH). Regardless of the storage condition, Yongyu LED recommends sealing any unsoldered ChipLEDs in the original MBP.

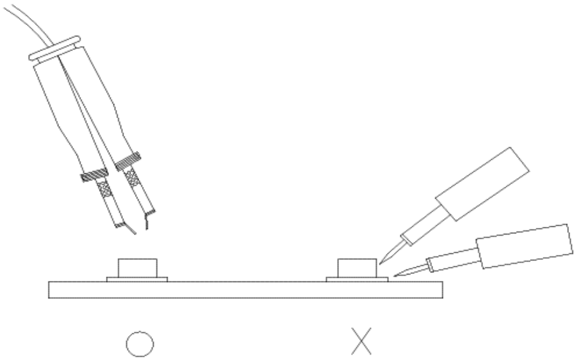
Handling

- The packaging sizes of these SMD products are very small. Users are required to handle with care.

- To avoid damaging the product's surface and interior device, it is recommended to choose a special nozzle to pick up the SMD products during the process of SMT production. If handling is

Repairing

Repair should not be recommended after SMT production. When repairing is needed, a double-head soldering iron should be used (as below figure). It should be assured before handing whether the electrical and optical characteristics of the LEDs will or will not be damaged by repairing.



PACKING

- The LEDs are packed in cardboard boxes after packaging in normal or anti-electrostatic bags.
- Cardboard boxes will be used to protect the LEDs from mechanical shock during transportation.
- The boxes are not water resistant, and they must be kept away from water and moisture.
- The reel pack is applied in SMD LED.
- 3000pcs per reel.