

Technical Data Sheet –Top View LEDs**67-21/GPC-AL1N2B/2T/AM****Features**

- Pb-free.
- Inner reflector.
- White package.
- Optical indicator.
- P-LCC-2 package.
- Wide viewing angle.
- Colorless clear resin.
- Precondition : Base on JEDEC Level-2.
- ESD : Up to 2KV. (Base JESD22-A114-B)
- The product itself will remain within RoHS compliant version.
- Suitable for vapor-phase reflow, infrared reflow and wave solder processes.

**Descriptions**

- The 67-21 series is available for orange, green, blue and yellow or other color due to the different raw material.
- Base on the package design, the device result in wide view angle.

Applications

- Automotive backlighting or indicator : Dashboard, switch, audio and video equipments...etc.
- Backlight : LCD, switches, symbol, mobile phone and illuminated advertising.
- Display for indoor and outdoor application : Traffic...etc.
- Ideal for coupling into light guides.
- Substitution of traditional light
- Optical indicator
- General applications.

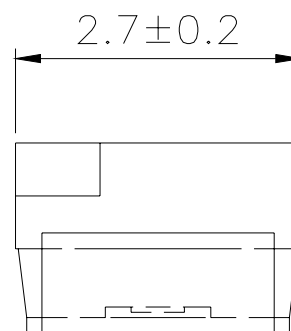
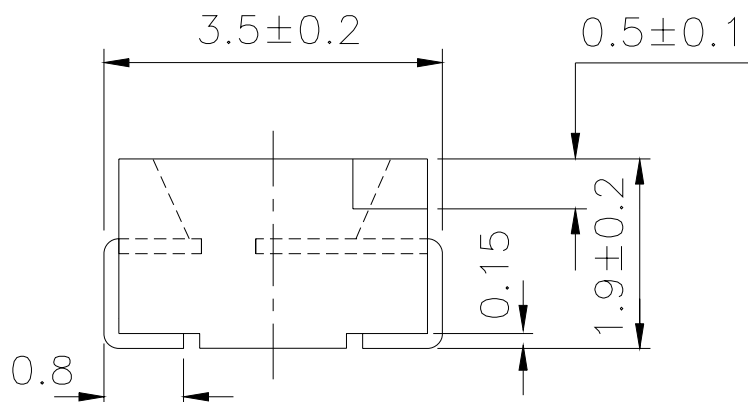
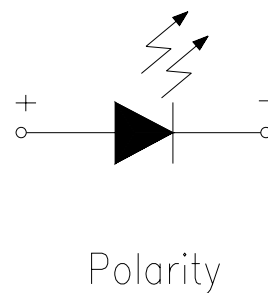
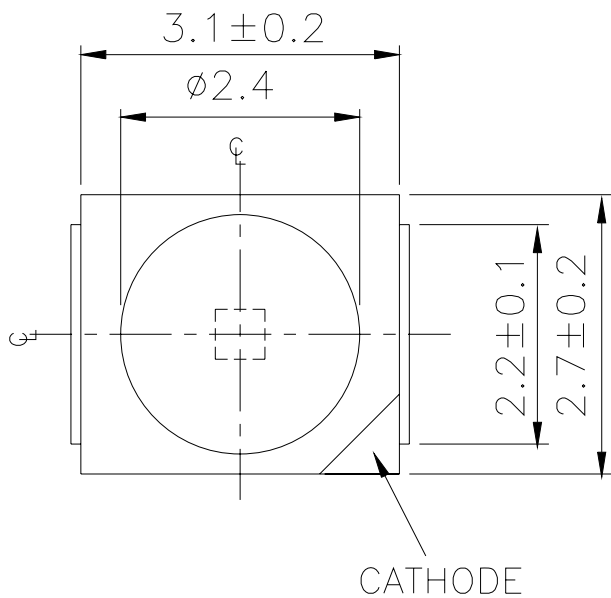
Device Selection Guide

Chip		Resin Color
Material	Emitted Color	
AlGaInP	Pale Green	Water Clear

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Package Dimensions



Note : Tolerances unless dimension ±0.1mm. Unit = mm

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Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	12	V
Forward Current	I _F	30	mA
Peak Forward Current (Duty 1/10 @1KHz)	I _{FP}	60	mA
Power Dissipation	P _d	80	mW
Junction Temperature	T _j	115	°C
Operating Temperature	T _{opr}	-40 ~ +100	°C
Storage Temperature	T _{stg}	-40 ~ +110	°C
Soldering Temperature	T _{sol}	Reflow Soldering : 260 °C for 10 sec. Hand Soldering : 350 °C for 3 sec.	

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	11.5	-----	45	mcd	I _F =20mA
Viewing Angle	2θ 1/2	-----	120	-----	deg	I _F =20mA
Peak Wavelength	λ _p	-----	561	-----	nm	I _F =20mA
Dominant Wavelength	λ _d	557.5	-----	567.5	nm	I _F =20mA
Spectrum Radiation Bandwidth	△λ	-----	20	-----	nm	I _F =20mA
Forward Voltage	V _F	1.75	-----	2.35	V	I _F =20mA
Reverse Current	I _R	-----	-----	10	μA	V _R =12V

Notes:

- 1.Tolerance of Luminous Intensity : ±11%
- 2.Tolerance of Forward Voltage : ±0.05V
- 3.Tolerance of Dominant Wavelength : ±1.0nm

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Bin Range of Dominant Wavelength

Group	Bin Code	Min.	Max.	Unit	Condition
A	C10	557.5	559.5	nm	If=20mA
	C11	559.5	561.5		
	C12	561.5	563.5		
	C13	563.5	565.5		
	C14	565.5	567.5		

Bin Range of Luminous Intensity

Bin	Min	Max	Unit	Condition
L1	11.5	14.5	mcd	If=20mA
L2	14.5	18.0		
M1	18.0	22.5		
M2	22.5	28.5		
N1	28.5	36.0		
N2	36.0	45.0		

Bin Range of Forward Voltage

Group	Bin	Min	Max	Unit	Condition
B	0	1.75	1.95	V	If=20mA
	1	1.95	2.15		
	2	2.15	2.35		

Notes:

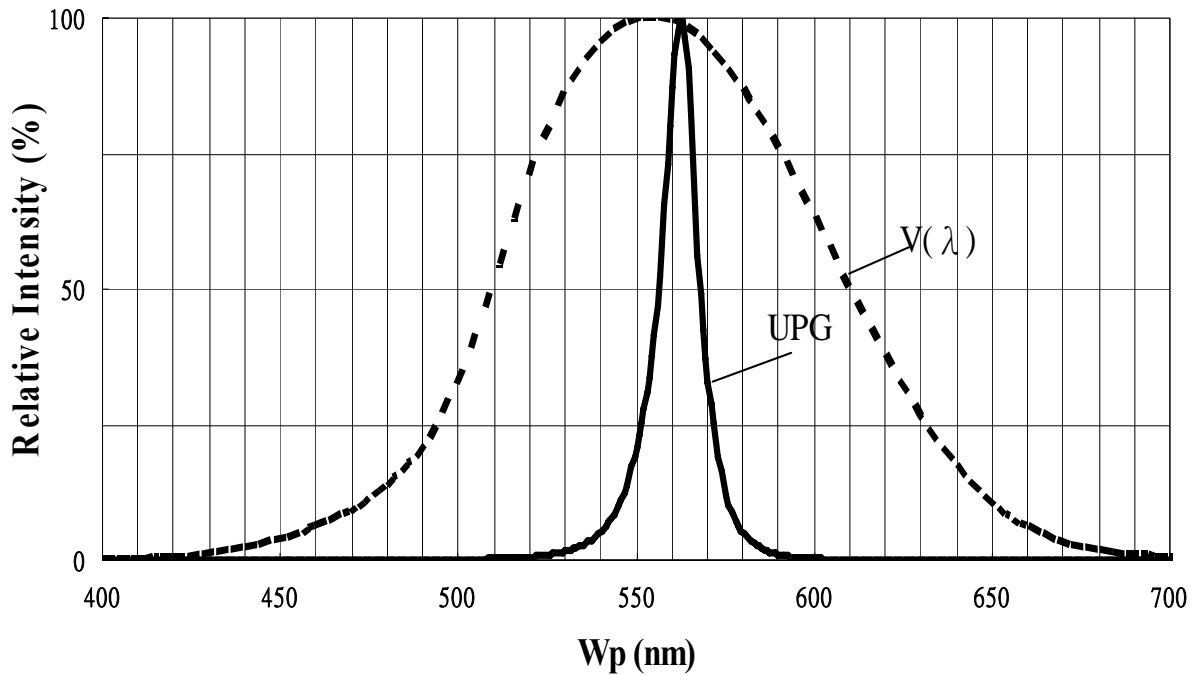
- 1.Tolerance of Luminous Intensity : $\pm 10\%$
- 2.Tolerance of Dominant Wavelength : $\pm 1\text{nm}$
- 3.Tolerance of Forward Voltage : $\pm 0.1\text{V}$

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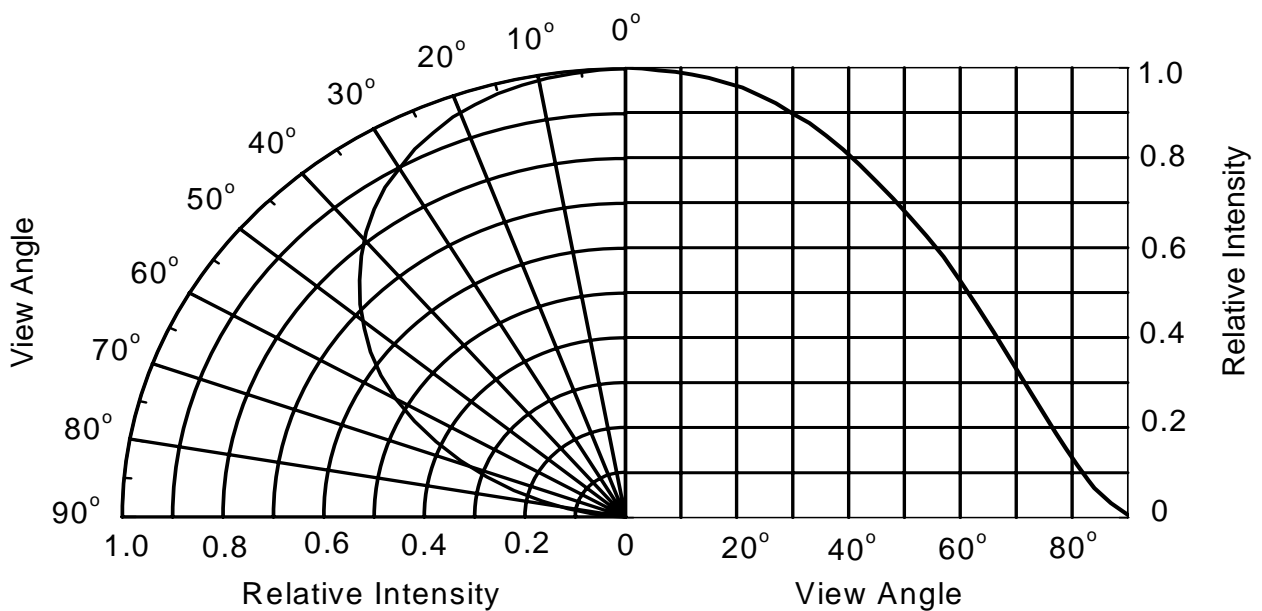
Typical Electro-Optical Characteristics Curves

- Typical curve of spectral distribution :



Note : $V(\lambda)$ =Standard eye response curve

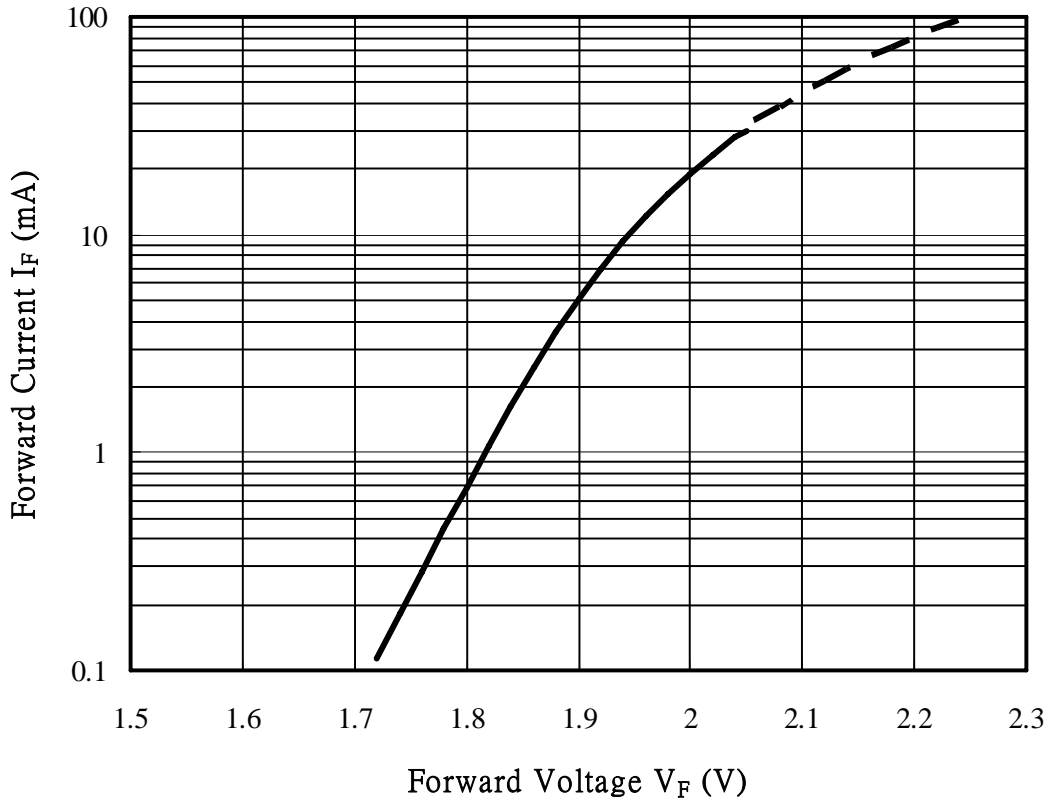
Diagram characteristics of radiation



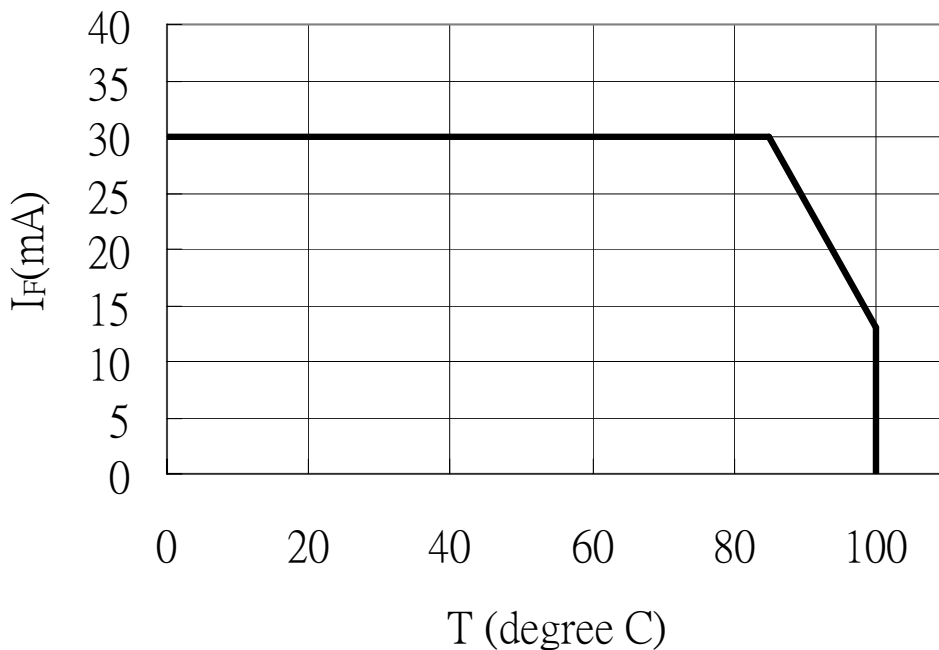
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Forward Current vs. Forward Voltage (Ta=25°C)



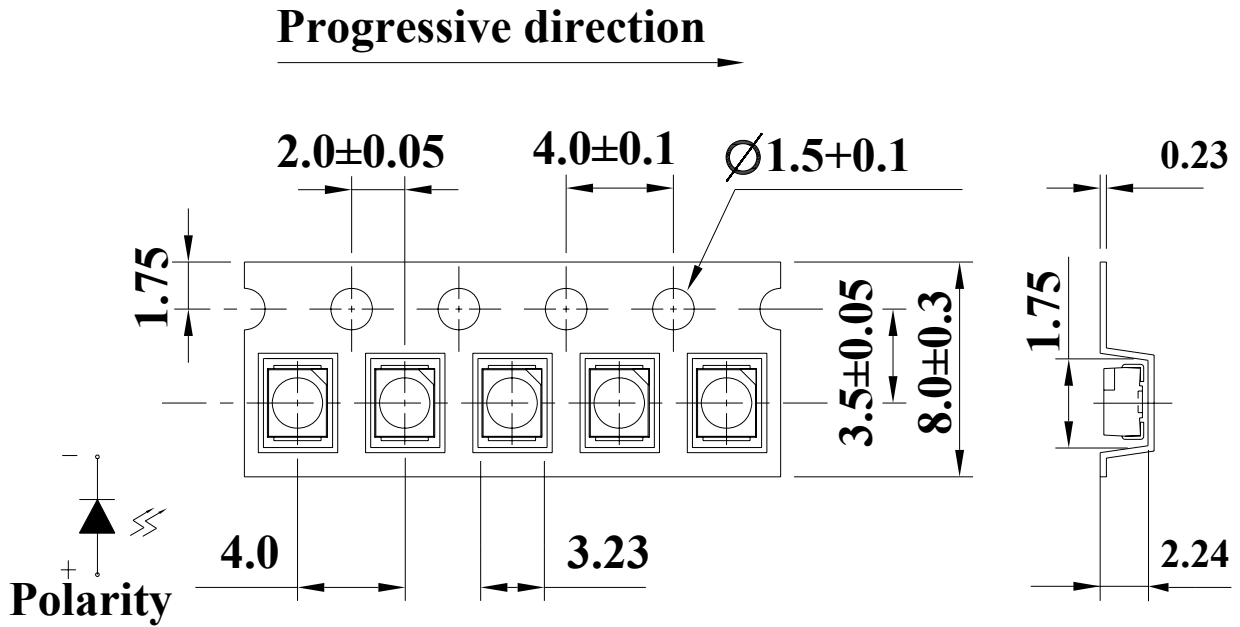
Forward current vs. Ambient Temp.



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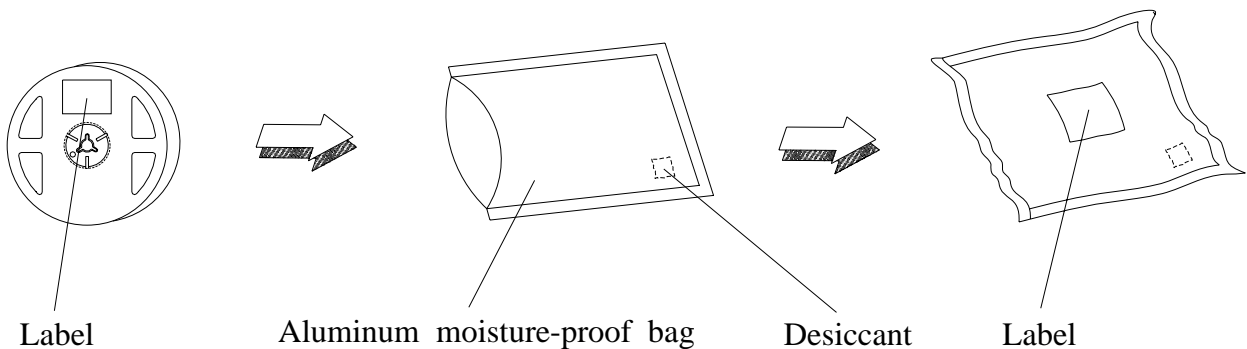
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Carrier Tape Dimensions: Loaded quantity 2000 PCS per reel



Note : Tolerances unless dimension ± 0.1 mm. Unit = mm

Moisture Resistant Packaging



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Precautions for Use

1. Over-current-proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage

2.1 Do not open moisture proof bag before the products are ready to use.

2.2 Before opening the package: The LED should be kept at 30°C or less and 90%RH or less.

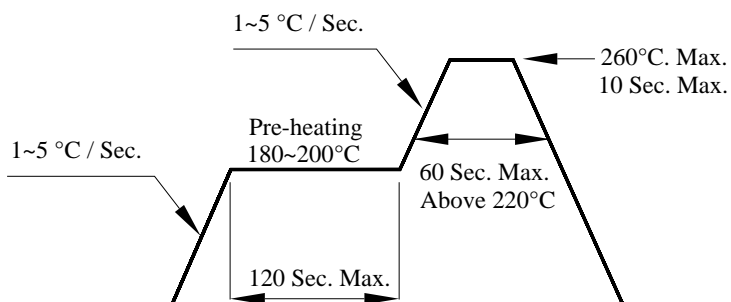
2.3 After opening the package: The LED floor life is 1 year under 30°C or less and 60% RH or less. If unused LED remain, it should be stored in moisture proof packages.

2.4 If the moisture absorbent material (silica gel) has faded away or the LED have exceeded the storage time, baking treatment should be performed using the following conditions.

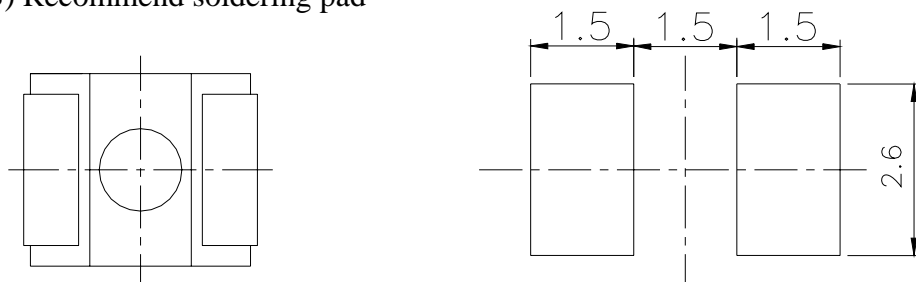
Baking treatment : 60±5°C for 24 hours.

3. Soldering Condition

3.1 (A) Pb-free solder temperature profile



(B) Recommend soldering pad





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3.3 When soldering, do not put stress on the LED during heating.

3.4 After soldering, do not warp the circuit board.

4.Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.