

Technical Data Sheet
Side View LEDs (Height 0.4mm)

99-218/S2C-AP2R2B/2C

Features

- Side view LED.
- Lead frame package with individual 2 pins.
- Wide viewing angle.
- Soldering methods: IR reflow soldering.
- Pb-free.
- The product itself will remain within RoHS compliant version.



Descriptions

- Due to the package design, 99-218 has wide viewing angle , low power consumption and white LEDs are devices which are materialized by combing Blue LEDs and special phosphors . This feature makes the LED ideal for light guide application.

Applications

- LCD Back Light.
- Mobile phones .
- Indicators.
- Illuminations.
- Switch Lights.

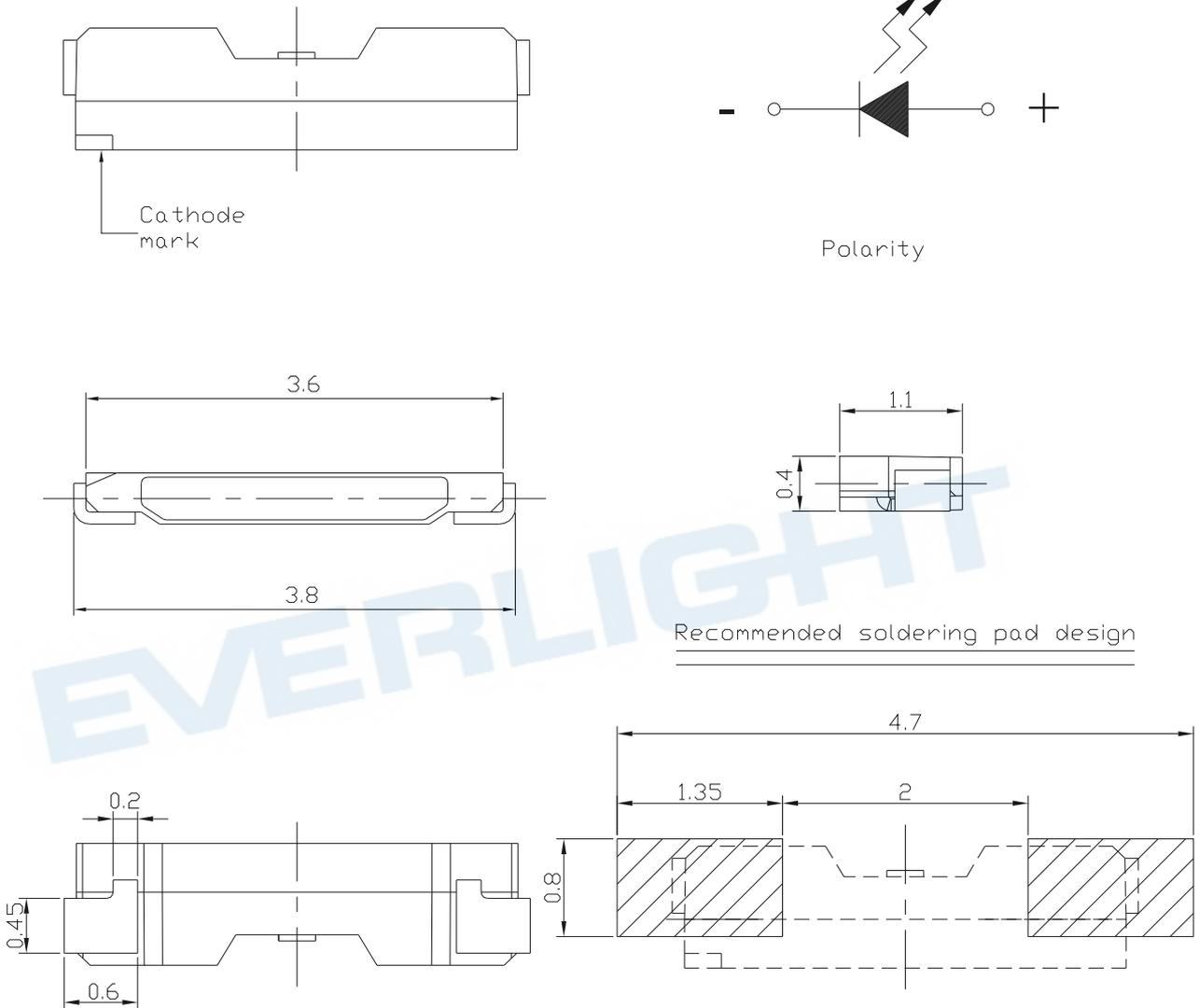
Device Selection Guide

Chip	Emitted Color	Resin Color
Material		
AlGaInP	Brilliant Orange	Water Clear

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Package Outline Dimensions



Note:

The tolerances unless mentioned is $\pm 0.1\text{mm}$, Unit = mm

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Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	25	mA
Peak Forward Current	I _{FP}	60	mA
Power Dissipation	P _d	60	mW
Electrostatic Discharge(HBM)*1	ESD	2000	V
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +90	°C
Soldering Temperature	T _{sol}	Reflow Soldering : 260 °C for 10 sec. Hand Soldering : 350 °C for 3 sec.	

Note: 1. The products are sensitive to static electricity and care must be fully taken when handling products.

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	57	-----	180	mcd	I _F =20mA
Viewing Angle	2θ _{1/2}	-----	110	-----	deg	
Peak Wavelength	λ _p	-----	611	-----	nm	
Dominant Wavelength	λ _d	600.5	-----	612.5	nm	
Spectrum Radiation Bandwidth	Δλ	-----	17	-----	nm	
Forward Voltage	V _F	1.75	---	2.35	V	

Notes:

1. Tolerance of Luminous Intensity : ±11%
2. Tolerance of Dominant Wavelength : ±1nm
3. Tolerance of Forward Voltage : ±0.1V

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Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
P2	57	72	mcd	I _F =20mA
Q1	72	90		
Q2	90	112		
R1	112	140		
R2	140	180		

Bin Range of Dominant Wavelength

Groups	Bin	Min.	Max.	Unit	Condition
A	D8	600.5	603.5	nm	I _F =20mA
	D9	603.5	606.5		
	D10	606.5	609.5		
	D11	609.5	612.5		

Bin Range of Forward Voltage

Groups	Bin Code	Min.	Max.	Unit	Condition
B	0	1.75	1.95	V	I _F =20mA
	1	1.95	2.15		
	2	2.15	2.35		

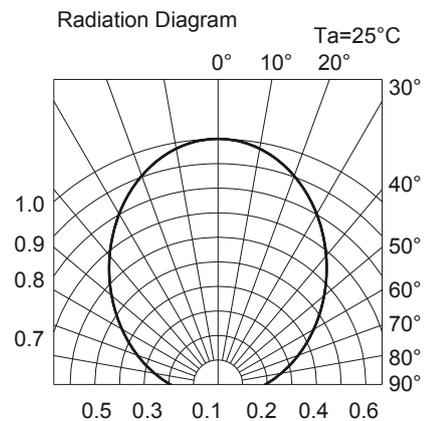
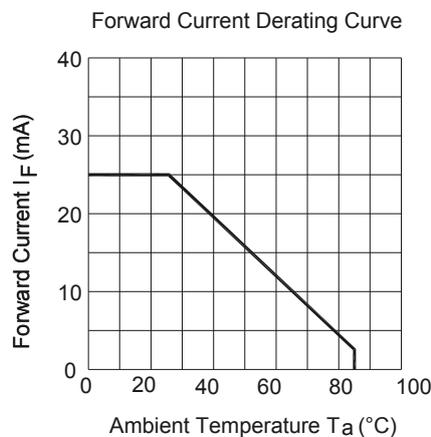
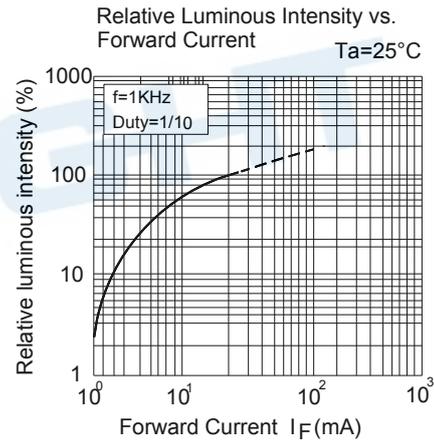
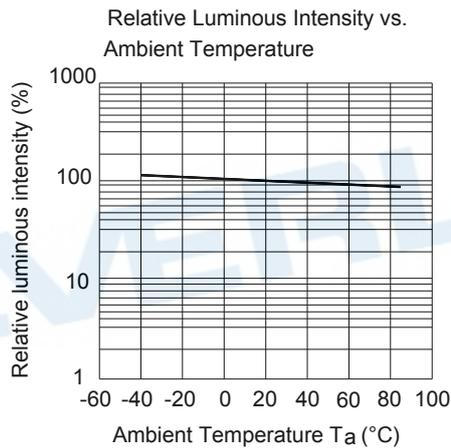
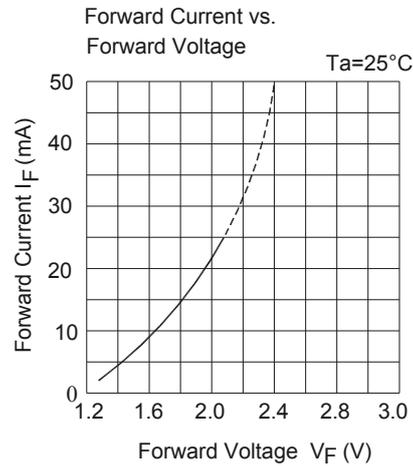
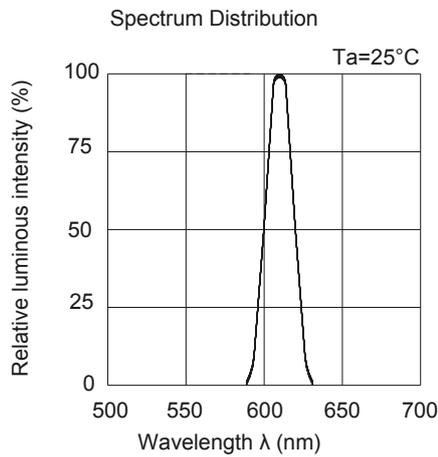
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Typical Electro-Optical Characteristics Curves



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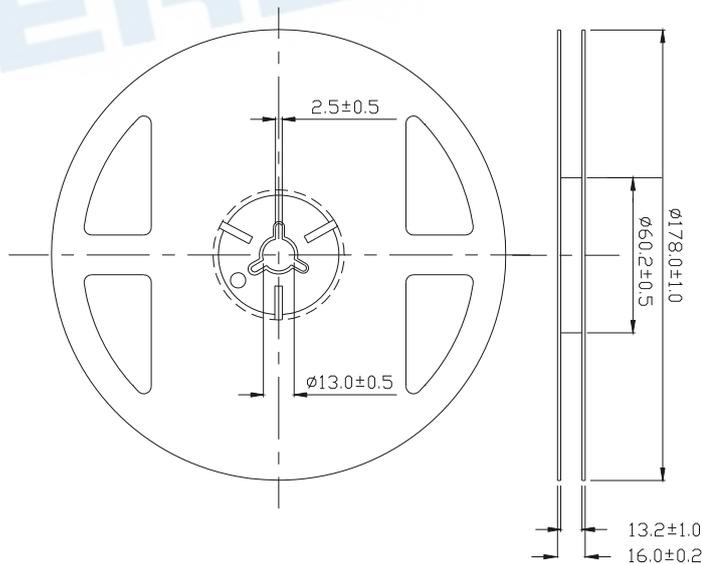
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Label Explanation

CAT: Luminous Intensity Rank
HUE: Dom. Wavelength Rank
REF: Forward Voltage Rank



Reel Dimensions



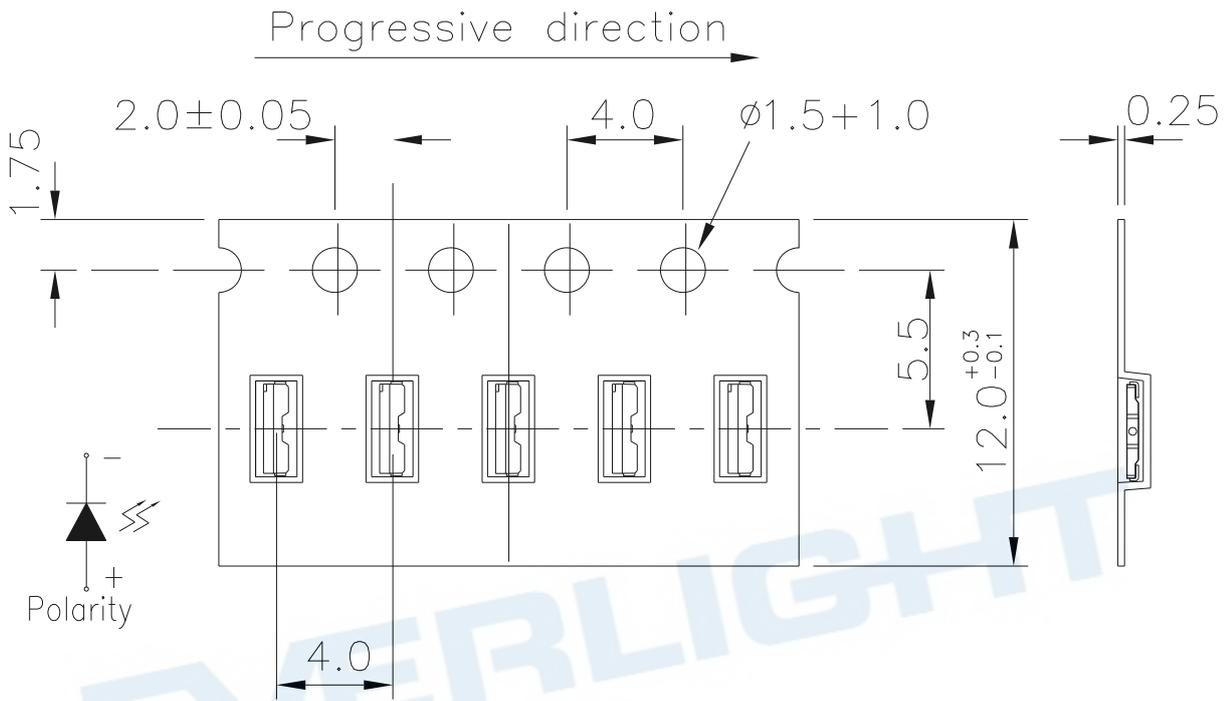
Note:

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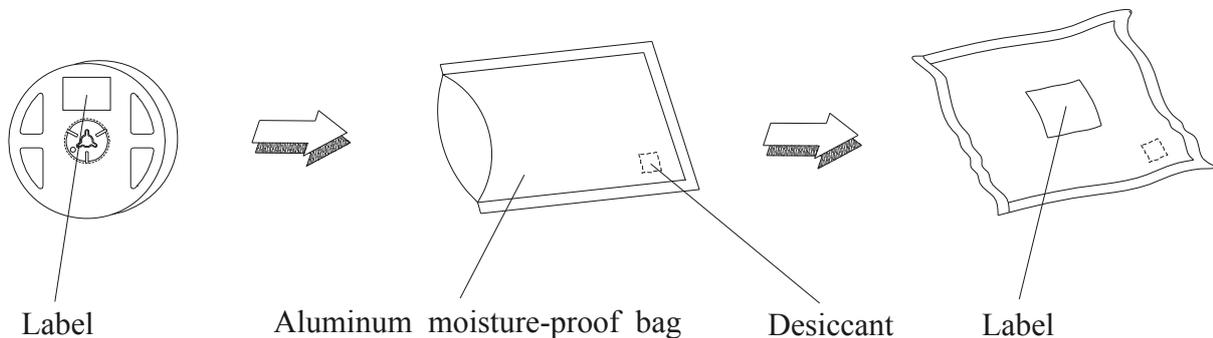
Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



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Moisture Resistant Packaging



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Reliability Test Items And Conditions

The reliability of products shall be satisfied with items listed below.

Confidence level : 90%

LTPD : 10%

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Re
1	Reflow Soldering	Temp. : 260°C±5°C Max. 10 sec.	6 Min.	22 PCS	0/1
2	Temperature Cycle	H : +100°C 15min ↓ 5 min L : -40°C 15min	300 Cycles	22 PCS.	0/1
3	Thermal Shock	H : +100°C 5min ↓ 10 sec L : -10°C 5min	300 Cycles	22 PCS.	0/1
4	High Temperature Storage	Temp. : 100°C	1000 Hrs.	22 PCS.	0/1
5	Low Temperature Storage	Temp. : -40°C	1000 Hrs.	22 PCS.	0/1
6	DC Operating Life	I _F =20 mA / 25°C	1000 Hrs.	22 PCS.	0/1
7	High Temperature / High Humidity	85°C/85%RH	1000 Hrs.	22 PCS.	0/1

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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 LEDs should be kept at 30°C or less and 90%RH or less.

2.3 After opening the package: The LED's floor life are 72 hours under 30°C or less and 60% RH or less.

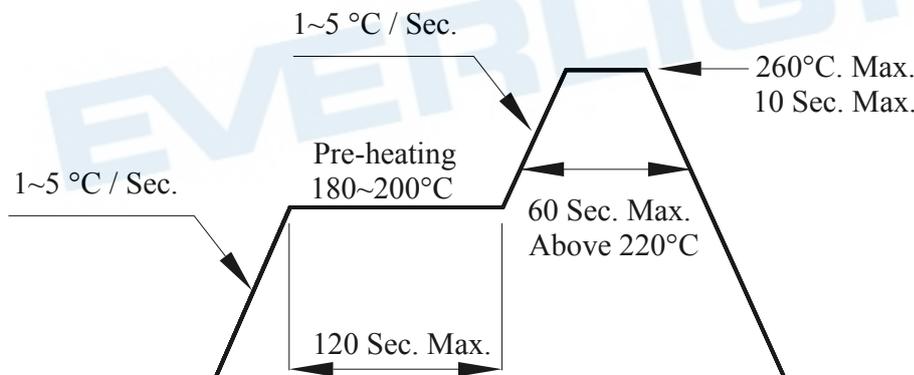
If unused LEDs remain, it should be stored in moisture proof packages.

2.4 If the moisture absorbent material (silica gel) has faded away or the LEDs 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 Pb-free solder temperature profile



3.2 Reflow soldering should not be done more than two times.

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

3.4 After soldering, do not warp the circuit board.

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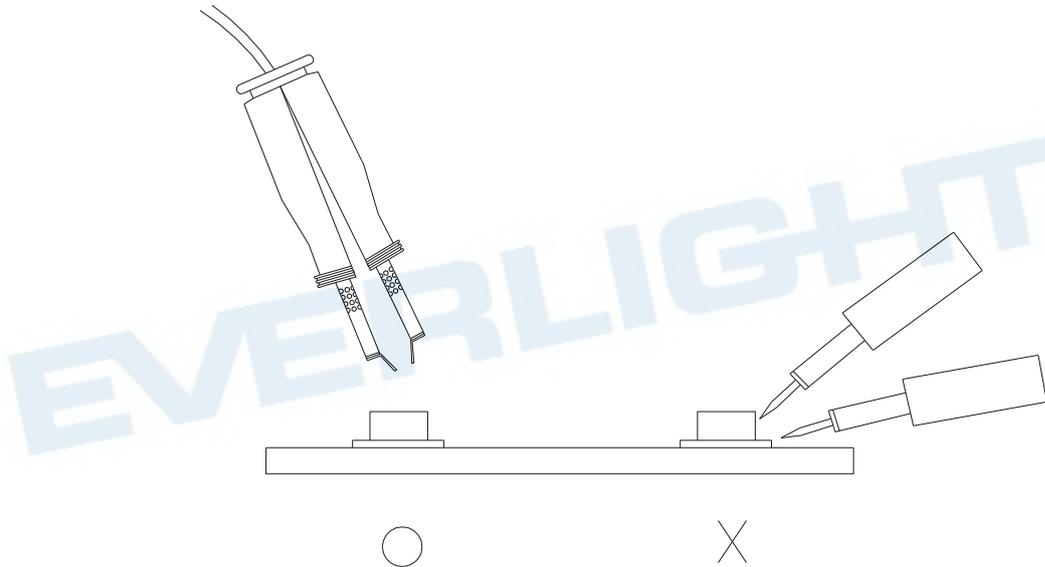
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4. Soldering Iron

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.

5. Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



6. Handling Indications

During processing, mechanical stress on the surface should be minimized as much as possible. Sharp objects of all types should not be used to pierce the sealing compound

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DISCLAIMER

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2. The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
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