

Mini Top View LEDs EAPL2214YA2

PRELIMINARY



Features

- White SMT package.
- Optical indicator.
- Wide viewing angle.
- Soldering methods: reflow soldering
- Available on tape and reel
- Pb-free
- The product itself will remain within RoHS compliant version.

Applications

- Optical indicators.
- Coupling into light guides.
- Backlighting (LCD, cellular phones, switches, keys, displays, illuminated advertising, general lighting).
- Coupling into light guides; Interior automotive lighting (e.g. dashboard backlighting, etc.).

Device Selection Guide

Chip Materials	Emitted Color	Resin Color
AlGaInP	Brilliant Yellow	Water Clear

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	5	V
Forward Current	I_F	50	mA
Peak Forward Current	I_{FP}	100	mA
Power Dissipation	P_d	120	mW
Electrostatic Discharge (HBM)	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.	

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	140	-----	225	mcd	IF=20mA
Viewing Angle	2θ1/2	-----	120	-----	deg	IF=20mA
Peak Wavelength	λp	-----	591	-----	nm	IF=20mA
Dominant Wavelength	λd	586	-----	594	nm	IF=20mA
Spectrum Radiation Bandwidth	Δλ	-----	15	-----	nm	IF=20mA
Forward Voltage	VF	1.75	-----	2.35	V	IF=20mA
Reverse Current	IR	-----	-----	10	μA	VR=5V

Note:

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

Bin Range of Luminous Intensity

Bin	Min	Max	Unit	Condition
R2	140	180	mcd	IF=20mA
S1	180	225		

Note: Tolerance of Luminous Intensity: ±11%

Bin Range of Dominant Wavelength

Group	Bin Code	Min.	Max.	Unit	Condition
F	DD1	586	588	nm	IF=20mA
	DD2	588	590		
	DD3	590	592		
	DD4	592	594		

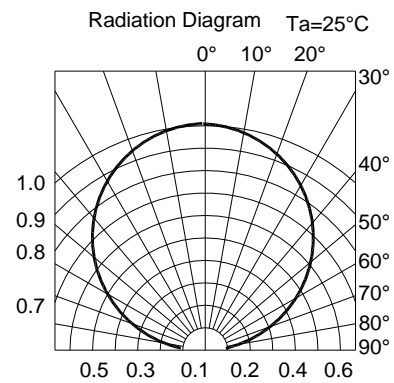
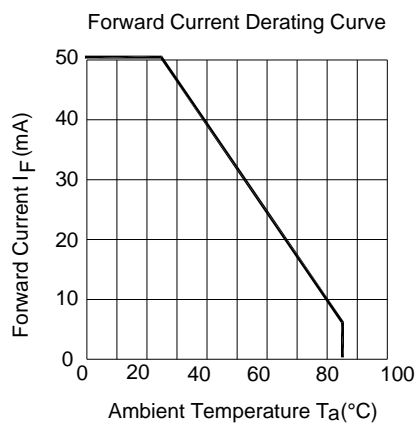
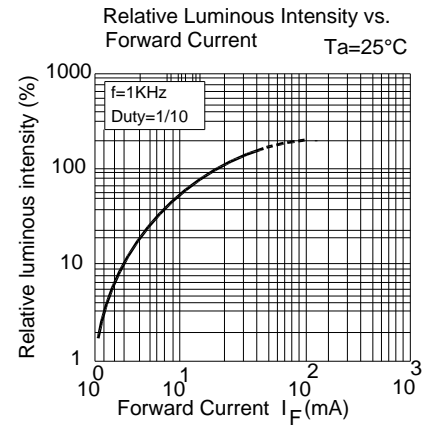
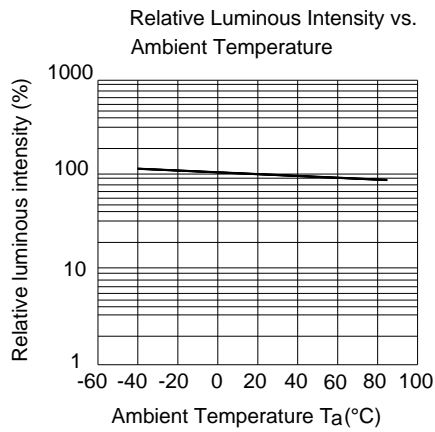
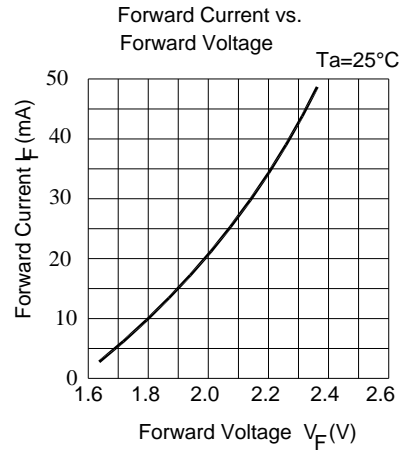
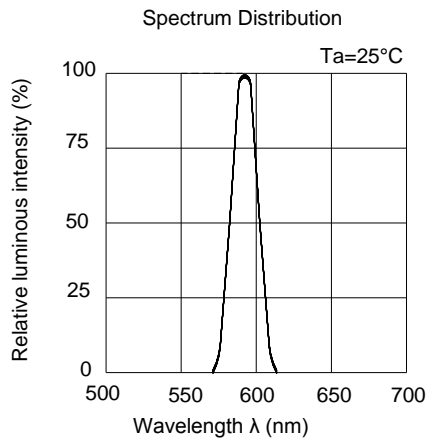
Note: Tolerance of Dominant Wavelength: ±1nm

Bin Rang of Forward Voltage

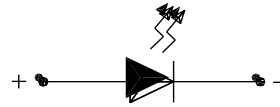
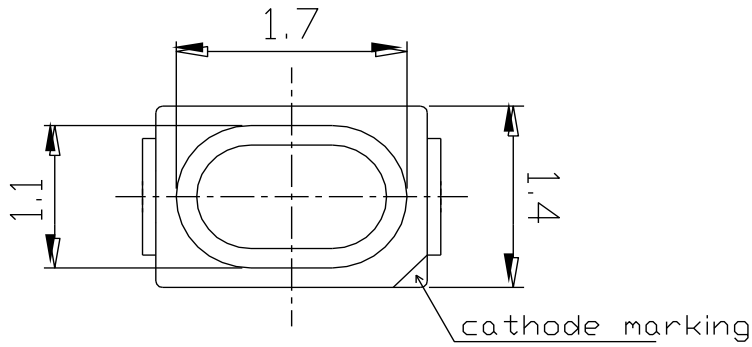
Group	Bin	Min	Max	Unit	Condition
B	0	1.75	1.95	V	IF=20mA
	1	1.95	2.15		
	2	2.15	2.35		

Note: Tolerance of Forward Voltage $\pm 0.1V$

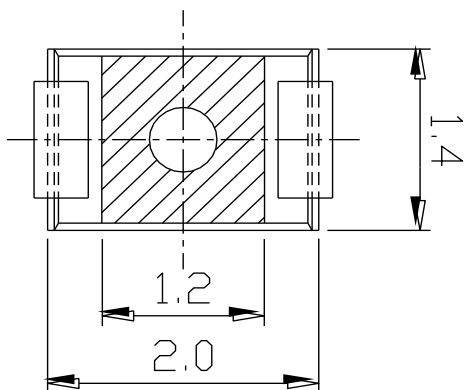
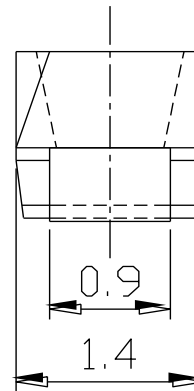
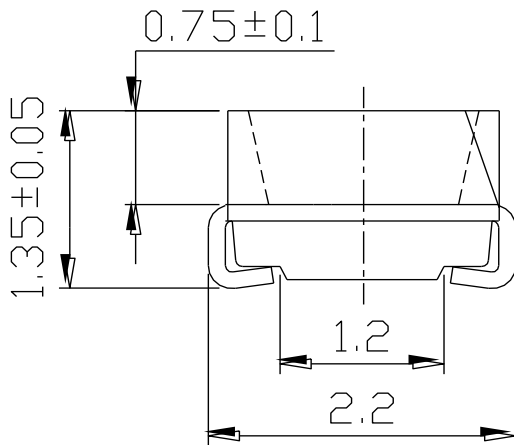
Typical Electro-Optical Characteristics Curves



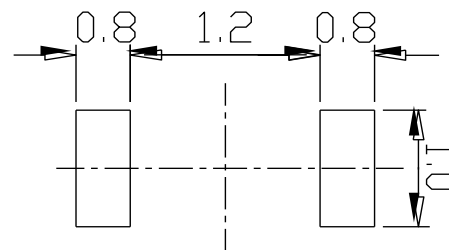
Package Dimension



Polarity



For Reflow Soldering (Proposal)



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

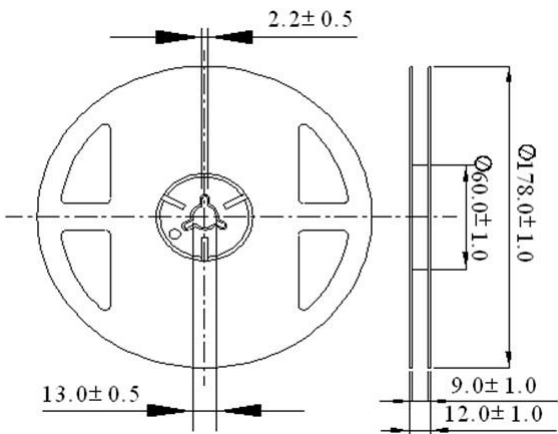
Moisture Resistant Packing Materials

Label Explanation

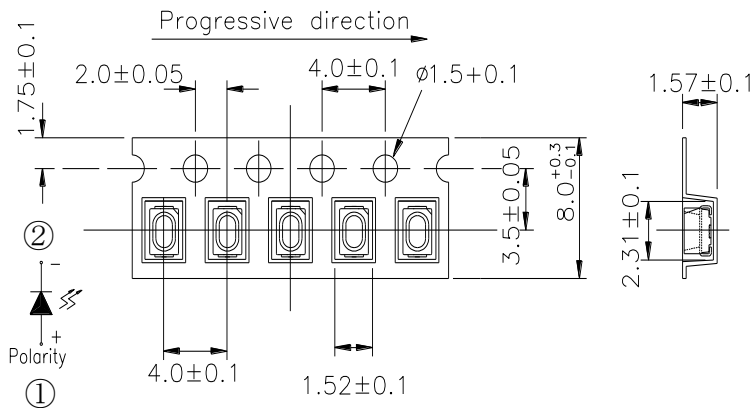


- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

Reel Dimensions

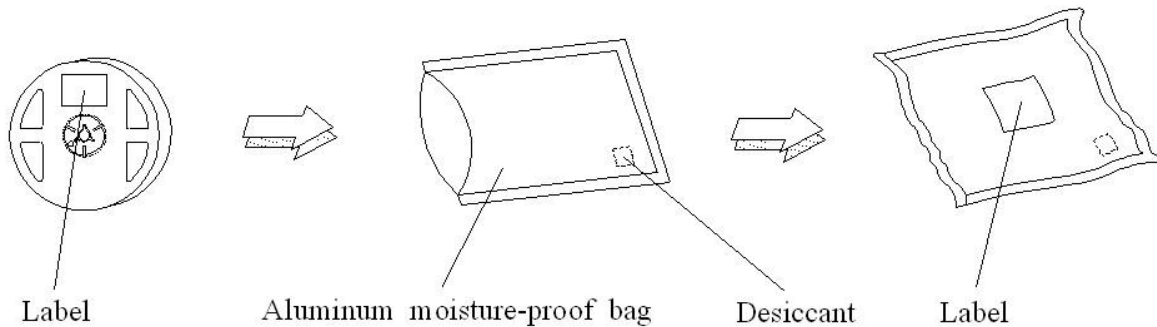


Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



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

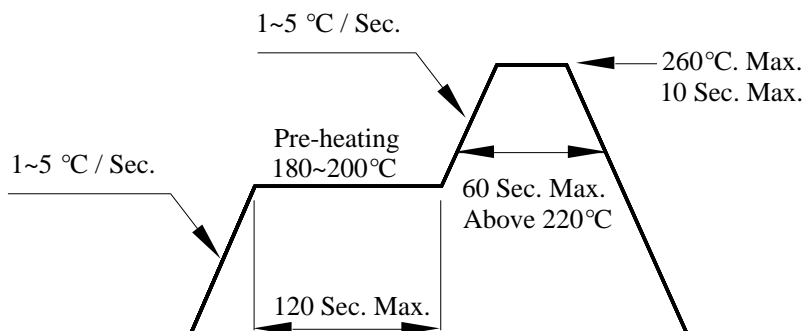
Moisture Resistant Packing Process



Note: Tolerances unless mentioned $\pm 0.1\text{mm}$. Unit = mm

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 168 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 : $60\pm 5^{\circ}\text{C}$ 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.



4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 280°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.

