

EAPL4040WA2



Features

- Fluorescence Type
- High Luminous Intensity
- High Efficiency
- Pb-free
- The product itself will remain within RoHS compliant version.

Descriptions

- The white LED which was fabricated using a blue LED and a phosphor, and the phosphor is excited by blue light and emits yellow fluorescence.
The mixture of blue light and yellow light results in a white emission.

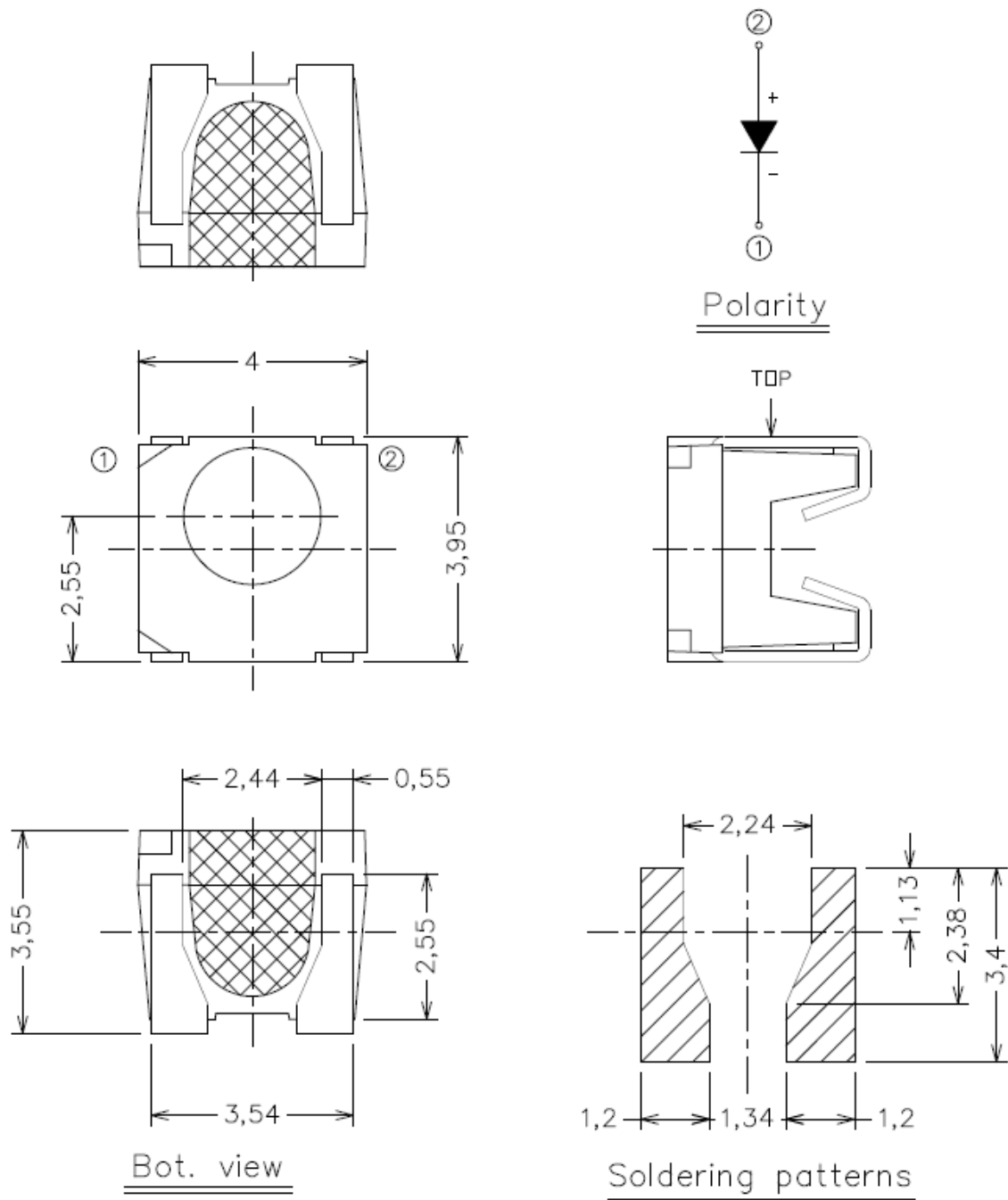
Applications

- OA equipment
- Backlighting of full color LCD
- Automotive equipment
- Replacement of conventional light bulbs and Fluorescent Lamps

Device Selection Guide

Chip	Emitted Color	Resin Color
Material		
InGaN	Pure White	Water Clear

Package Outline Dimensions



Note: Tolerances unless mentioned are $\pm 0.1\text{mm}$, unit = mm.

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	30	mA
Peak Forward Current (Duty 1/10 @1KHz)	I _{FP}	100	mA
Power Dissipation	P _d	110	mW
Electrostatic Discharge(HBM)	ESD	1000	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.	Units	Condition
Luminous Intensity	I _V	900	--	1420	mcd	I _F =20mA
Viewing Angle	2 θ 1/2	--	120	--	deg	I _F =20mA
Forward Voltage	V _F	2.75	--	3.95	V	I _F =20mA

Notes:

- 1.Tolerance of Luminous Intensity : ±11%
2. Tolerance of Forward Voltage: ±0.1V

Bin Range of Luminous Intensity

Bin	Min.	Max.	Unit	Condition
V2	900	1120	mcd	$I_F=20\text{mA}$
W1	1120	1420		

Bin Range of Forward Voltage

Group	Bin Code	Min.	Max.	Unit	Condition
M	5	2.75	3.05	V	$I_F = 20\text{mA}$
	6	3.05	3.35		
	7	3.35	3.65		
	8	3.65	3.95		

Notes:

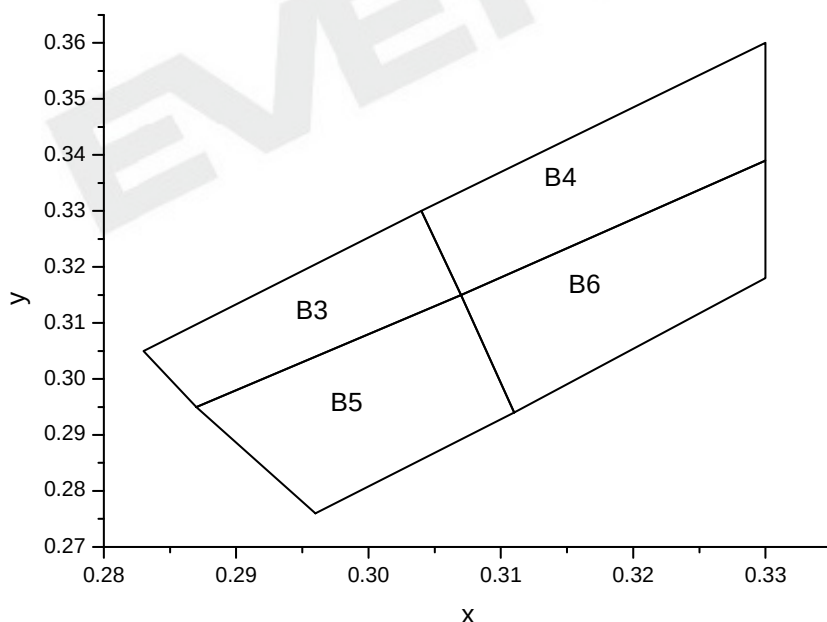
- 1.Tolerance of Luminous Intensity : $\pm 11\%$
2. Tolerance of Forward Voltage: $\pm 0.1\text{V}$

Bin Range of Chromaticity Coordinates

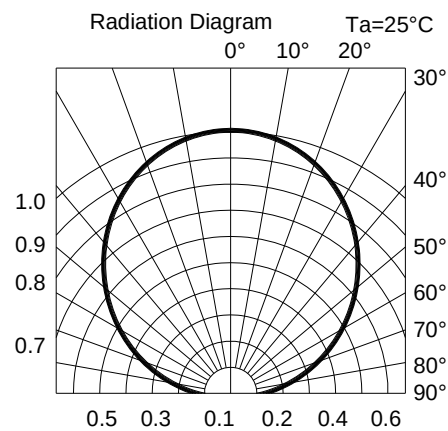
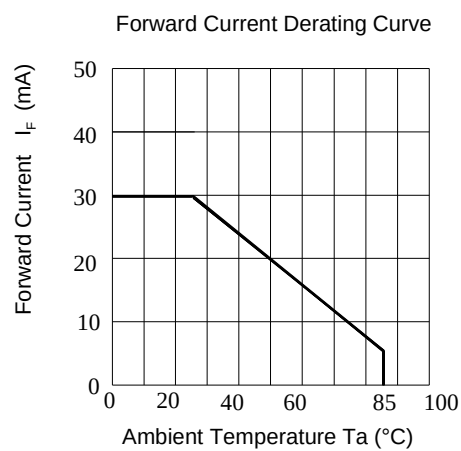
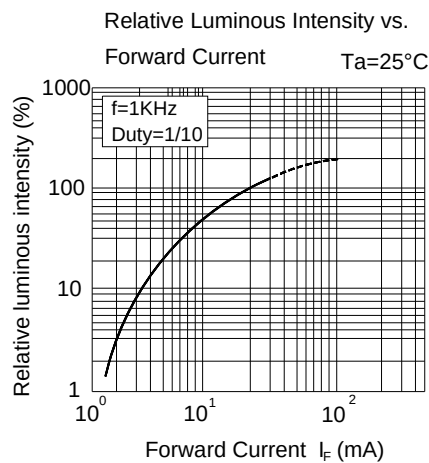
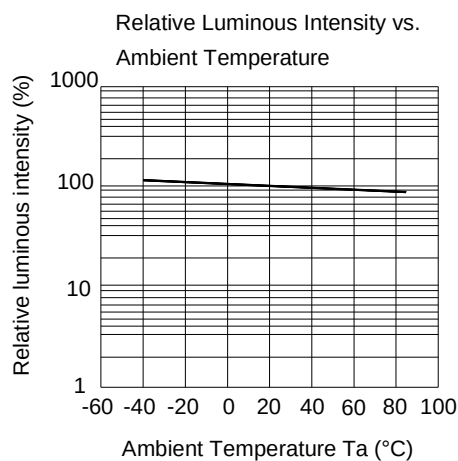
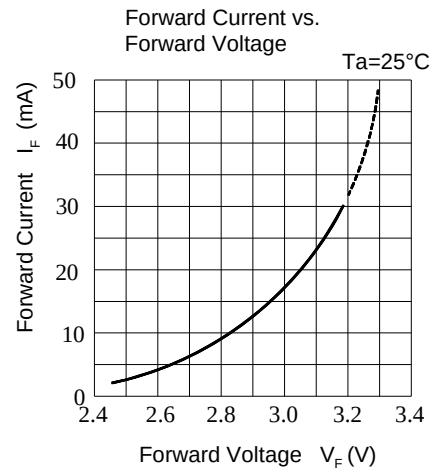
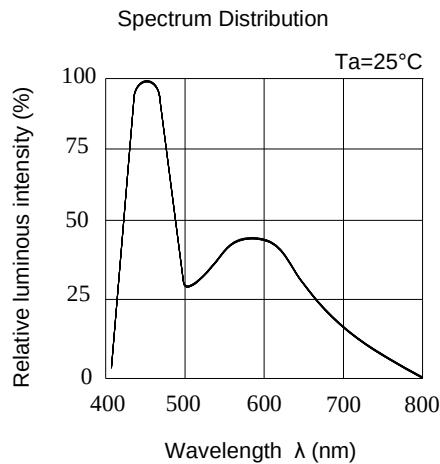
Group	Bin Code	CIE_x	CIE_y	Bin Code	CIE_x	CIE_y
F	B3	0.287	0.295	B5	0.296	0.276
		0.283	0.305		0.287	0.295
		0.304	0.330		0.307	0.315
		0.307	0.315		0.311	0.294
	B4	0.307	0.315	B6	0.311	0.294
		0.304	0.33		0.307	0.315
		0.33	0.36		0.330	0.339
		0.33	0.339		0.330	0.318

Note: Tolerance of Chromaticity Coordinates: ± 0.01

The C.I.E. 1931 chromaticity diagram.



Typical Electro-Optical Characteristics Curves



Label Explanation

CAT: Luminous Intensity Rank

HUE: Chromaticity Coordinates

REF: Forward Voltage Rank

RoHS

Pb

EVERLIGHT

5

CPN: XXXXXXXXXXXXXXXXXXXX

XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX

P/N: XXXXXXXXXXXX

XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX

LOT NO:Y150716XXX-XXXXXXXXXX-XXXXXXXXXX

QTY: 0123456789

HUE: XXXXXXXXXXXX

CAT: XXXXXXXXXXXX

REF: XXXXXXXXXXXX

REFERENCE: BTPYYMDDXXXXX

MSL-X

MADE IN XXXXXX

Reel Dimensions

Technical drawing of a reel showing top and side views with dimensions:

- Top View:
 - Outer diameter: $\phi 180 \pm 2.0$
 - Inner diameter: $\phi 13.0 \pm 0.2$
 - Distance from center to mounting hole: 2.0 ± 0.5
- Side View:
 - Reel thickness: $13.0^{+0.3}_{-0.0}$
 - Reel height: 15.4 ± 1.0

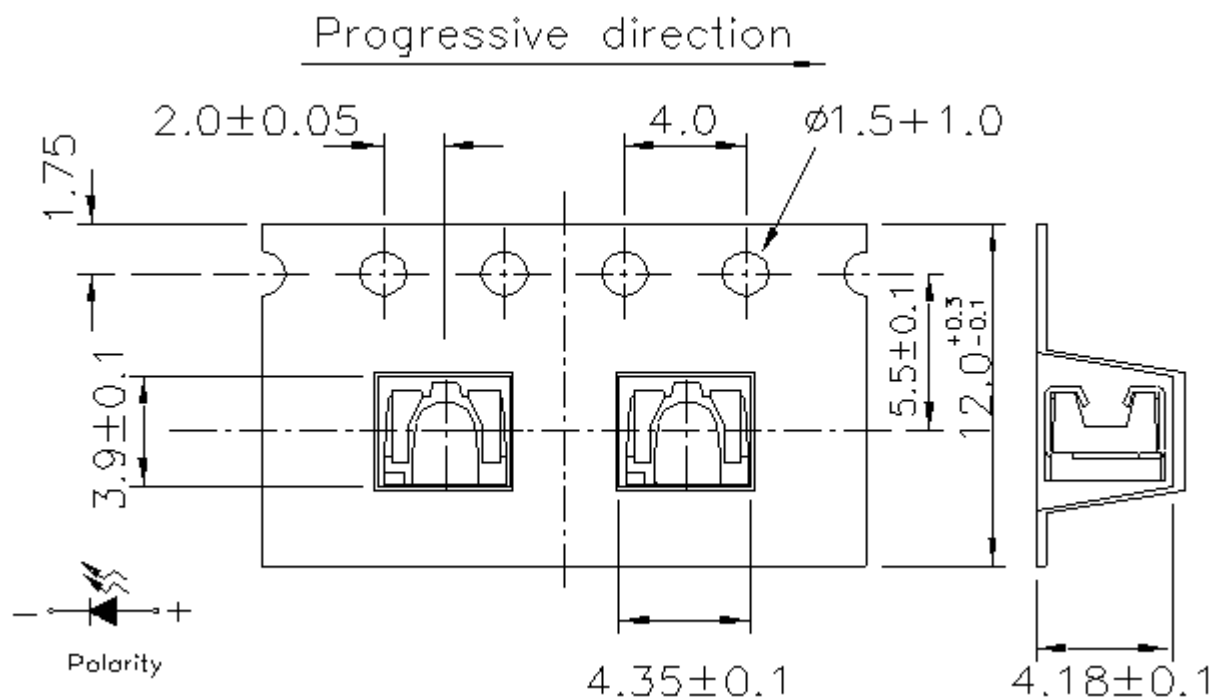
Note: Tolerance unless mentioned is $\pm 0.1\text{mm}$, unit = mm.

Page 7 of 11

www.everlightamericas.com

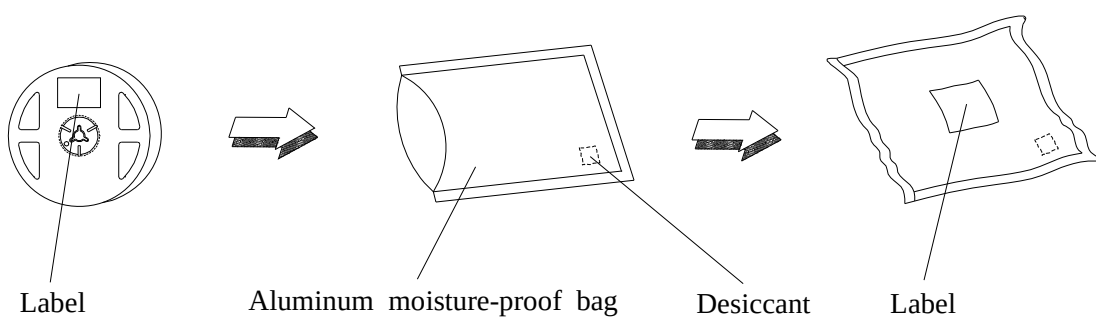
Rev. 0.01

Carrier Tape Dimensions: Loaded Quantity 500 pcs. Per Reel



Note: Tolerance unless mentioned is $\pm 0.1\text{mm}$, unit = mm.

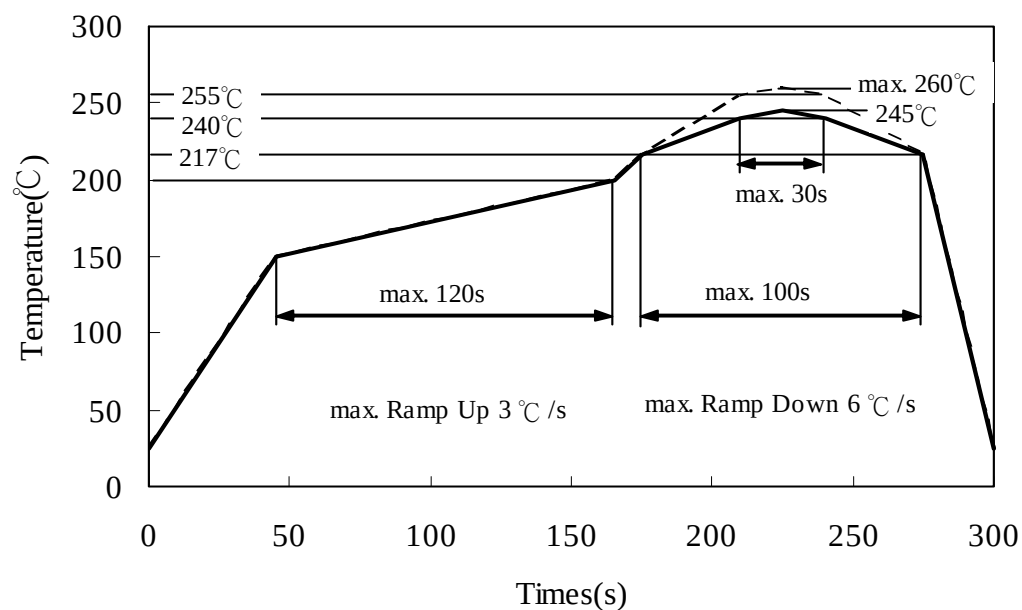
Moisture Resistant Packaging



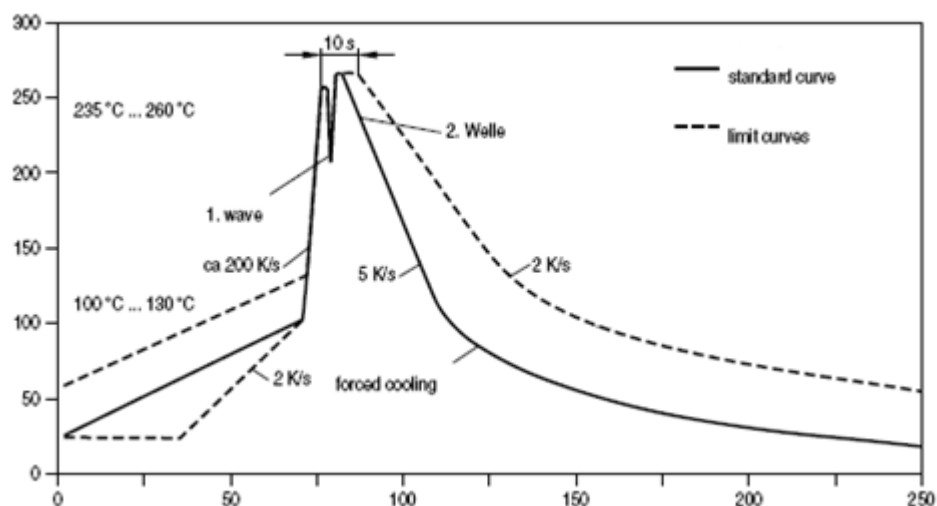
Precautions for Use

1. Soldering Condition (Reference: IPC/JEDEC J-STD-020D)

a. IR reflow



b. Wave soldering reflow



2. Current limiting

A resistor should be used to limit current spikes that can be caused by voltage fluctuations. Otherwise damage could occur.

3. Storage

3.1 Moisture proof bag should only be opened immediately prior to usage.

3.2 Environment should be less than 30°C and 60% RH when moisture proof bag is opened.

3.3 After opening the package MSL Conditions stated on page 1 of this spec should not be exceeded.

3.4 If the moisture sensitivity card indicates higher than acceptable moisture, the component should be baked at min. 60deg +/-5deg for 24 hours.

4. Iron Soldering

Hand soldering is not recommended for regular production. These guidelines are for rework only. Soldering iron tip should contact each terminal no more than 3 sec at 350°C, using soldering iron with nominal power less than 25W. Allow min. 2 sec. between soldering intervals.

5. Usage

Do not exceed the values given in this specification.

Application Restrictions

High reliability applications such as military/aerospace, automotive safety/security systems, and medical equipment may require different product. If you have any concerns, please contact Everlight before using this product in your application. This specification guarantees the quality and performance of the product as an individual component. Do not use this product beyond the specification described in this document.

DISCLAIMER

1. EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
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.
4. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
5. These specification sheets include materials protected under copyright of EVERLIGHT. Reproduction in any form is prohibited without obtaining EVERLIGHT's prior consent.
6. This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death. Please contact authorized Everlight sales agent for special application request.