



Opto Plus LED Corp

OPS-L0306LE-2

Top View Chip LED

● EDIT HISTORY

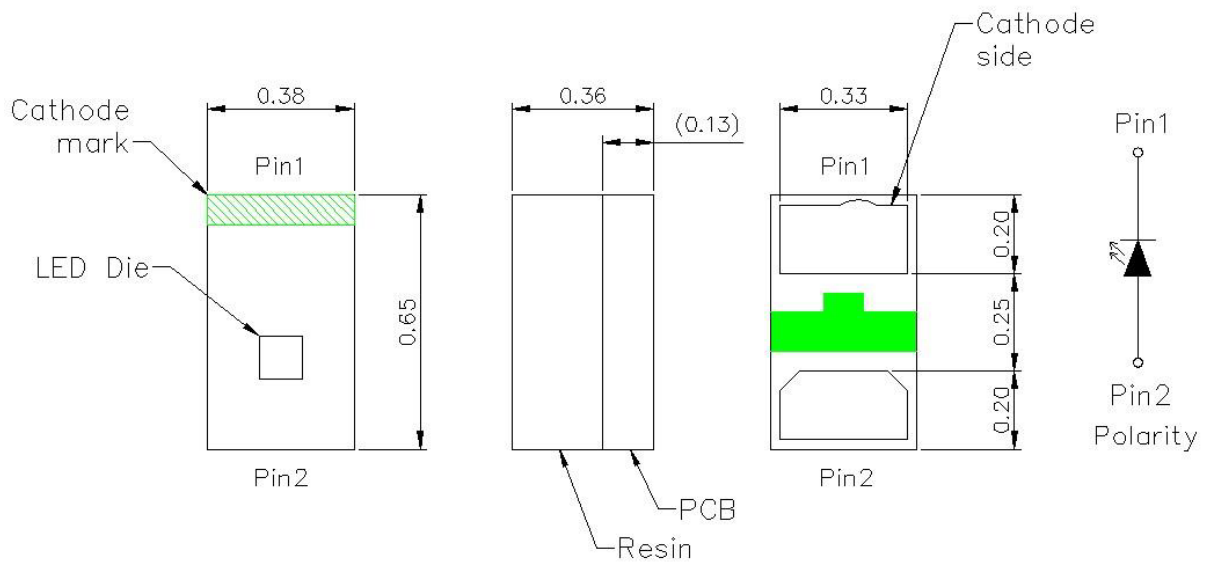
Version A : Mar. 14, 2024

Preliminary Spec.

● FEATURES

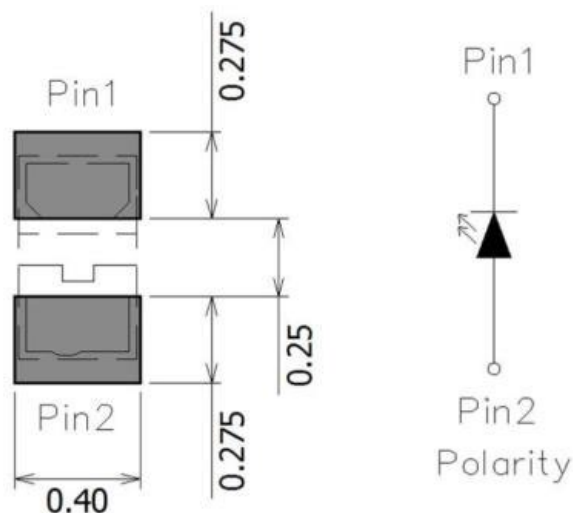
- 0.38x 0.65 x 0.36 mm Top View Chip LED.
- Wide viewing angle.
- Low power consumption.
- RoHS compliant.

● PACKAGE DIMENSIONS



Tolerance is $\pm 0.1\text{mm}$

● SOLDERING PATTERN



Unit:mm Tolerance: ± 0.1

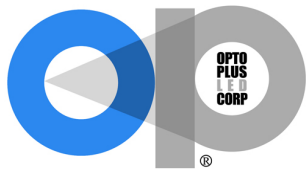
● **LE: SUPER BRIGHT RED (AlGaInP/GaAs)**

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Maximum Rating	Unit
Power dissipation per SMD	P _{AD}	12	mW
Continuous forward current per SMD	I _{AF}	5	mA
Peak current per dice (duty cycle 1/10, 1kHz)	I _{PF}	20	mA
Reverse voltage per SMD	V _R	5	V
Operating temperature	T _{OPR}	-40 to +85	°C
Storage temperature	T _{STG}	-40 to +100	°C

ELECTRICAL - OPTICAL CHARACTERISTICS AT Ta=25°C

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage per SMD	V _F	I _F =2mA	-	1.8	2.4	V
Reverse Current	I _R	V _R =5V	-	-	10	μA
Peak Wavelength	λ _P	I _F =2mA	-	629	-	nm
Dominant Wavelength	λ _D	I _F =2mA	-	621	-	nm
Luminous Intensity	I _V	I _F =2mA	-	18	-	mcd
Spectrum Radiation Bandwidth	Δλ	I _F =2mA	-	11	-	nm
Viewing Angle	2θ1/2	I _F =2mA	-	110	-	



www.opledtw.com

Opto Plus LED Corp

OPS-L0306LE-2

Top View Chip LED

● Luminous Intensity (IV) BIN: (mcd)

Bin Code	L	M	N
Spec. Range	11.25 - 18.0	18.0 - 28.5	28.5 - 45.0

Note: It maintains a tolerance of $\pm 10\%$ on Luminous Intensity

● Dominant Wavelength(Wd) Bin: (nm)

Bin Code	AD	-	-
Spec. Range	615 ~ 635	-	-

Note: It maintains a tolerance of $\pm 0.5\text{nm}$ on Wavelength Bin

● Forward Voltage (Vf) Bin

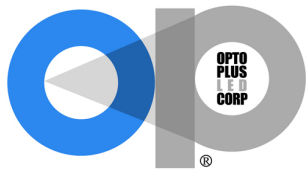
Bin Code	E18	-	-
Spec. Range	1.6~2.4	-	-

Note: It maintains a tolerance of $\pm 0.05\text{V}$ on forward voltage measurements

Typical Electro-optical Characteristic Curves

Opto Plus LED Corp. 7F-3, No.496, Bannan Road, Jhonghe Dist., New Taipei City 235, Taiwan (R.O.C)
Website: www.opledtw.com E-mail: sales@opledtw.com Tel: 886-2-2222-5698 Fax: 886-2-2222-2566

Disclaimer:
Subject to change without notice



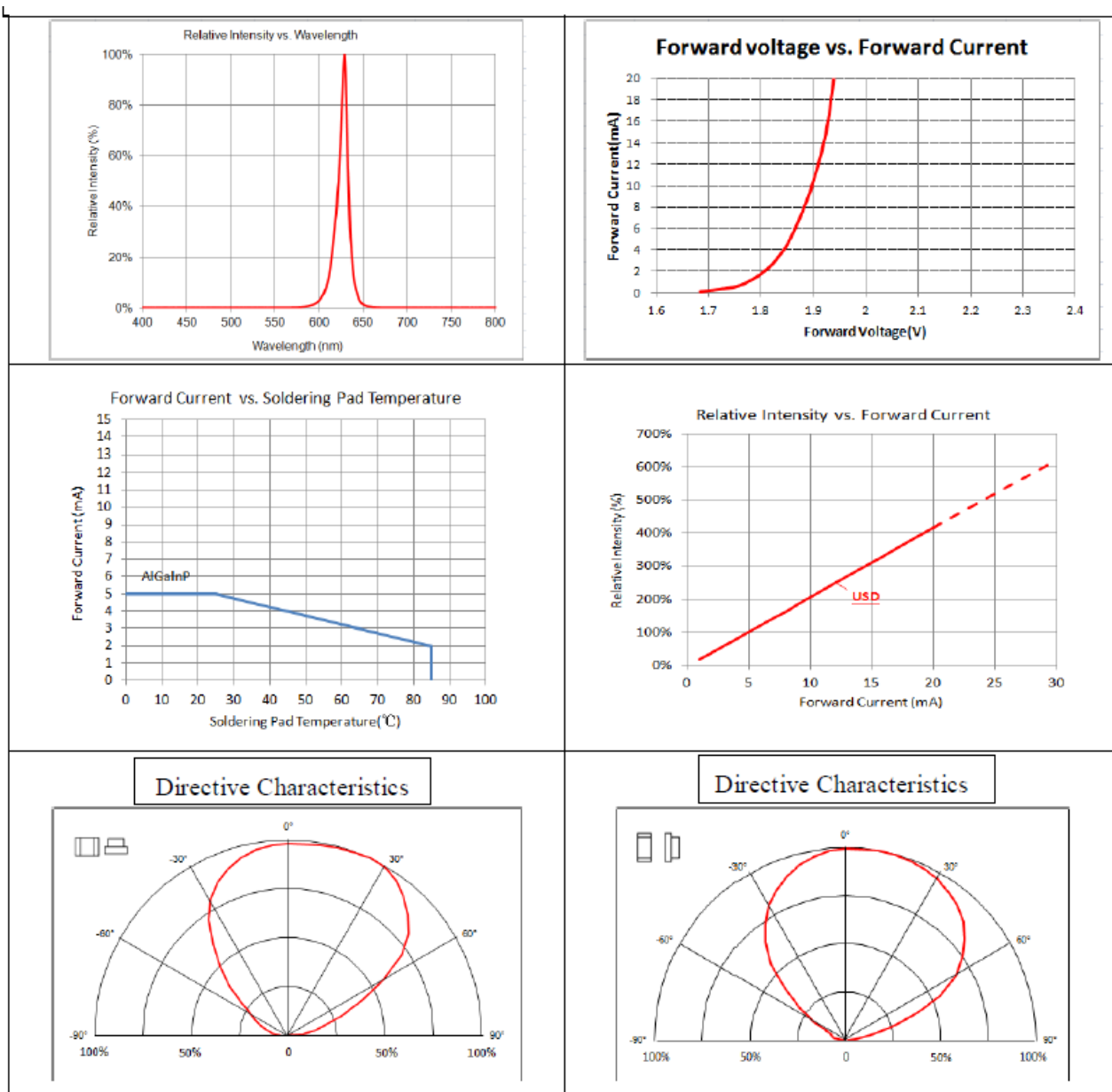
www.opledtw.com

Opto Plus LED Corp

OPS-L0306LE-2

Top View Chip LED

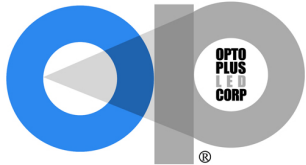
(25 °C Free Air Temperature Unless Otherwise Specified)



Precaution for Use

Opto Plus LED Corp. 7F-3, No.496, Bannan Road, Jhonghe Dist., New Taipei City 235, Taiwan (R.O.C)
Website: www.opledtw.com E-mail: sales@opledtw.com Tel: 886-2-2222-5698 Fax: 886-2-2222-2566

Disclaimer:
Subject to change without notice



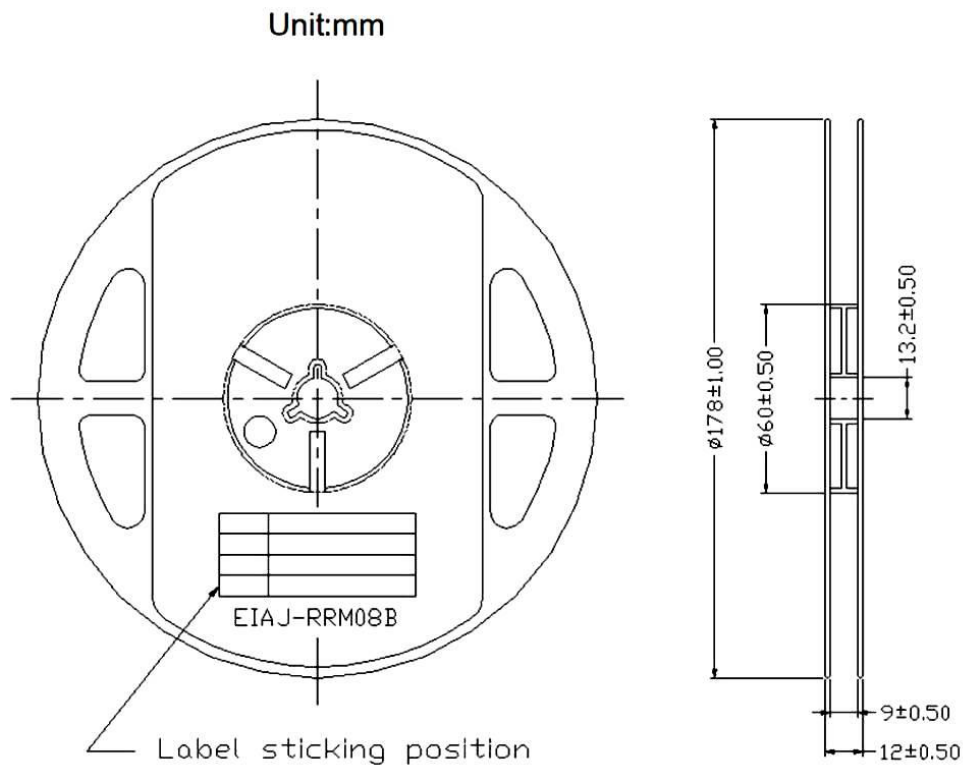
www.opledtw.com

Opto Plus LED Corp

OPS-L0306LE-2

Top View Chip LED

1. The chips should not be used directly in any type of fluid such as water, oil, organicsolvent, etc.
2. When the LEDs are illuminating, the maximum ambient temperature should be firstconsidered before operation.
3. LEDs must be stored in a clean environment. A sealed container with a nitrogenatmosphere is necessary if the storage period is over 3 months after shipping.
4. The LEDs must be used within 4weeksafter unpacked. Unused products must berepacked in an anti-electrostatic package, folded to close any opening and then stored in a dry and cool space.
5. The appearance and specifications of the products may be modified for improvementwithout further notice.
6. The LEDs are sensitive to the static electricity and surge. It is strongly recommended touse a grounded wrist band and anti-electrostatic glove when handling the LEDs.If a voltage over the absolute maximum rating is applied to LEDs, it will damage LEDs.Damaged LEDs will show some abnormal characteristics such as remarkable increaseof leak current, lower turn-on voltage and getting unlit at low current.



Packaging

Opto Plus LED Corp. 7F-3, No.496 , Bannan Road, Zhonghe Dist., New Taipei City 235, Taiwan (R.O.C)
 Website: www.opledtw.com E-mail: sales@opledtw.com Tel: 886-2-2222-5698 Fax: 886-2-2222-2566

Disclaimer:
 Subject to change without notice



OPS-L0306LE-2

Top View Chip LED

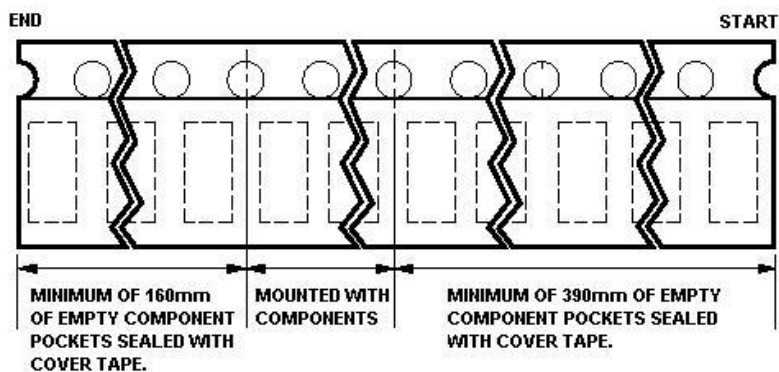
Technical drawing of a 12-pin connector. The drawing includes the following dimensions and features:

- Pin 1** and **Pin 2** are indicated with polarity symbols.
- Anode mark** is shown on the bottom row of pins.
- Dimensions:**
 - Pin diameter: $\varnothing 1.50 \pm 0.1$
 - Pin pitch (center-to-center): 4.00 ± 0.10 and 2.00 ± 0.05
 - Overall width: 8.00 ± 0.30
 - Pin height: 1.75 ± 0.10
 - Pin thickness: 0.50 ± 0.05
 - Overall length: 1.75 ± 0.10
 - Dimensions **Dim. A**, **Dim. B**, and **Dim. C** are indicated on the side view.

Dim. A
0.74±0.03
Unit: mm

Dim. B
0.47±0.03

Dim. C
0.41±0.03

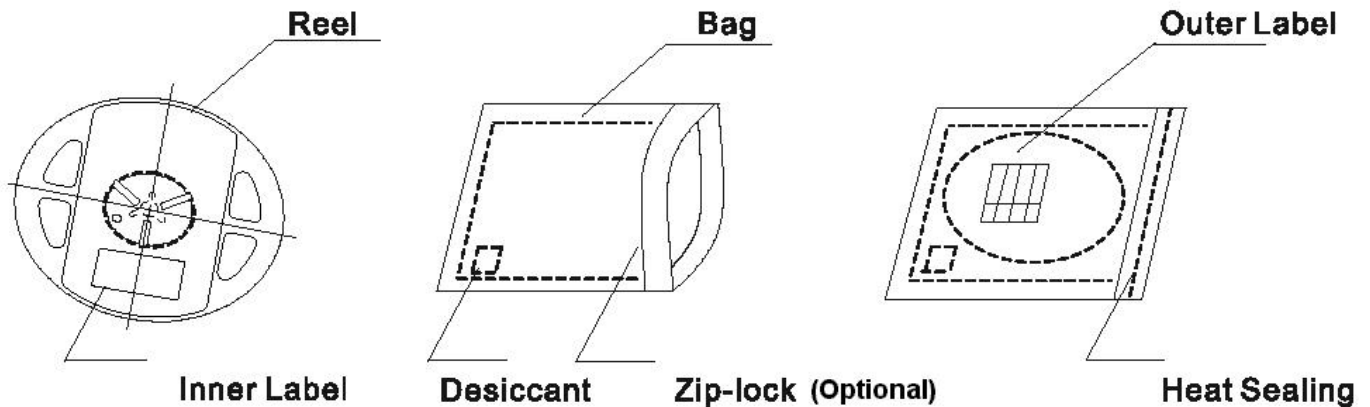
Qty/Reel
4K

All SMD optical devices are **MOISTURE SENSITIVE**. Avoid exposure to moisture at all times during

transportation or storage. Every reel is packaged in a moisture protected anti-static bag. Each bag is properly sealed prior to shipment.

A humidity indicator will be included in the moisture protected anti-static bag prior to shipment.

The packaging sequence is as follows:



Baking

Baking before soldering is recommended when the package has been unsealed for 4 weeks.

The conditions are as followings:

1. $60 \pm 3^{\circ}\text{C} \times (12 \sim 24\text{hrs})$ and $< 5\% \text{RH}$, taped reel type.
2. $100 \pm 3^{\circ}\text{C} \times (45\text{min} \sim 1\text{hr})$, bulk type.
3. $130 \pm 3^{\circ}\text{C} \times (15\text{min} \sim 30\text{min})$, bulk type.

Precautions

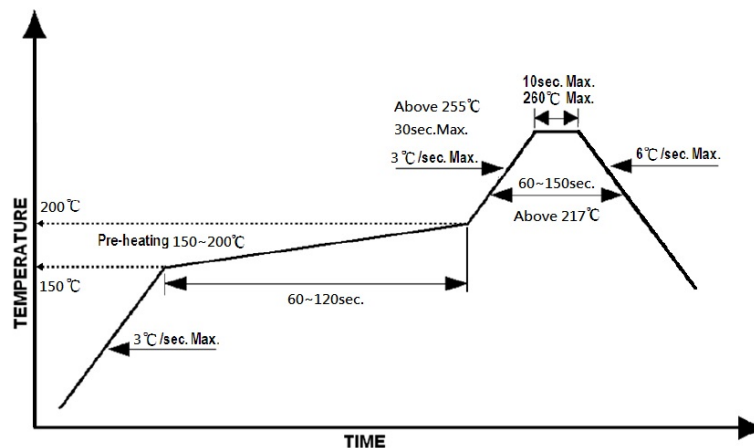
1. Avoid exposure to moisture at all times during transportation or storage.
2. Anti-Static precaution must be taken when handling GaN, InGaN, and AlInGaP products.
3. It is suggested to connect the unit with a current limiting resistor of the proper size. Avoid applying a reverse voltage beyond the specified limit.
4. Avoid operation beyond the limits as specified by the absolute maximum ratings.
5. Avoid direct contact with the surface through which the LED emits light.
6. If possible, assemble the unit in a clean room or dust-free environment.

Reflow Soldering

Recommend soldering paste specifications:

1. Operating temp.: Above 217°C ,60-150 sec.
2. Peak temp.:260°C Max.,10sec Max.
3. Reflow soldering should not be done more than two times.
4. Never attempt next process until the component is cooled down to room temperature after reflow.
5. The recommended reflow soldering profile (measured on the surface of the LED terminal) is as following:

Lead-free Solder Profile



Reworking

- Rework should be completed within 5 seconds under 260°C.
- The iron tip must not come in contact with the copper foil.
- Twin-head type is preferred.

Cleaning

Following are cleaning procedures after soldering:

- An alcohol-based solvent such as isopropyl alcohol (IPA) is recommended.
- Temperature x Time should be 50°C x 30sec. or <30°C x 3min
- Ultrasonic cleaning: < 15W/ bath; bath volume ≤ 1liter
- Curing: 100°C max, <3min