EVERLIGHT ELECTRONICS CO.,LTD.

Technical Data Sheet (Preliminary)

Side View White LED (0.8mm)

99-215UWC/TR8

Features

- Side view white LED.
- White SMT package.
- Lead frame package with individual 2 pins.
- Wide viewing angle.
- Soldering methods: IR reflow soldering.
- Feature of the device: more light due to higher optical efficiency; extremely wide viewing angle; ideal for backlighting and coupling in light guides

Descriptions

- Due to the package design, 99-215 has wide viewing angle , low power consumption ideal for light guide application.

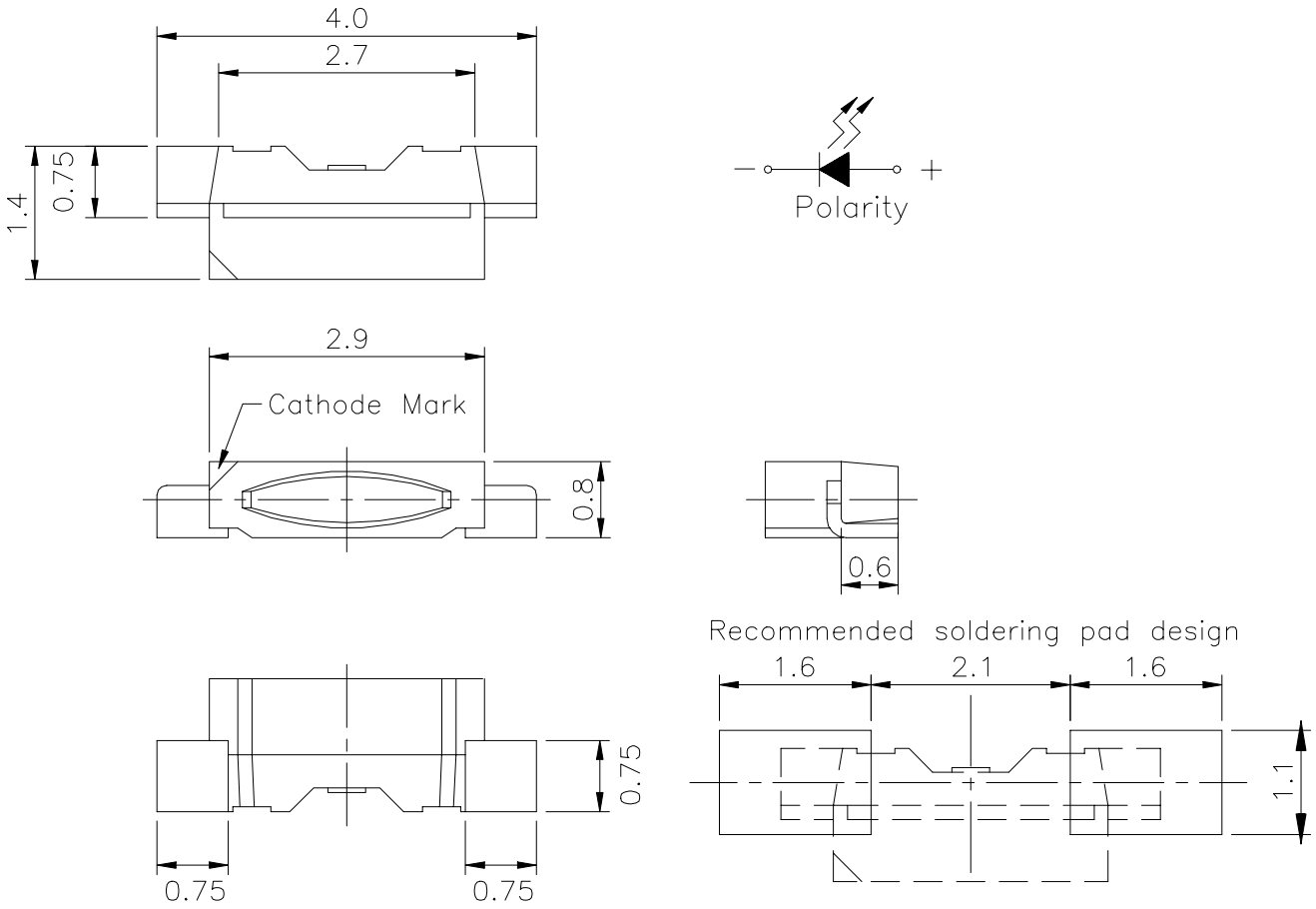
Applications

- Amusement equipment.
- PDA , Cell phone , Digital Camera backlight and light source.

Device Selection Guide

Chip		Lens Color
Material	Emitted Color	
InGaN	White	Water Clear

Package Outline Dimensions



Notes: Tolerances Unless Dimension ±0.1mm , Angle±0.5°,Unit = mm

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	5	V
Operating Temperature	Topr	-40 ~ +85	℃
Storage Temperature	Tstg	-40~ +100	℃
Soldering Temperature	Tsol	260 (for 5 second)	℃
Electrostatic Discharge	ESD	150	V
Power Dissipation	Pd	110	mW
Forward Current	I_F	25	mA
Peak Forward Current(Duty 1/10 @ 1KHz)	I_F(Peak)	100	mA

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Rank	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I_V	T	720	860	1000	mcd	I_F=20mA
		S	500	600	720		I_F=20mA
		R	360	430	500		I_F=20mA
Viewing Angle	2 θ 1/2	-----	-----	110	-----	deg	I_F=20mA
Forward Voltage	V_F	-----	-----	3.5	4.0	V	I_F=20mA
Reverse Current	I_R	-----	-----	-----	50	μA	V_R=5V

Notes:

*The luminous intensity data did not including ±15% testing tolerance.

*Tolerance of forward voltage ±0.1V.

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

99-215UWC/TR8

Color Ranks

	Rank A0			
x	0.280	0.264	0.283	0.296
y	0.248	0.267	0.305	0.276

	Rank B3			
x	0.287	0.283	0.304	0.307
y	0.295	0.305	0.330	0.315

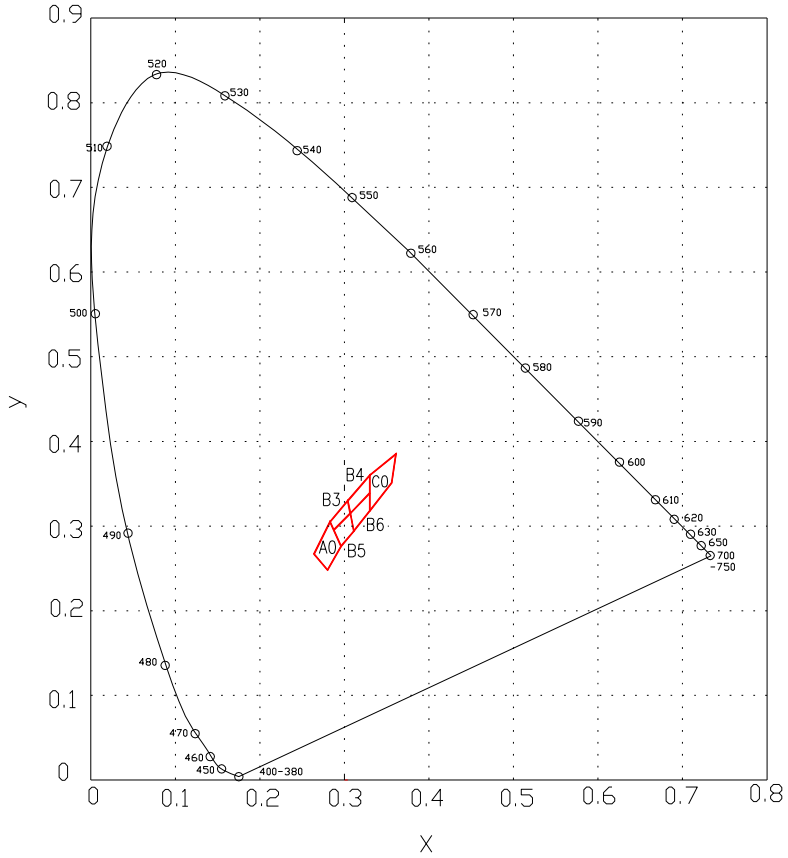
	Rank B4			
x	0.307	0.304	0.330	0.330
y	0.315	0.330	0.360	0.339

	Rank B5			
x	0.296	0.287	0.307	0.311
y	0.276	0.295	0.315	0.294

	Rank B6			
x	0.311	0.307	0.330	0.330
y	0.294	0.315	0.339	0.318

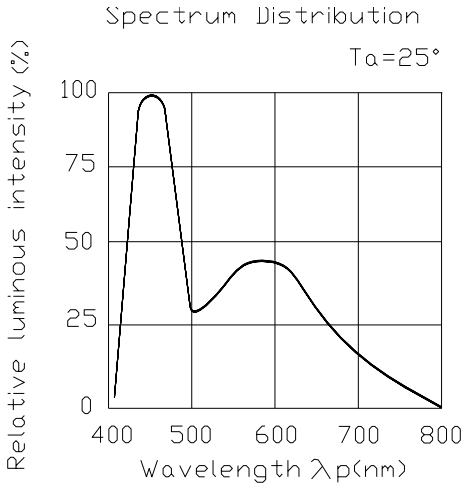
	Rank C0			
x	0.330	0.330	0.361	0.356
y	0.318	0.360	0.385	0.351

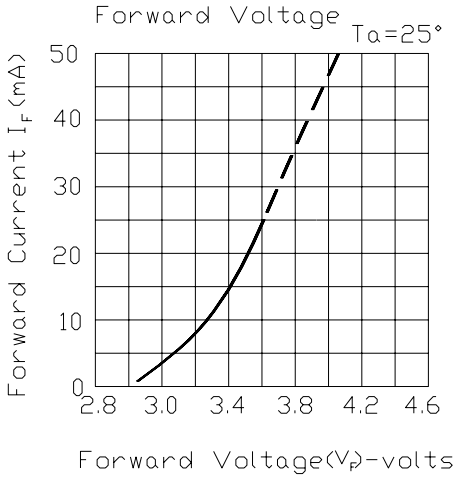
CIE Chromaticity Diagram

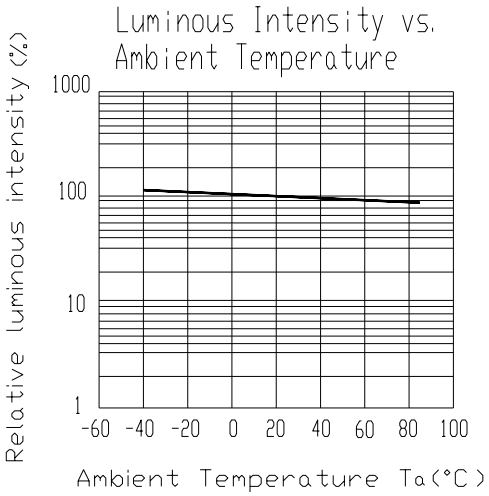


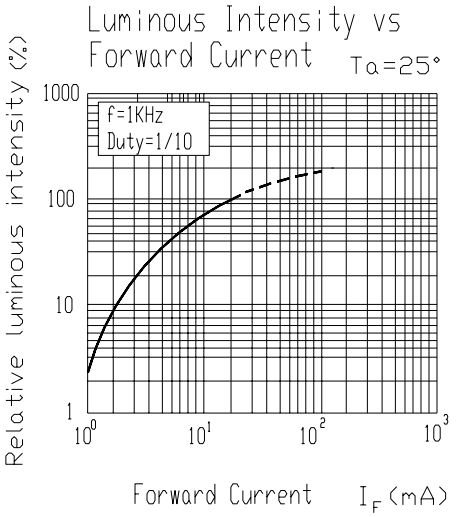
*The C.I.E. 1931 chromaticity diagram (Tolerance ±0.02).

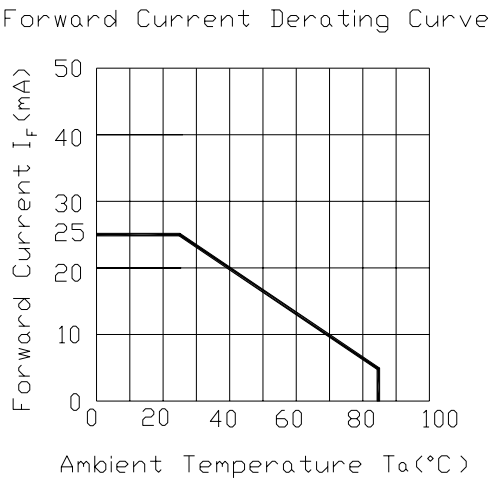
Typical Electro-Optical Characteristics Curves

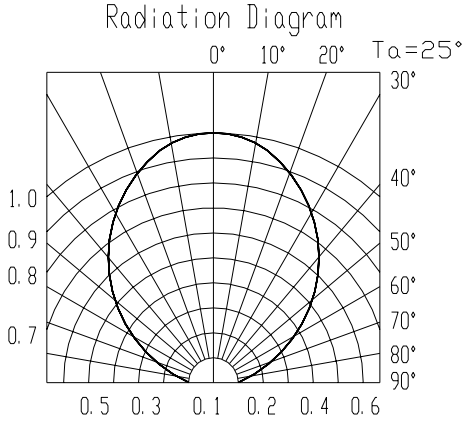












99-215UWC/TR8

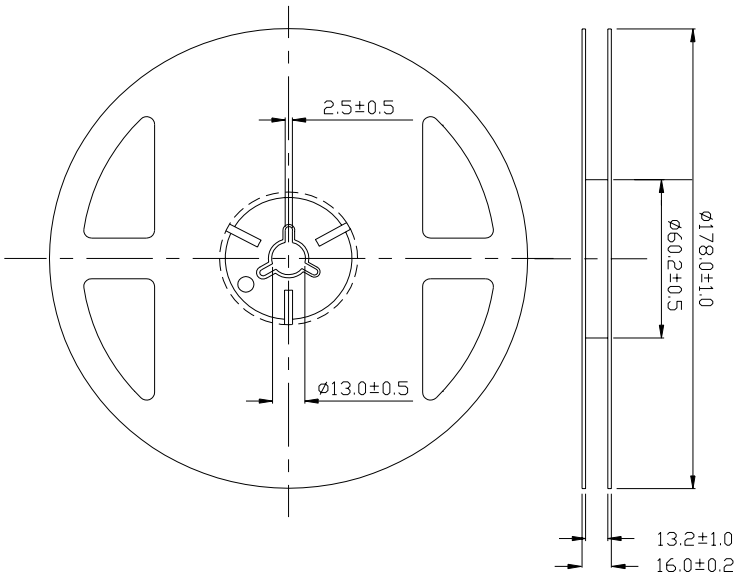
Label explanation

CAT: Luminous Intensity Rank

HUE: Dom. Wavelength Rank

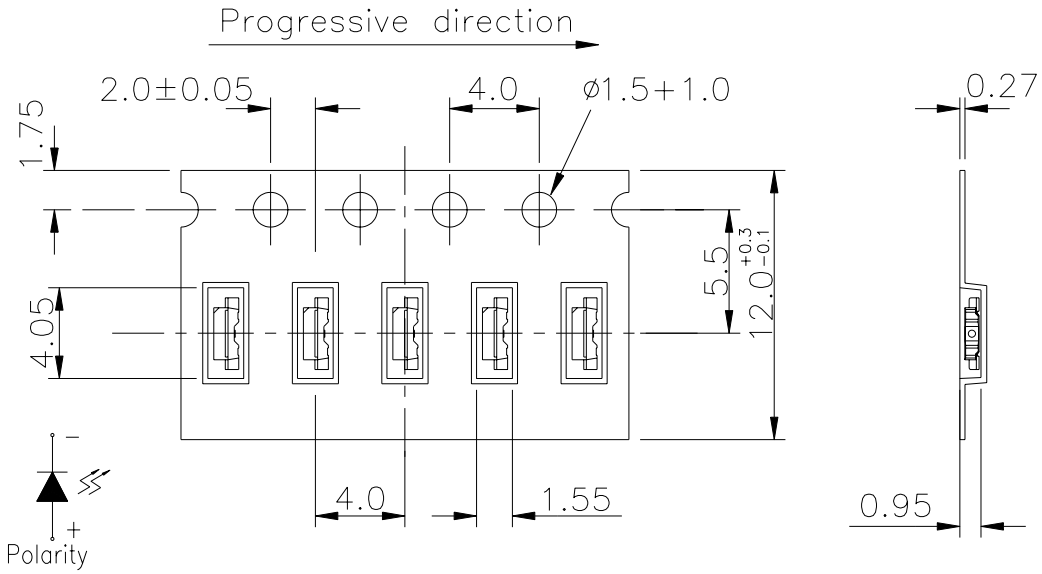
REF: Forward Voltage Rank

Reel Dimensions



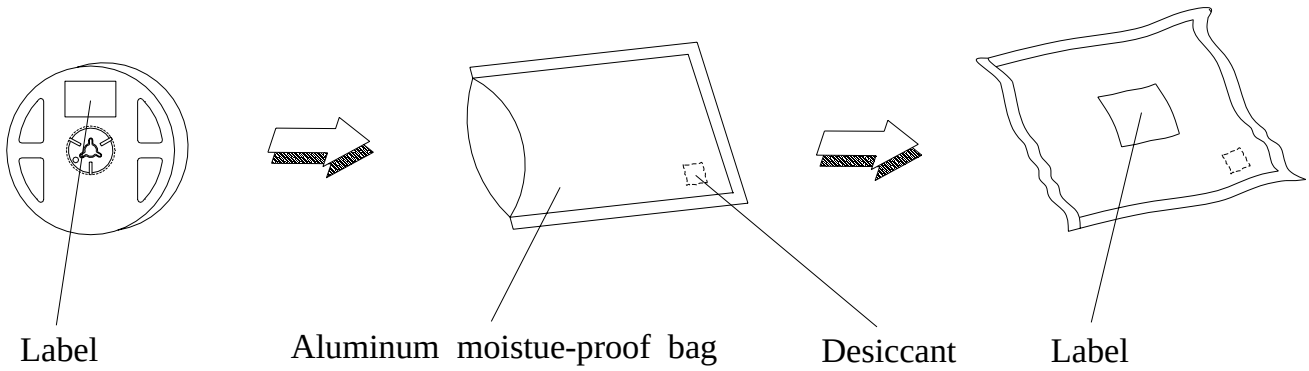
Note: The tolerances unless mentioned is ±0.1mm , Unit = mm

Carrier Tape Dimensions; Loaded quantity per reel 3500 PCS/reel



Note: Tolerances Unless Dimension ±0.1mm ,,Unit = mm

Moisture Resistant Packaging



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. : 240°C±5°C Min. 5 sec.	5 Sec.	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. : -55°C	1000 Hrs.	22 PCS.	0/1
6	DC Operating Life	I_F = 20 mA	1000 Hrs.	22 PCS.	0/1
7	High Temperature / High Humidity	85°C/RH85%	1000 Hrs.	22 PCS.	0/1

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℃ or less and 90%RH or less.

2.3 The LEDs should be used within a year.

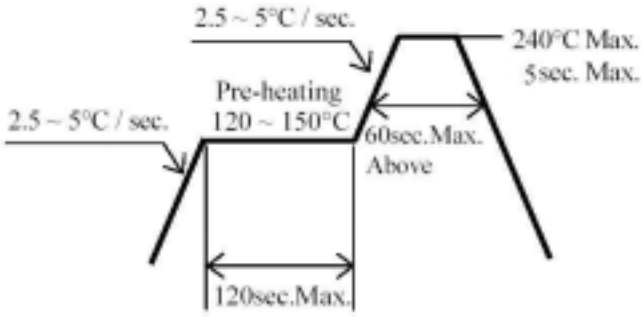
2.4 After opening the package, the LEDs should be kept at 30℃ or less and 70%RH or less.

2.5 The LEDs should be used within 168 hours (7 days) after opening the package.

2.6 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℃ for 24 hours.

3. Soldering Condition

3.1 Lead solder temperature profile



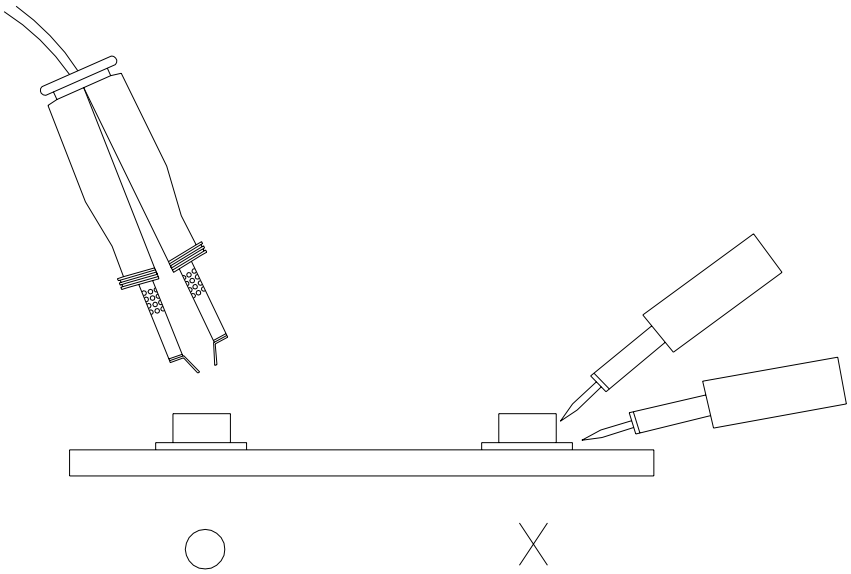
3.2 Reflow soldering should not be done more than two times.
3.3 When soldering, do not put stress on the LEDs during heating.
3.4 After soldering, do not warp the circuit board.

4.Soldering Iron

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



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