

Technical Data Sheet

Side View LEDs (0.8mm)

99-213/YSC-AU1V1B/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

- The 99-213 series is available in soft orange, green, blue and yellow. Due to the package design, the LED has wide viewing angle, low power consumption. This feature makes the LED ideal for light guide application.

Applications

- LCD back light.
- Mobile phones .
- Indicators.
- Illuminations.
- Switch lights.

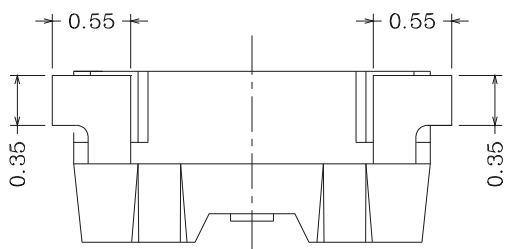
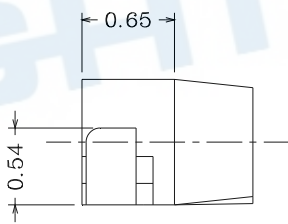
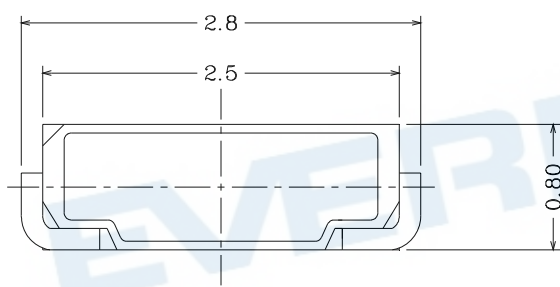
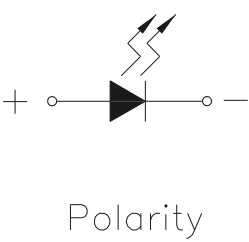
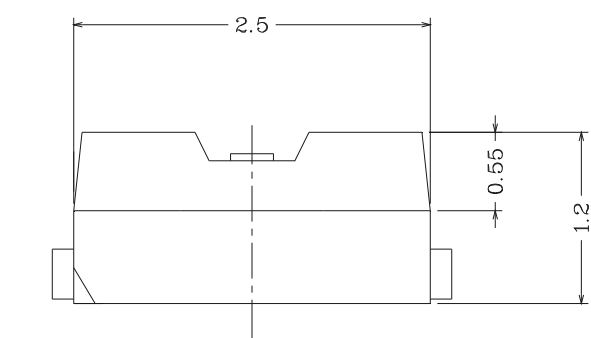
Device Selection Guide

Chip	Emitted Color	Resin Color
Material		
AlGaInP	Brilliant Yellow	Water Clear

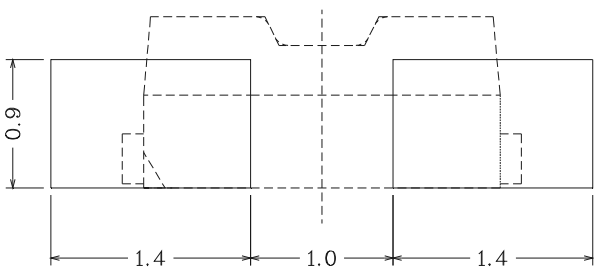
Technical Data Sheet
Side View LEDs (0.8mm)

99-213/YSC-AU1V1B/2C

Package Outline Dimensions



Recommended soldering pad design



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

Technical Data Sheet**Side View LEDs (0.8mm)****99-213/YSC-AU1V1B/2C****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 (Duty 1/10 @ 1KHz)	I_{FP}	100	mA
Power Dissipation	P_d	110	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	I_V	450	---	900	mcd	$I_F=20mA$
Viewing Angle	2 θ 1/2	-----	110	-----	deg	
Peak Wavelength	λ_p	-----	591	-----	nm	
Dominant Wavelength	λ_d	585.5	-----	594.5	nm	
Spectrum Radiation Bandwidth	$\Delta \lambda$	-----	15	-----	nm	
Forward Voltage	V_F	1.75	---	2.35	V	$V_R=5V$
Reverse Current	I_R	-----	-----	10	uA	

Notes:

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

Technical Data Sheet**Side View LEDs (0.8mm)****99-213/YSC-AU1V1B/2C****Bin Range of Luminous Intensity**

Bin Code	Min.	Max.	Unit	Condition
U1	450	565	mcd	$I_F=20\text{mA}$
U2	565	715		
V1	715	900		

Bin Range of Dominant Wavelength

Group	Bin	Min	Max	Unit	Condition
A	D3	585.5	588.5	nm	$I_F=20\text{mA}$
	D4	588.5	591.5		
	D5	591.5	594.5		

Bin Range Of Forward Voltage

Group	Bin	Min	Max	Unit	Condition
B	0	1.75	1.95	V	$I_F=20\text{mA}$
	1	1.95	2.15		
	2	2.15	2.35		

Notes:

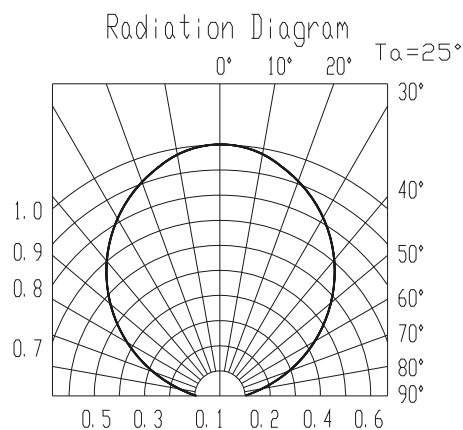
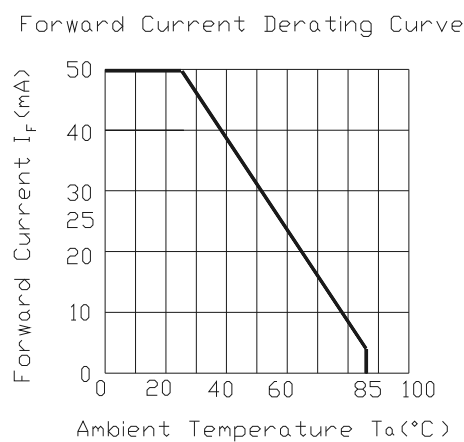
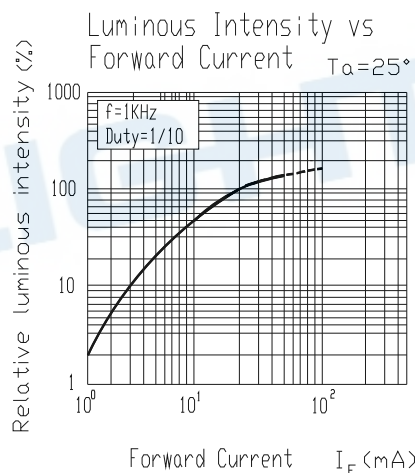
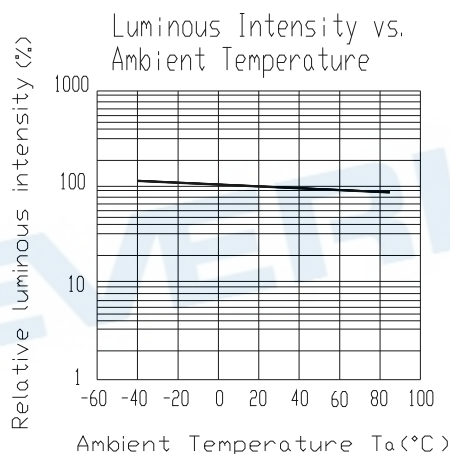
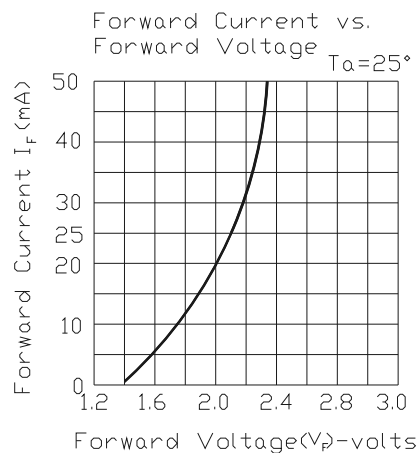
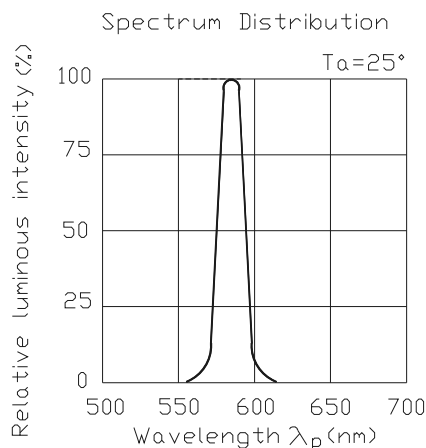
- 1.Tolerance of Luminous Intensity : $\pm 11\%$
2. Tolerance of Dominant Wavelength : $\pm 1\text{nm}$
3. Tolerance of Forward Voltage : $\pm 0.1\text{V}$

Technical Data Sheet

Side View LEDs (0.8mm)

99-213/YSC-AU1V1B/2C

Typical Electro-Optical Characteristics Curves



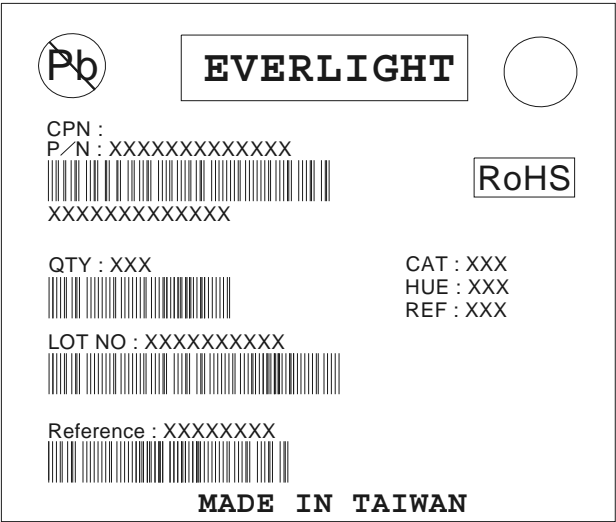
Technical Data Sheet

Side View LEDs (0.8mm)

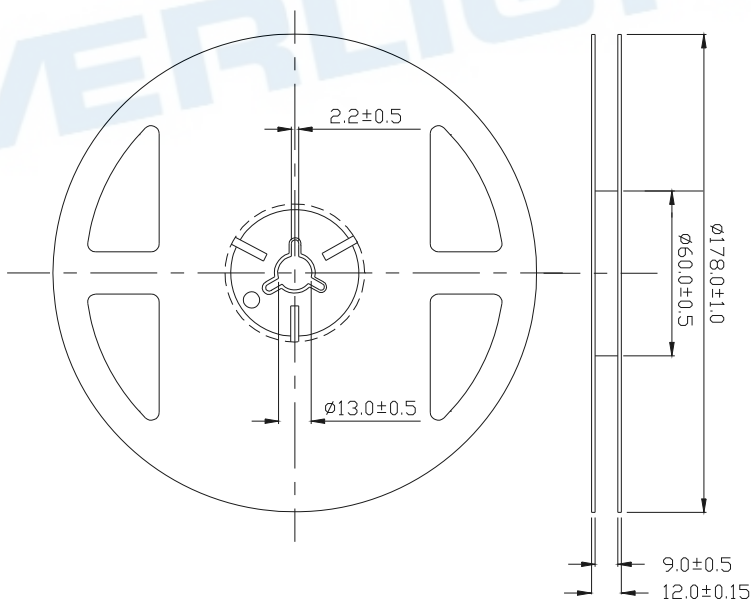
99-213/YSC-AU1V1B/2C

Label Explanation

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



Reel Dimensions



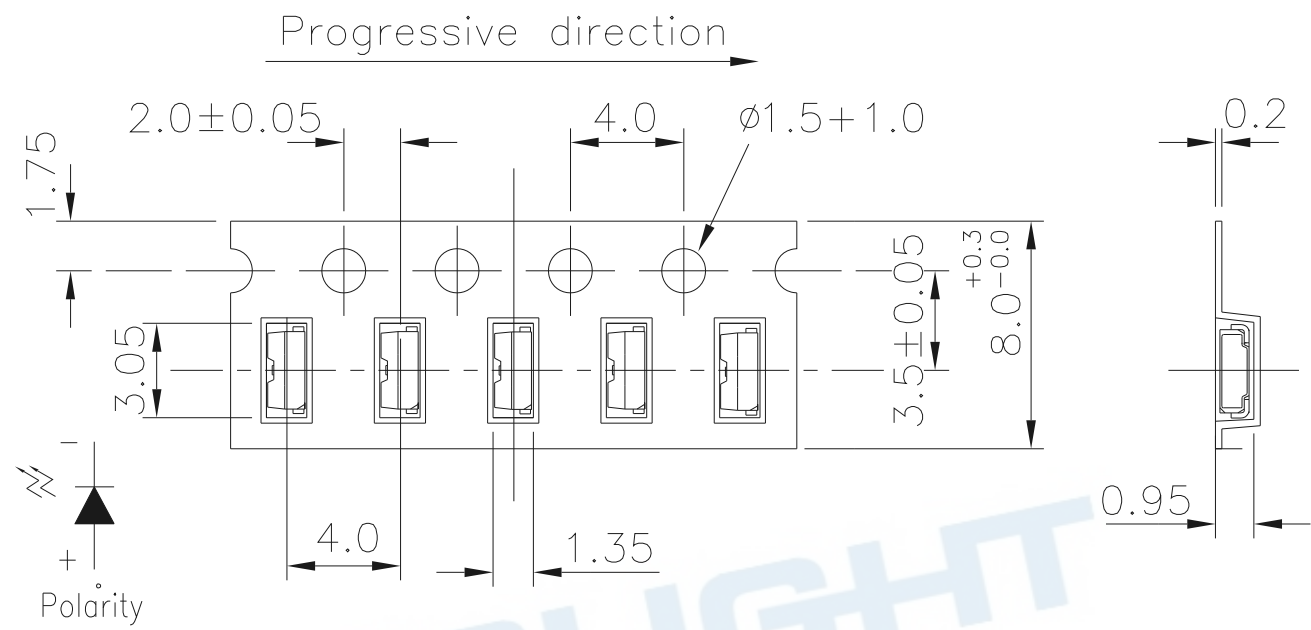
Note: The tolerances unless mentioned is : ±0.1mm,Unit = mm

Technical Data Sheet

Side View LEDs (0.8mm)

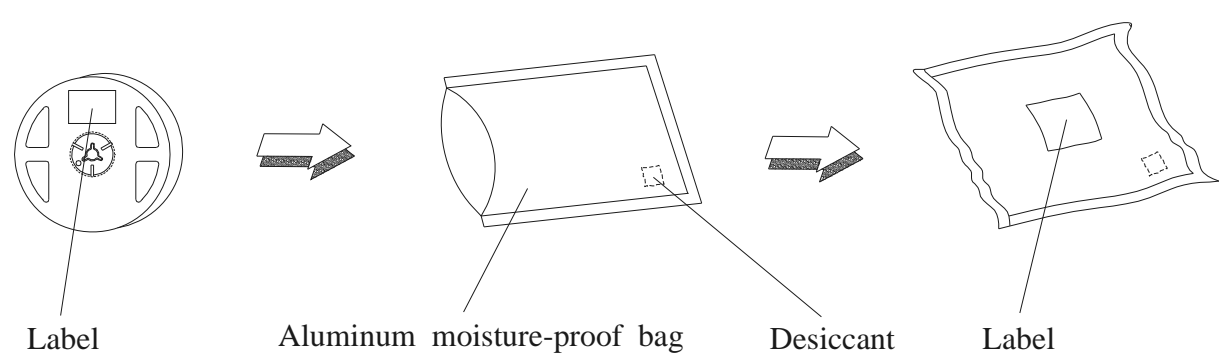
99-213/YSC-AU1V1B/2C

Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



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

Moisture Resistant Packaging



Technical Data Sheet**Side View LEDs (0.8mm)****99-213/YSC-AU1V1B/2C****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

Technical Data Sheet

Side View LEDs (0.8mm)

99-213/YSC-AU1V1B/2C

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.

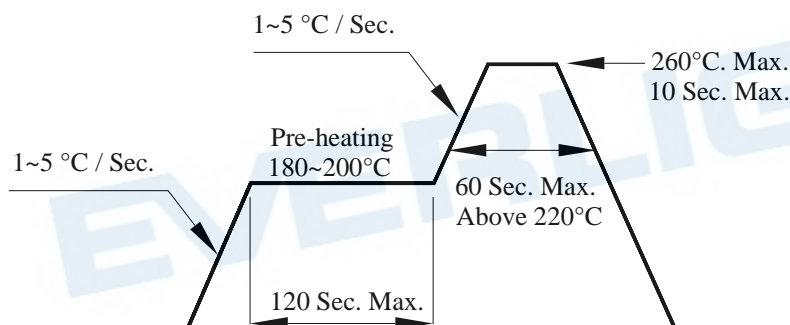
2.2 Before opening the package: The LEDs should be kept at 30°C or less and 90%RH or less.

2.3 After opening the package: The LED's floor life is 1 year 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.

Technical Data Sheet

Side View LEDs (0.8mm)

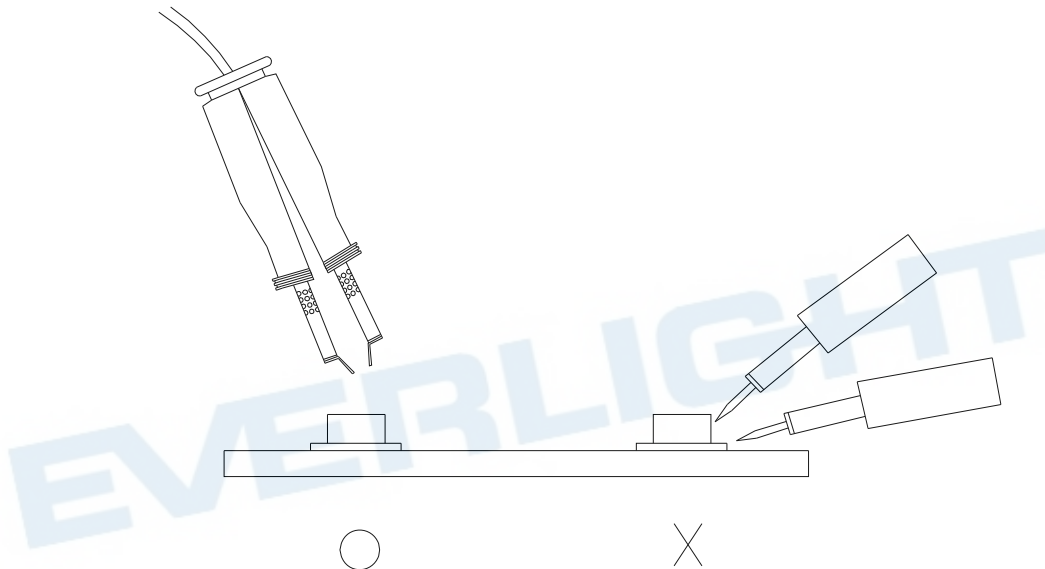
99-213/YSC-AU1V1B/2C

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.



Technical Data Sheet

Side View LEDs (0.8mm)

99-213/YSC-AU1V1B/2C

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.

EVERLIGHT ELECTRONICS CO., LTD.
Office: No 25, Lane 76, Sec 3, Chung Yang Rd,
Tucheng, Taipei 236, Taiwan, R.O.C

Tel: 886-2-2267-2000, 2267-9936
Fax: 886-2267-6244, 2267-6189, 2267-6306
<http://www.everlight.com>