

Side View LEDs (0.8mm)

99-213SUBP/S3052/TR8



Features

- Side view LED.
- White SMT package
- Lead frame package with individual 2 pins.
- Wide viewing angle.
- Soldering methods: IR reflow soldering.
- Precondition: Bases on JEDEC J-STD 020D Level 3
- Pb-free.
- Compliance with EU REACH.
- The product itself will remain within RoHS compliant version.
- Compliance Halogen Free .(Br<900ppm,Cl<900ppm,Br+Cl<1500ppm).

Descriptions

- Due to the package design,99-213 has wide viewing angle , low power consumption and white LEDs are devices which are materialized by combing Blue LEDs and special phosphors . This feature makes the LED ideal for light guide application.

Applications

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

Device Selection Guide

Chip Materials	Emitted Color	Resin Color
InGaN	Pastel Sky Blue	Water Clear

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}	60	mA
Power Dissipation	P _d	110	mW
Junction Temperature	T _j	115	°C
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +90	°C
ESD	ESD _{HBM}	500	V
Soldering Temperature	T _{sol}	Reflow Soldering : 260 °C for 10 sec. Hand Soldering : 350 °C for 3 sec.	

Note: The products are sensitive to static electricity and must be carefully taken when handling products.

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	800	-----	1200	mcd	I _F =15mA
Viewing Angle	2θ _{1/2}	-----	110	-----	deg	I _F =15mA
Forward Voltage	V _F	2.90	-----	3.50	V	I _F =15mA
Reverse Current	I _R	-----	-----	50	μA	V _R =5V

Notes:

1. Tolerance of Luminous Intensity: ±11%

Bin Range of Luminous Intensity

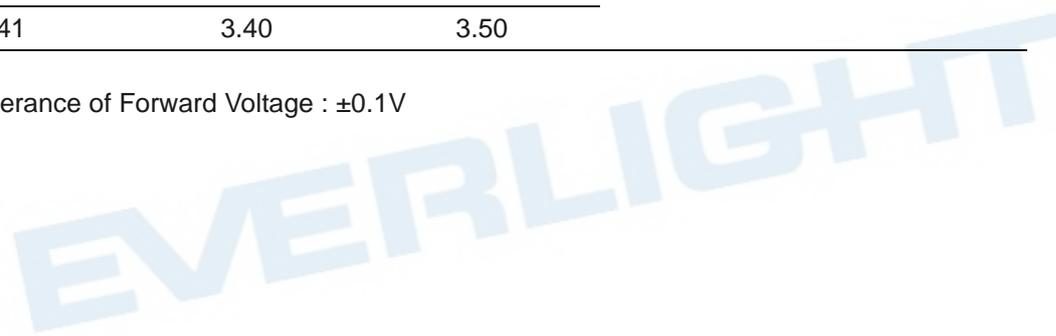
Bin Code	Min.	Max.	Unit	Condition
0	800	900	mcd	I _F =15mA
1	900	1000		
2	1000	1100		
3	1100	1200		

Note: Tolerance of Luminous Intensity: ±11%

Bin Range of Forward Voltage

Bin Code	Min.	Max.	Unit	Condition
36	2.90	3.00	nm	I _F =15mA
37	3.00	3.10		
38	3.10	3.20		
39	3.20	3.30		
40	3.30	3.40		
41	3.40	3.50		

Note: Tolerance of Forward Voltage : ±0.1V

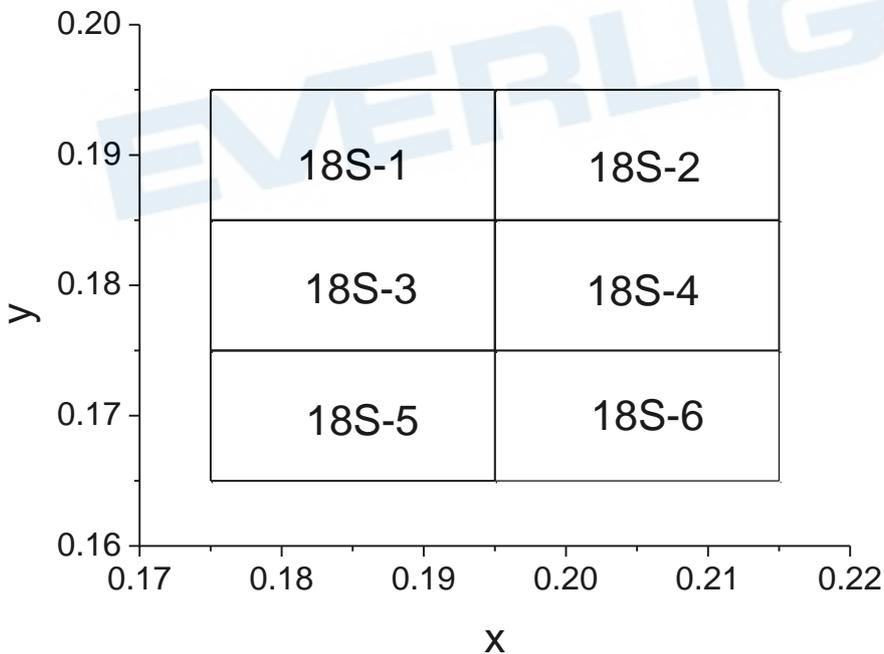


Bin Range of Chromaticity Coordinates

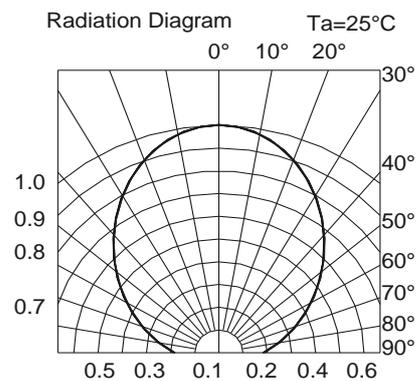
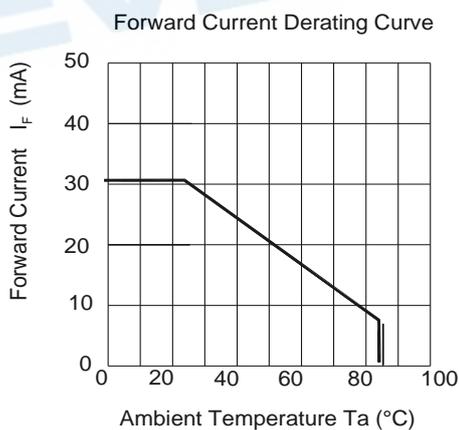
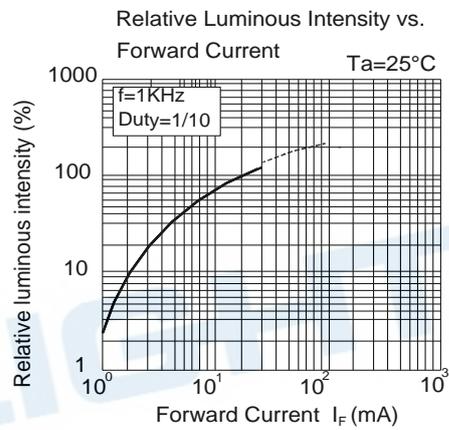
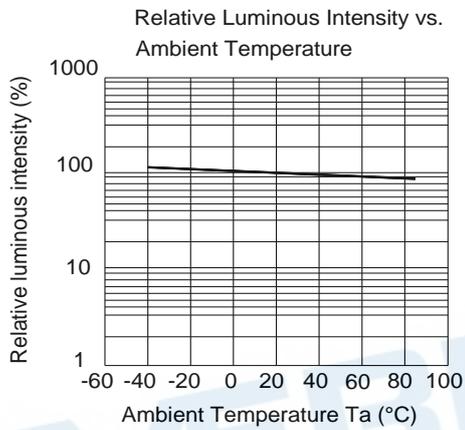
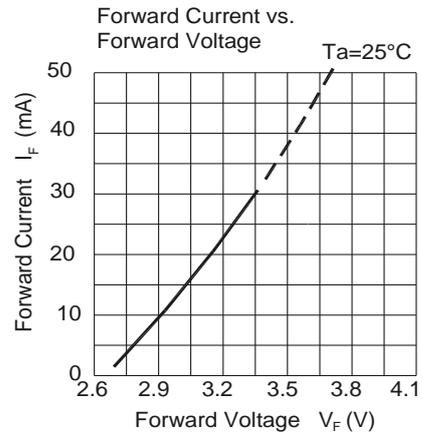
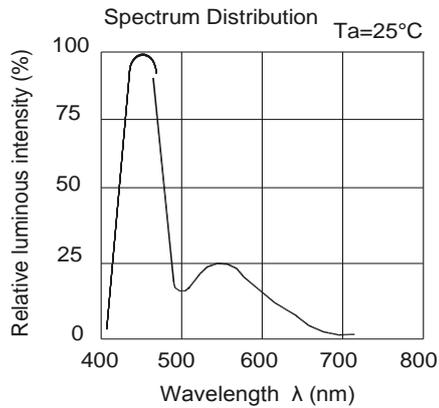
Bin Code	Min.	Max.	Bin Code	Min.	Max.	Condition
18S-1	0.175	0.185	18S-2	0.195	0.185	I _F =15mA
	0.175	0.195		0.195	0.195	
	0.195	0.195		0.215	0.195	
	0.195	0.185		0.215	0.185	
18S-3	0.175	0.175	18S-4	0.195	0.175	
	0.175	0.185		0.195	0.185	
	0.195	0.185		0.215	0.185	
	0.195	0.175		0.215	0.175	
18S-5	0.175	0.165	18S-6	0.195	0.165	
	0.175	0.175		0.195	0.175	
	0.195	0.175		0.215	0.175	
	0.195	0.165		0.215	0.165	

Note: Tolerance of Chromaticity Coordinates: ±0.01

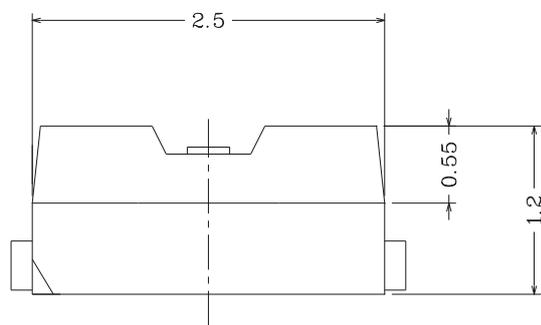
The C.I.E. 1931 Chromaticity Diagram



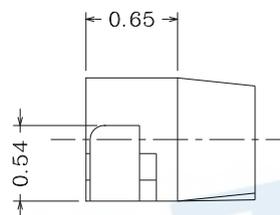
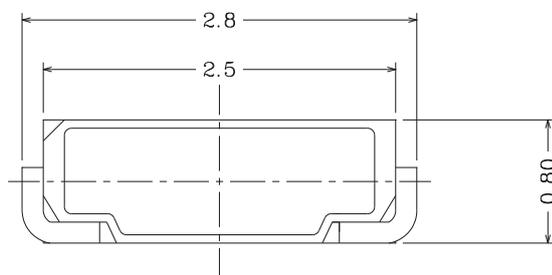
Typical Electro-Optical Characteristics Curves



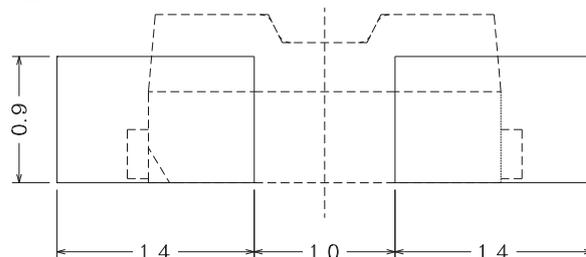
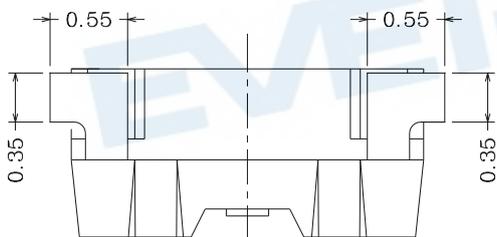
Package Dimension



Polarity



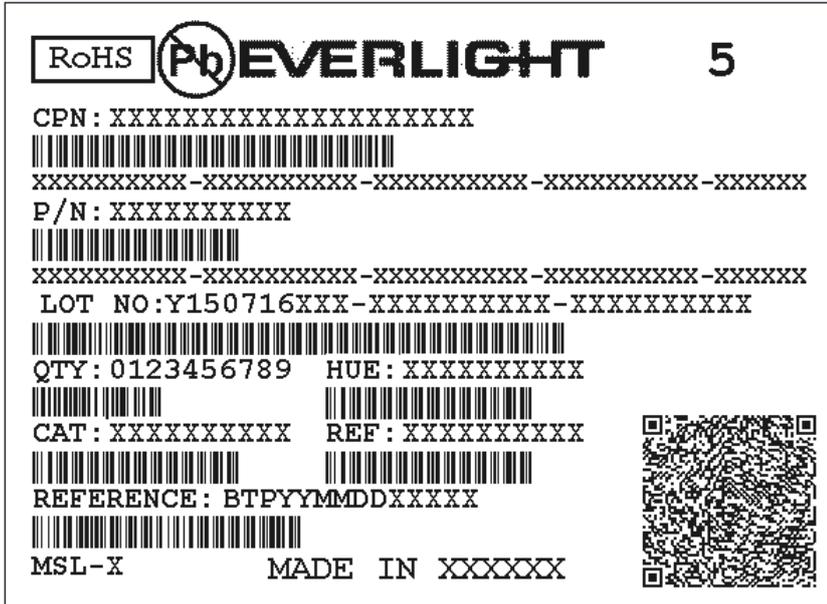
Recommended soldering pad design



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

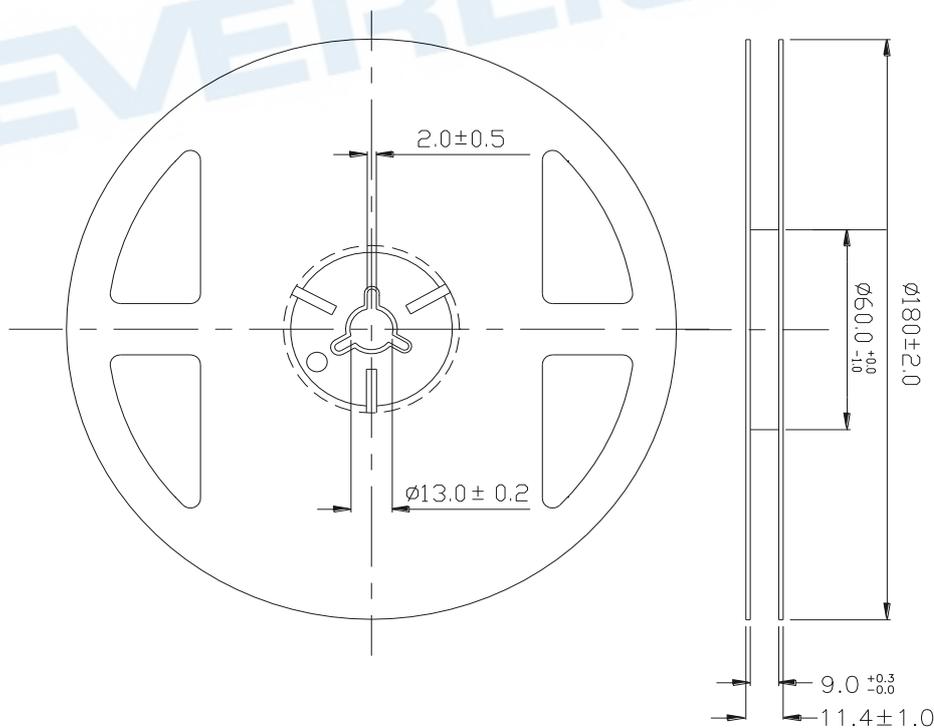
Moisture Resistant Packing Materials

Label Explanation



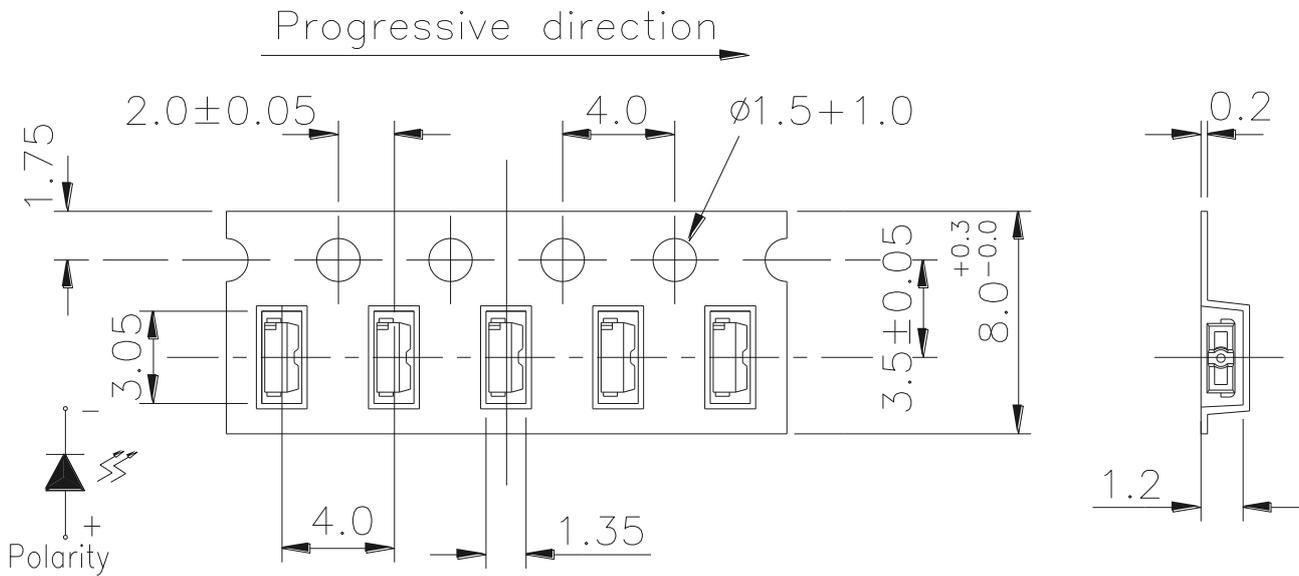
- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

Reel Dimensions



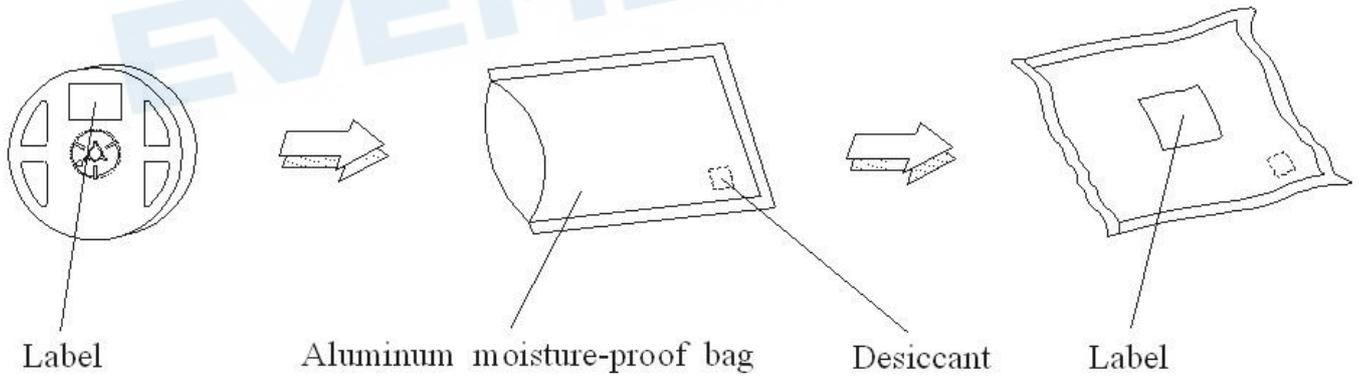
Note: The tolerances unless mentioned is : ±0.1mm, Unit = mm

Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



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

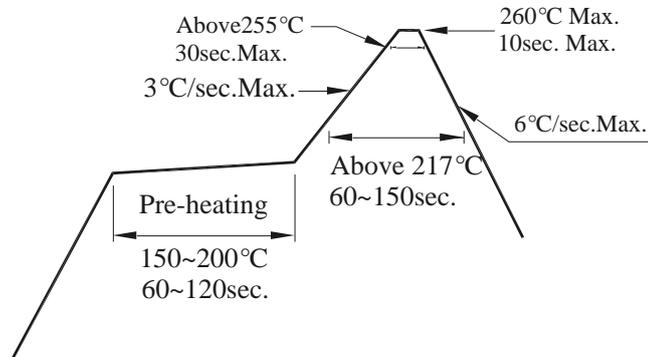
Moisture Resistant Packing Process



Precautions for Use

1. Over-current-proof

1.1 Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).



2. Storage

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

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

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

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

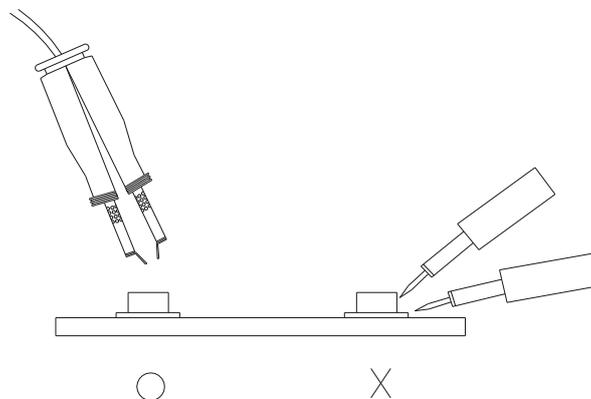
3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

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



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.

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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.
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