

Technical Data Sheet**Full Color Top View LEDs****67-23SDRSUGSUBC/TR8****Features**

- P-LCC-4 package.
- White package.
- Optical indicator.
- Colorless clear window.
- Pb-free.
- The product itself will remain within RoHS compliant version.

**Descriptions**

- The 67-23 series is available in soft red, green, blue and yellow. Due to the package design, the LED has wide viewing angle and optimized light coupling by inter reflector. This feature makes the ideal for light pipe application. The low current requirement makes this device ideal for portable equipment or any other application where power is at a premium.

Applications

- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD's, switches and symbols.
- Light pipe application.
- General use.

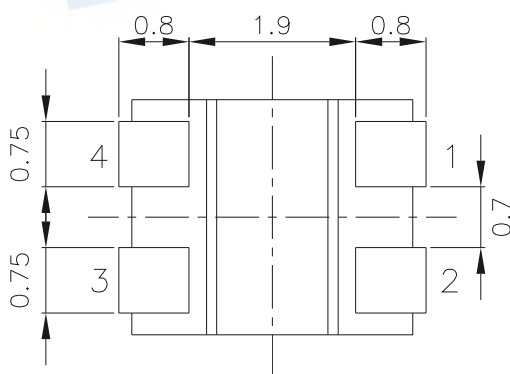
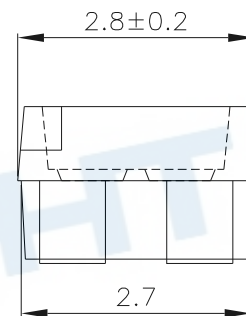
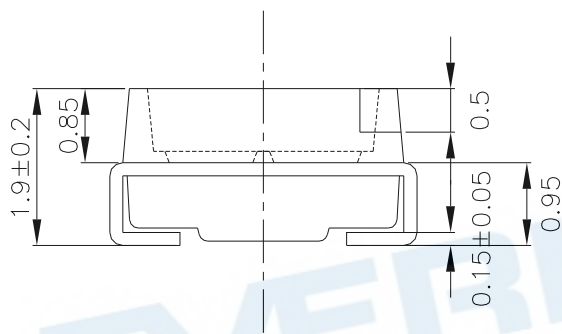
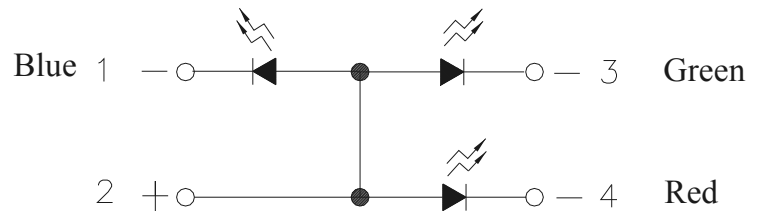
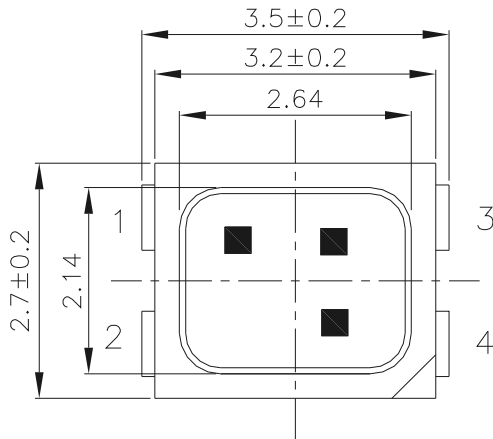
Device Selection Guide

Chip			Lens Color
Type	Material	Emitted Color	
SDR	AlGaInP	Deep-Red	Water Clear
SUG	InGaN/SiC	Brilliant Green	
SUB	InGaN/SiC	Blue	

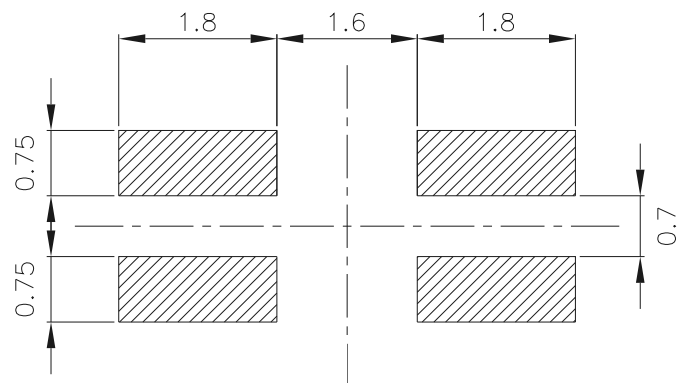
EVERLIGHT ELECTRONICS CO., LTD. **EVERLIGHT**
Technical Data Sheet
Full Color Top View LEDs

67-23SDRSUGSUBC/TR8

Package Dimensions



Recommended Solder Pad



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

EVERLIGHT ELECTRONICS CO., LTD. **EVERLIGHT**
Technical Data Sheet

Full Color Top View LEDs

67-23SDRSUGSUBC/TR8

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol		Rating	Unit
Reverse Voltage	VR		5	V
Forward Current	IF	SDR	25	mA
		SUG	30	
		SUB	30	
Operating Temperature	Topr		-40 ~ +85	℃
Storage Temperature	Tstg		-40~ +100	℃
Electrostatic Discharge(HBM)	ESD	SDR	2000	V
		SUG	1000	
		SUB	1000	
Power Dissipation	Pd	SDR	60	mW
		SUG	130	
		SUB	130	
Peak Forward Current (Duty 1/10 @ 1KHZ)	IFP	SDR	60	mA
		SUG	100	
		SUB	100	
Soldering Temperature	Tsol	Reflow Soldering : 260 ℃ for 10 sec. Hand Soldering : 350 ℃ for 3 sec.		

EVERLIGHT ELECTRONICS CO., LTD. **EVERLIGHT**

Technical Data Sheet

Full Color Top View LEDs

67-23SDRSUGSUBC/TR8

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol		Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	SDR	32	57	-----	mcd	I _F =20mA*
		SUG	125	216	-----		
		SUB	63	112	-----		
Peak Wavelength	λ _p	SDR	-----	650	-----	nm	I _F =20mA
		SUG	-----	518	-----		
		SUB	-----	468	-----		
Dominant Wavelength	λ _d	SDR	-----	639	-----	nm	I _F =20mA
		SUG	-----	525	-----		
		SUB	-----	470	-----		
Spectrum Radiation Bandwidth	△λ	SDR	-----	20	-----	nm	I _F =20mA
		SUG	-----	36	-----		
		SUB	-----	26	-----		
Forward Voltage	V _F	SDR	1.7	2.0	2.4	V	I _F =20mA
		SUG	-----	3.5	4.3		
		SUB	-----	3.5	4.3		
Viewing Angle	2θ 1/2		-----	120	-----	deg	I _F =20mA
Reverse Current	I _R		-----	-----	50	μA	V _R =5V

*For each die

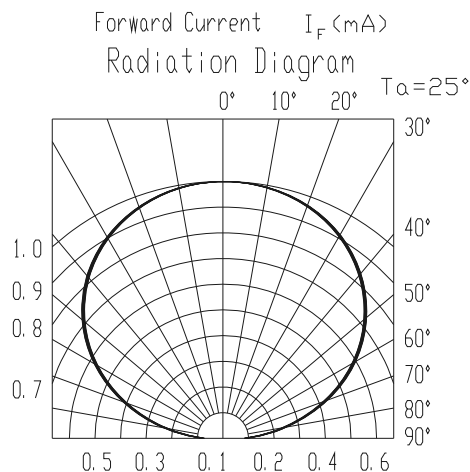
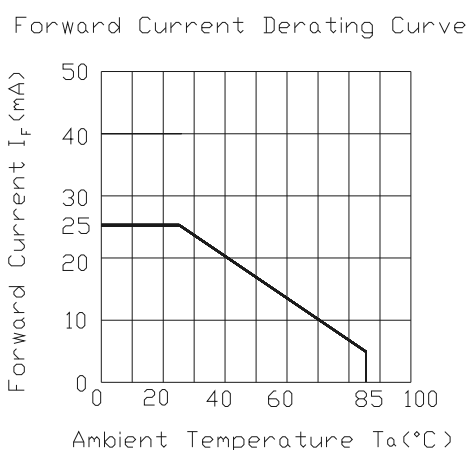
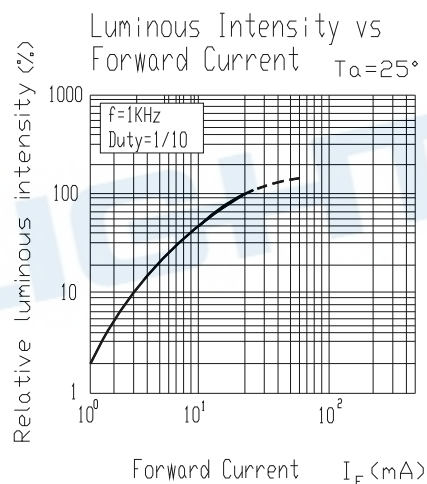
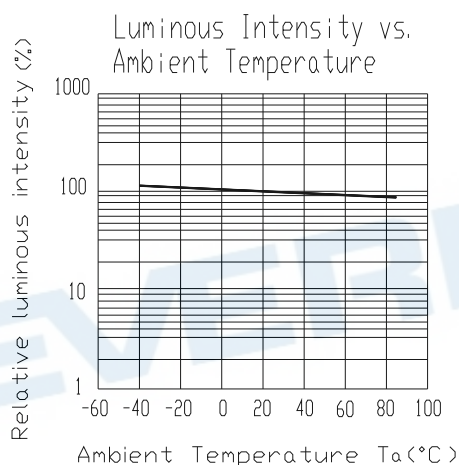
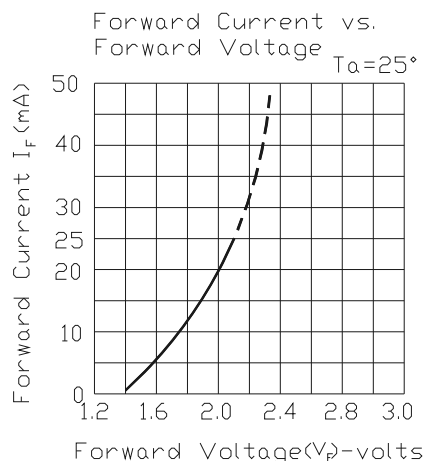
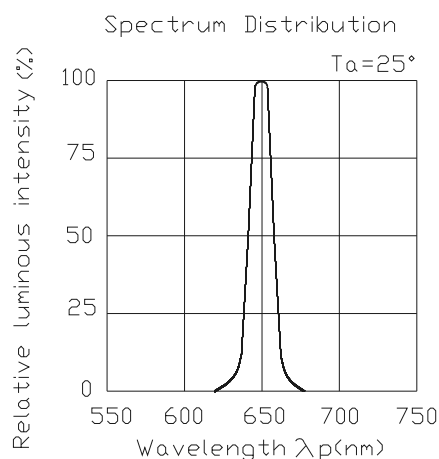
EVERLIGHT ELECTRONICS CO., LTD. **EVERLIGHT**

Technical Data Sheet

Full Color Top View LEDs

67-23SDRSUGSUBC/TR8

Typical Electro-Optical Characteristics Curves(SDR)



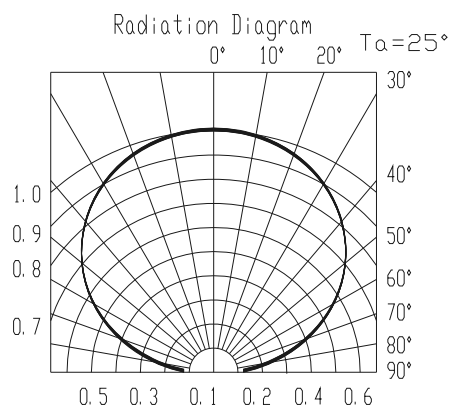
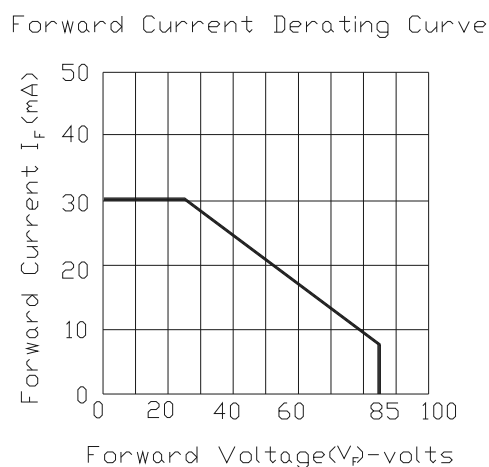
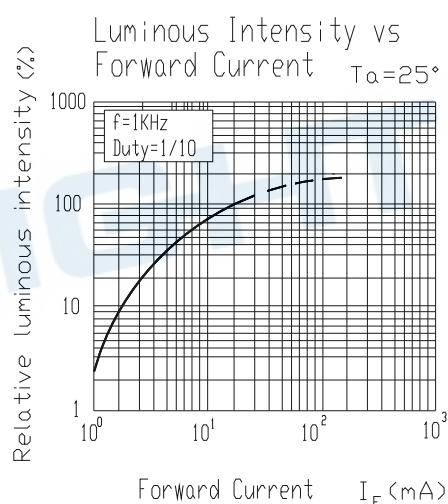
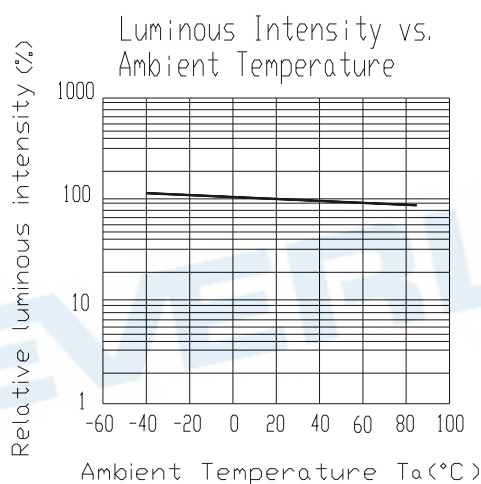
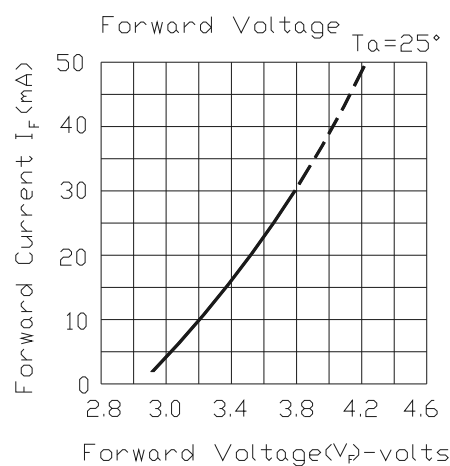
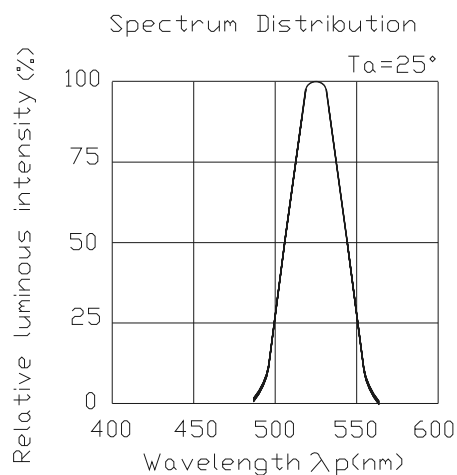
EVERLIGHT ELECTRONICS CO., LTD. **EVERLIGHT**

Technical Data Sheet

Full Color Top View LEDs

67-23SDRSUGSUBC/TR8

Typical Electro-Optical Characteristics Curves(SUG)



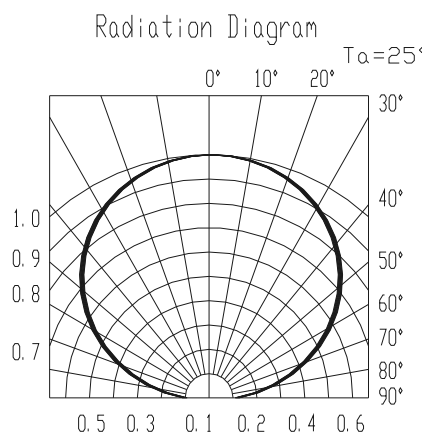
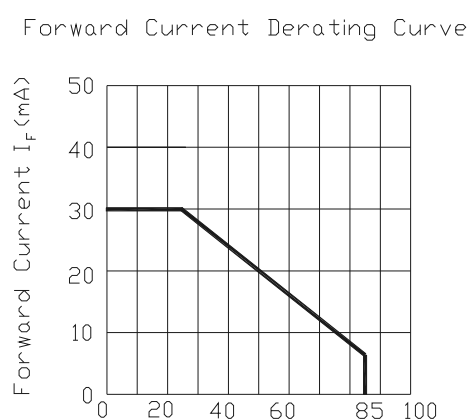
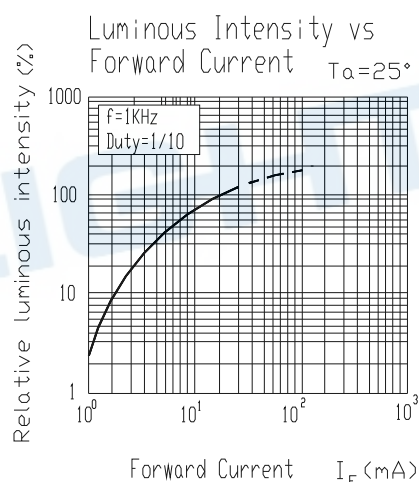
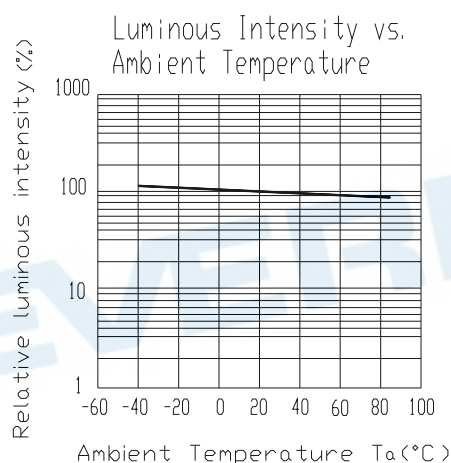
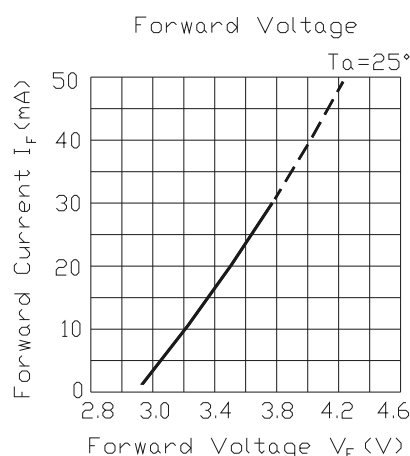
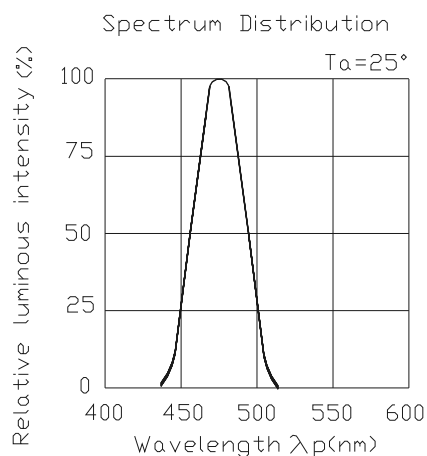
EVERLIGHT ELECTRONICS CO., LTD. **EVERLIGHT**

Technical Data Sheet

Full Color Top View LEDs

67-23SDRSUGSUBC/TR8

Typical Electro-Optical Characteristics Curves(SUB)



Technical Data Sheet

Full Color Top View LEDs

67-23SDRSUGSUBC/TR8

Label explanation

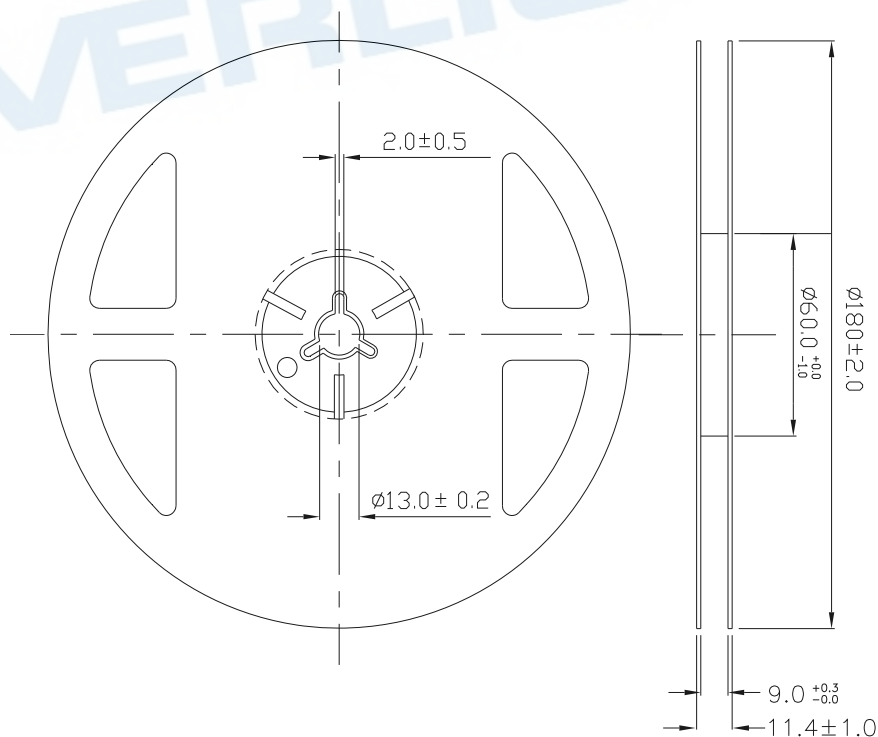
CAT: Luminous Intensity Rank

HUE: Dom. Wavelength Rank

REF: Forward Voltage Rank



Reel Dimensions

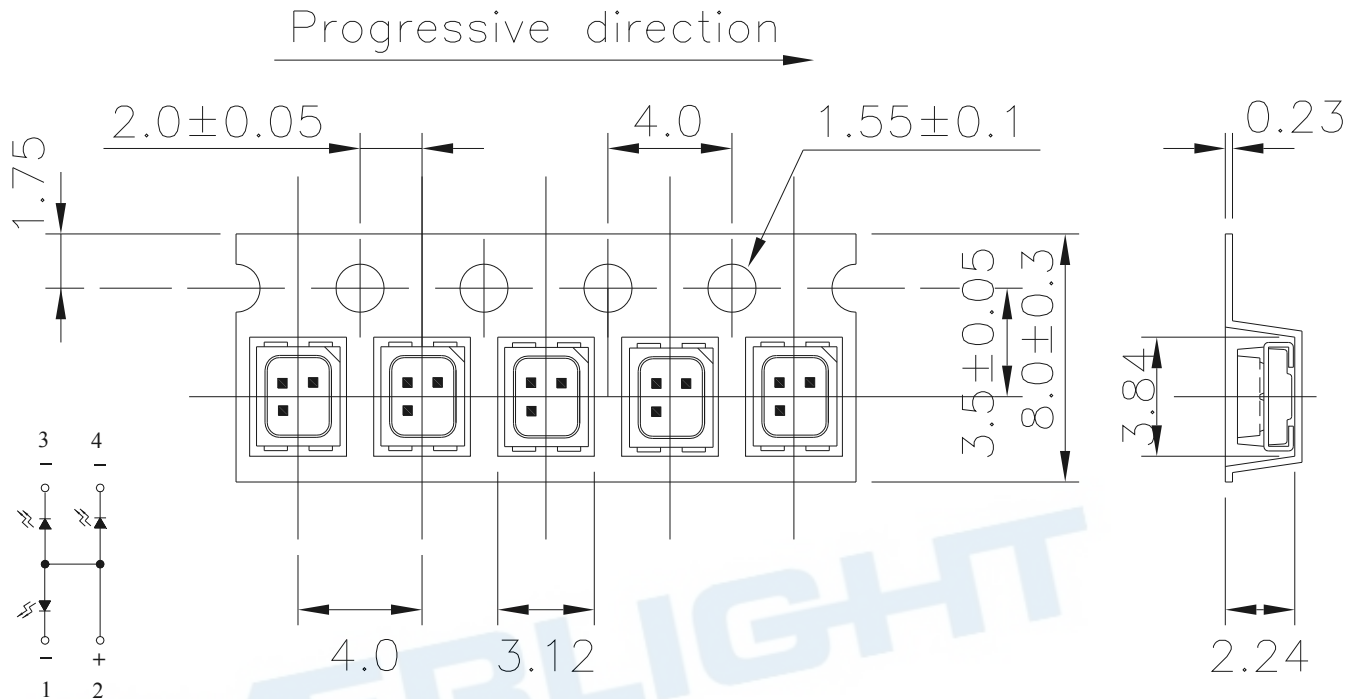


Note: Tolerances Unless Dimension $\pm 0.1\text{mm}$, Unit = mm

Full Color Top View LEDs

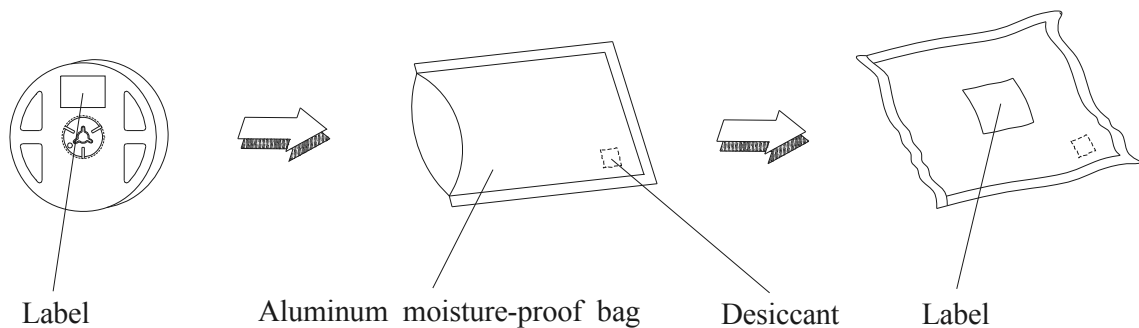
67-23SDRSUGSUBC/TR8

Carrier Tape Dimensions: Loaded quantity 2000 PCS per reel



Note: Tolerances Unless Dimension $\pm 0.1\text{mm}$ Unit = mm

Moisture Resistant Packaging



EVERLIGHT ELECTRONICS CO., LTD. **EVERLIGHT**

Technical Data Sheet

Full Color Top View LEDs

67-23SDRSUGSUBC/TR8

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 Min. 10sec.	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	1000 Hrs.	22 PCS.	0/1
7	High Temperature / High Humidity	85°C/ 85%RH	1000 Hrs.	22 PCS.	0/1

EVERLIGHT ELECTRONICS CO., LTD. **EVERLIGHT**

Technical Data Sheet

Full Color Top View LEDs

67-23SDRSUGSUBC/TR8

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 168 hours under 30 deg C or less and 60% RH or less.

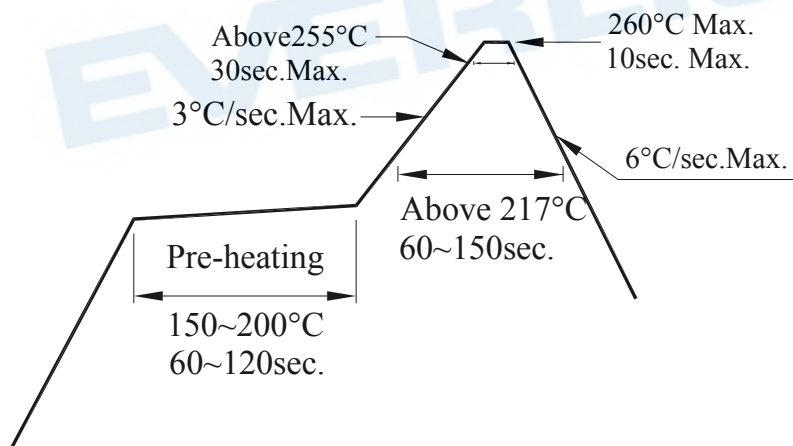
If unused LEDs remain, it should be stored in moisture proof packages.

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 : $60 \pm 5^{\circ}\text{C}$ 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.

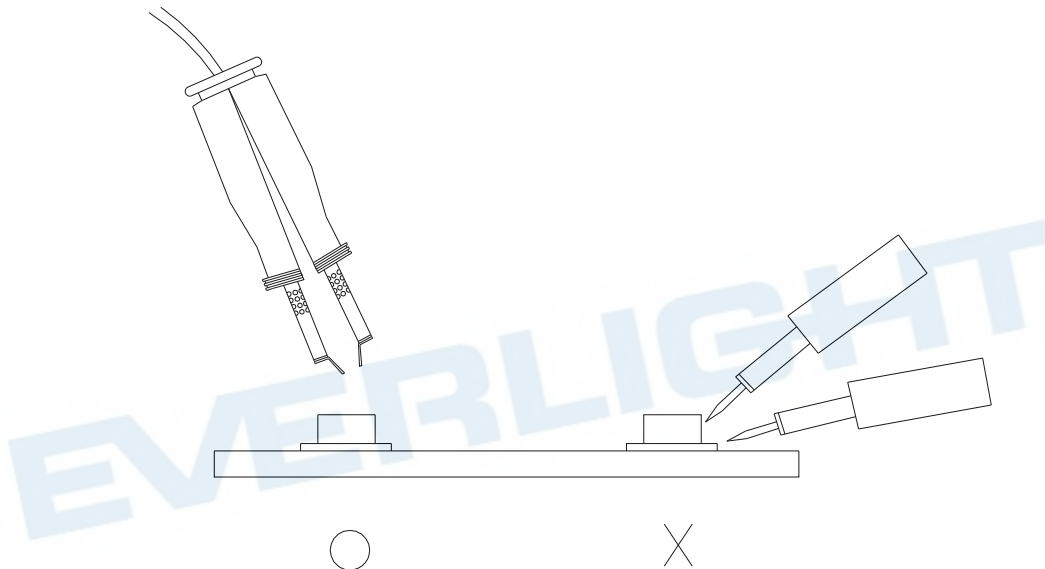
Technical Data Sheet

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 doSUBle-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.



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>