



# Technical Data Sheet

## Full Color Top LEDs

### 67-23SRVGUBC/TR8

#### Features

- P-LCC-4 package.
- White package.
- Optical indicator.
- Colorless clear window.
- Ideal for backlight and light pipe application.
- Inter reflector.
- Low (2mA) current operation.
- Wide viewing angle.
- Suitable for vapor-phase reflow, Infrared reflow and wave solder processes.
- Computable with automatic placement equipment.
- Available on tape and reel (8mm Tape).



#### Descriptions

- The 67-23 series is available in soft orange, 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 SMT TOP LED 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.

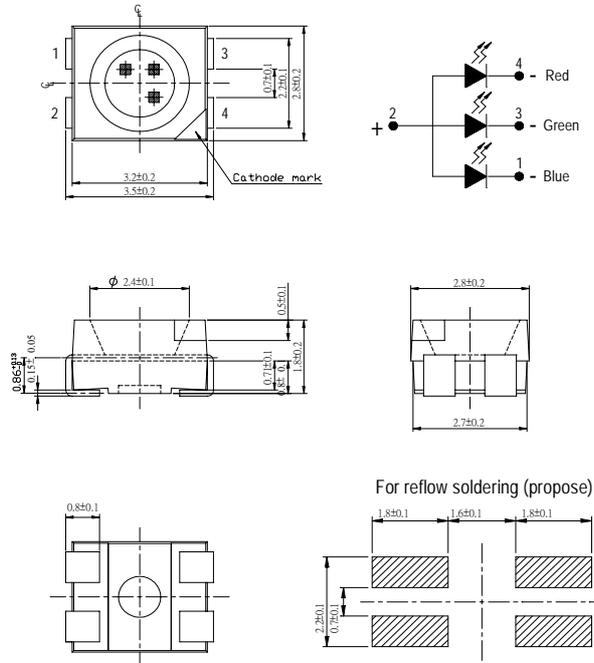
#### Applications

- Automotive: backlighting in dashboard and switch.
- 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	
SR	GaAlAs	Super Red	Water Clear
VG	GaP	Green	
UB	GaN/SiC	Blue	

**Package Dimensions**



**Notes:** All dimensions are in millimeters.

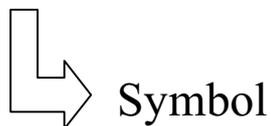
**Absolute Maximum Ratings (Ta=25°C)**

Parameter	Symbol	Rating	Unit	
Operating Temperature	Topr	-40 ~ +85	°C	
Storage Temperature	Tstg	-40~ +100	°C	
Soldering Temperature	Tsol	260 (for 5 second)	°C	
Electrostatic Discharge	ESD	1000	V	
Reverse Voltage	VR	5	V	
Power Dissipation	Pd	140	mW	
Forward Current	IF	SR	40	mA
		VG	30	
		UB	30	
Peak Forward Current(Duty 1/10 @ 1KHZ)	IF(Peak)	SR	180	mA
		VG	160	
		UB	70	

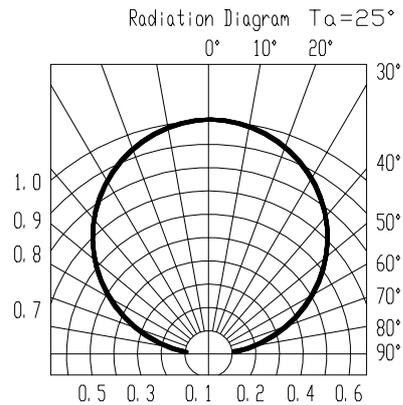
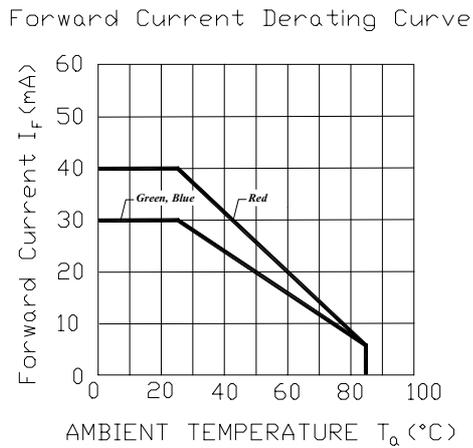
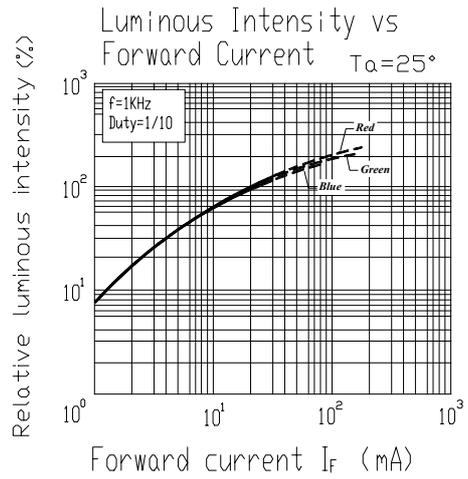
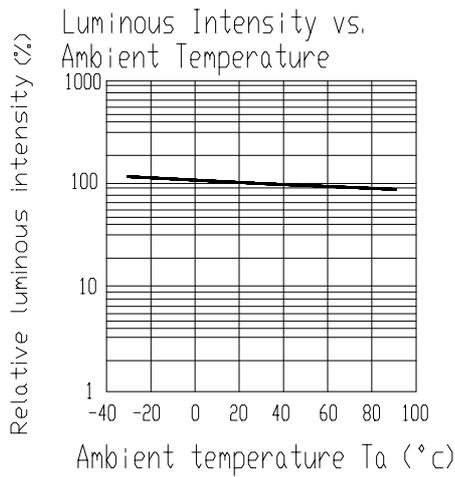
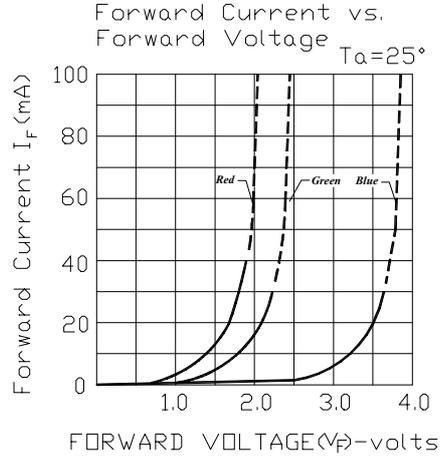
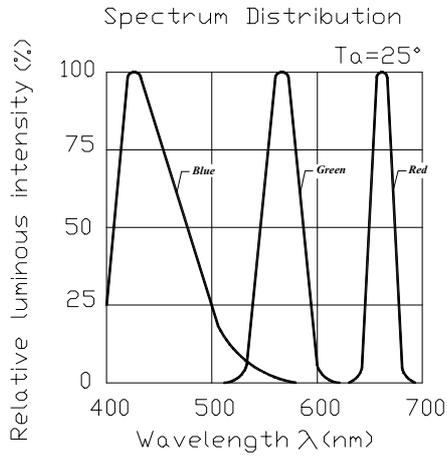
**Electro-Optical Characteristics (Ta=25°C)**

Parameter	*Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	SR	17	28	-----	mcd If=20mA
		VG	16	26	-----	
		UB	32	46	-----	
Peak Wavelength	$\lambda p$	SR	-----	660	-----	nm If=20mA
		VG	-----	570	-----	
		UB	-----	430	-----	
Dominant Wavelength	$\lambda d$	SR	-----	643	-----	nm If=20mA
		VG	-----	571	-----	
		UB	-----	466	-----	
Spectrum Radiation Bandwidth	$\Delta \lambda$	SR	-----	20	-----	nm If=20mA
		VG	-----	30	-----	
		UB	-----	65	-----	
Forward Voltage	VF	SR	-----	1.7	2.4	V If=20mA
		VG	-----	2.1	2.4	
		UB	-----	3.8	4.5	
Viewing Angle	$2\theta 1/2$	-----	120	-----	deg	If=20mA
Reverse Current	IR	-----	-----	50	$\mu A$	VR=5V

**\*67-23SRVGUBC/TR8**



**Typical Electro-Optical Characteristics Curves**

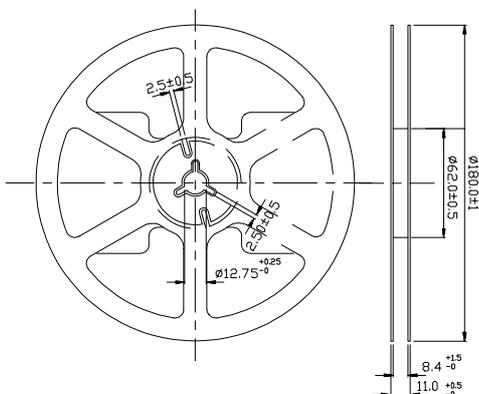


**Reliability Test Items And Conditions**

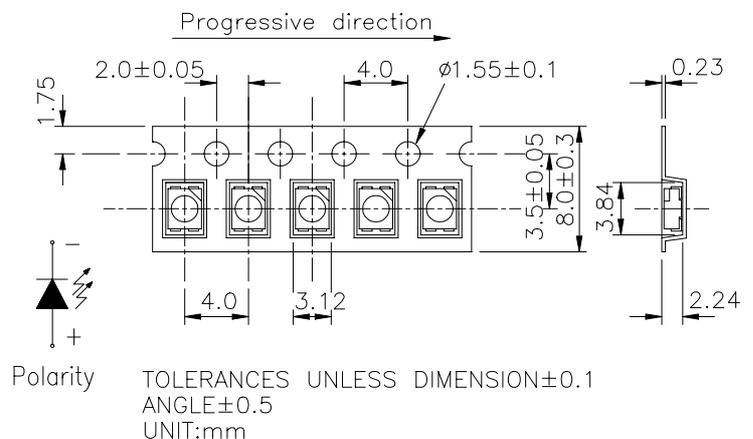
No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Rc
1	Solder Heat	Temp. : 260°C ± 5°C	5 Sec.	76 PCS.	0/1
2	Temperature Cycle	H : +85°C 30min ∫ 5 min L : -55°C 30min	50 Cycles	76 PCS.	0/1
3	Thermal Shock	H : +100°C 5min ∫ 10 sec L : -10°C 5min	50 Cycles	76 PCS.	0/1
4	High Temperature Storage	Temp. : 100°C	1000 Hrs.	76 PCS.	0/1
5	Low Temperature Storage	Temp. : -55°C	1000 Hrs.	76 PCS.	0/1
6	DC Operating Life	I <sub>F</sub> = 20 mA	1000 Hrs.	76 PCS.	0/1
7	High Temperature / High Humidity	85°C /RH85%	1000 Hrs.	76 PCS.	0/1

Products are evaluated according to the above standard reliability

**Package Dimensions**



**Loaded quantity per reel 2000 PCS/reel**



**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 time

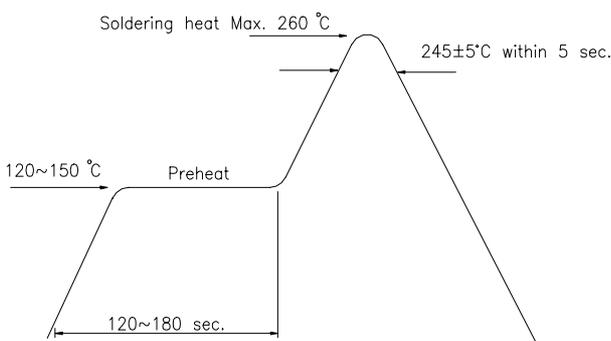
2.1 The operation of Temperature and RH are : 5°C~35°C, RH60%.

2.2 Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp proof box with descanting agent. Considering the tape life , we suggest our customers to use our products within a year(from production date).

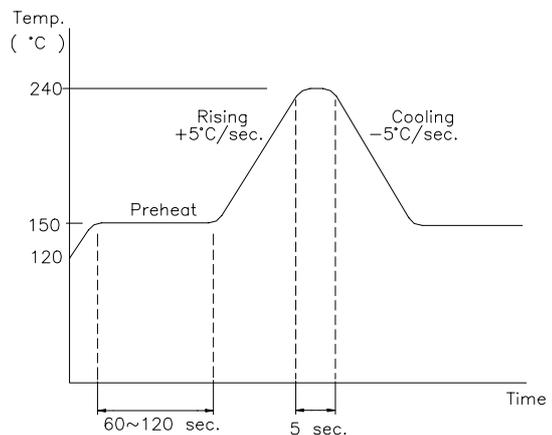
2.3 If opened more than one week in an atmosphere 5°C~35°C, RH 60%, they should be treated at 60°C± 5°C for 12hrs.

2.4 When you discover that the desiccant in the package has a pink color (Normal = blue) , you should treat them in the same conditions as 2.3.

**Soldering heat reliability ( DIP )**



**Reflow Temp. / Time**

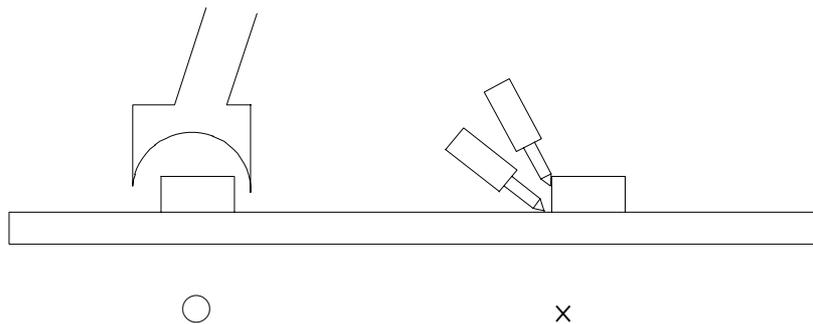


**Soldering Iron**

Basic spec is ≤ 5 sec when 245°C. If temperature is higher, time should be shorter (+10°C → -1sec). Power dissipation of Iron should be smaller than 15 W , and temperature should be controllable. Surface temperature of the device should be under 230 °C.

**Rework**

1. Customer must finish rework within 5 sec under 245°C.
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.



**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>