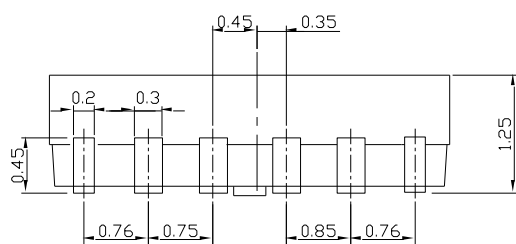
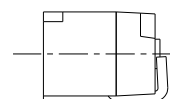
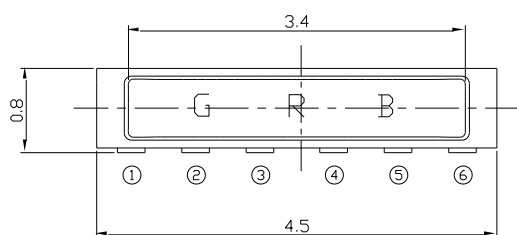
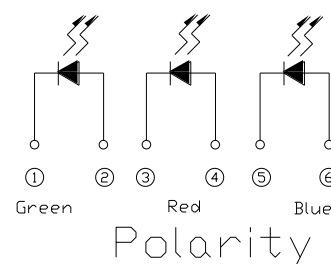
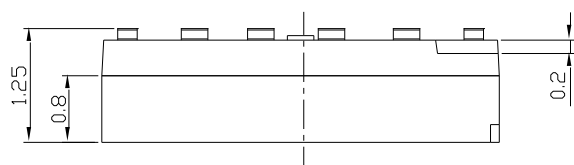


Technical Data Sheet - Preliminary

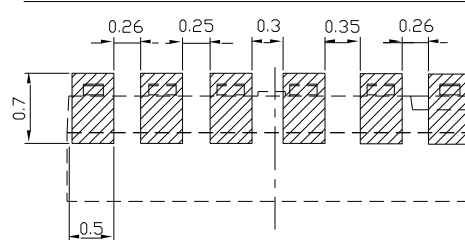
Full Color Side View LEDs (Height 0.8mm)

99-235/RSGHB7C-A07/2D

Package Outline Dimensions



Recommended soldering pad design



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

Technical Data Sheet - Preliminary

Full Color Side View LEDs (Height 0.8mm)

99-235/RSGHB7C-A07/2D

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol		Rating	Unit
Reverse Voltage	V_R		5	V
Forward Current	I_F	RS	50	mA
		GH	30	
		B7	30	
Peak Forward Current(Duty 1/10@ 1KHZ)	I_{FP}	RS	100	mA
		GH	100	
		B7	100	
Power Dissipation	P_d	RS	130	mW
		GH	110	
		B7	110	
Electrostatic Discharge(HBM)	ESD	RS	2000	V
		GH	1000	
		B7	1000	
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.	

Technical Data Sheet - Preliminary

Full Color Side View LEDs (Height 0.8mm)

99-235/RSGHB7C-A07/2D

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	RS	200	-----	800	mcd I _F =20mA
		GH	500	-----	1300	
		B7	100	-----	550	
Viewing Angle	2 θ 1/2	-----	120	-----	deg	I _F =20mA
Peak Wavelength	λ _p	RS	-----	632	-----	nm I _F =20mA
		GH	-----	518	-----	
		B7	-----	468	-----	
Dominant Wavelength	λ _d	RS	619	-----	629	nm I _F =20mA
		GH	525	-----	535	
		B7	455	-----	465	
Spectrum Radiation Bandwidth	△ λ	RS	-----	20	-----	nm I _F =20mA
		GH	-----	36	-----	
		B7	-----	26	-----	
Forward Voltage	V _F	RS	-----	2.0	2.4	V I _F =20mA
		GH	-----	3.3	3.7	
		B7	-----	3.3	3.7	
Reverse Current	I _R	RS	-----	-----	10	μ A V _R =5V
		GH	-----	-----	50	
		B7	-----	-----	50	

Notes:

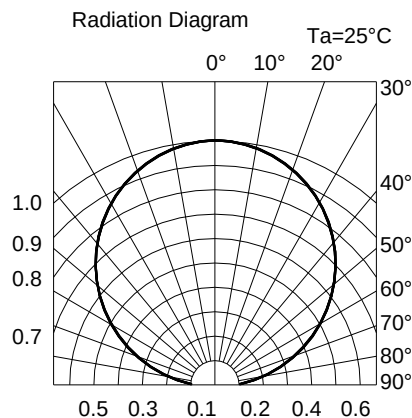
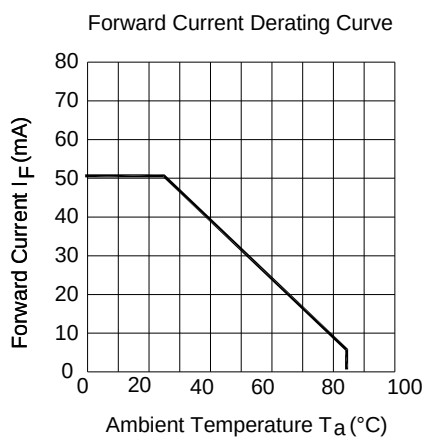
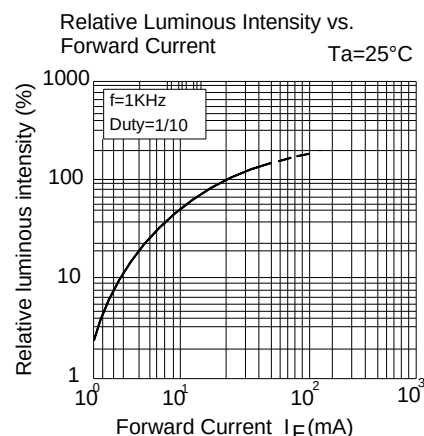
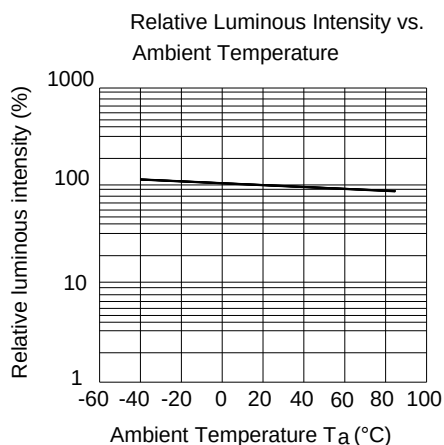
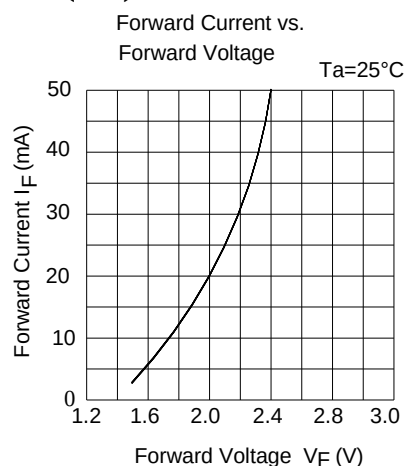
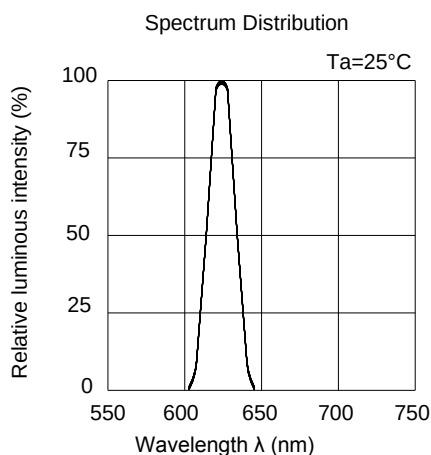
- 1.Tolerance of Luminous Intensity ±11%
- 2.Tolerance of Dominant Wavelength ±1nm

Technical Data Sheet - Preliminary

Full Color Side View LEDs (Height 0.8mm)

99-235/RSGHB7C-A07/2D

Typical Electro-Optical Characteristics Curves(RS)

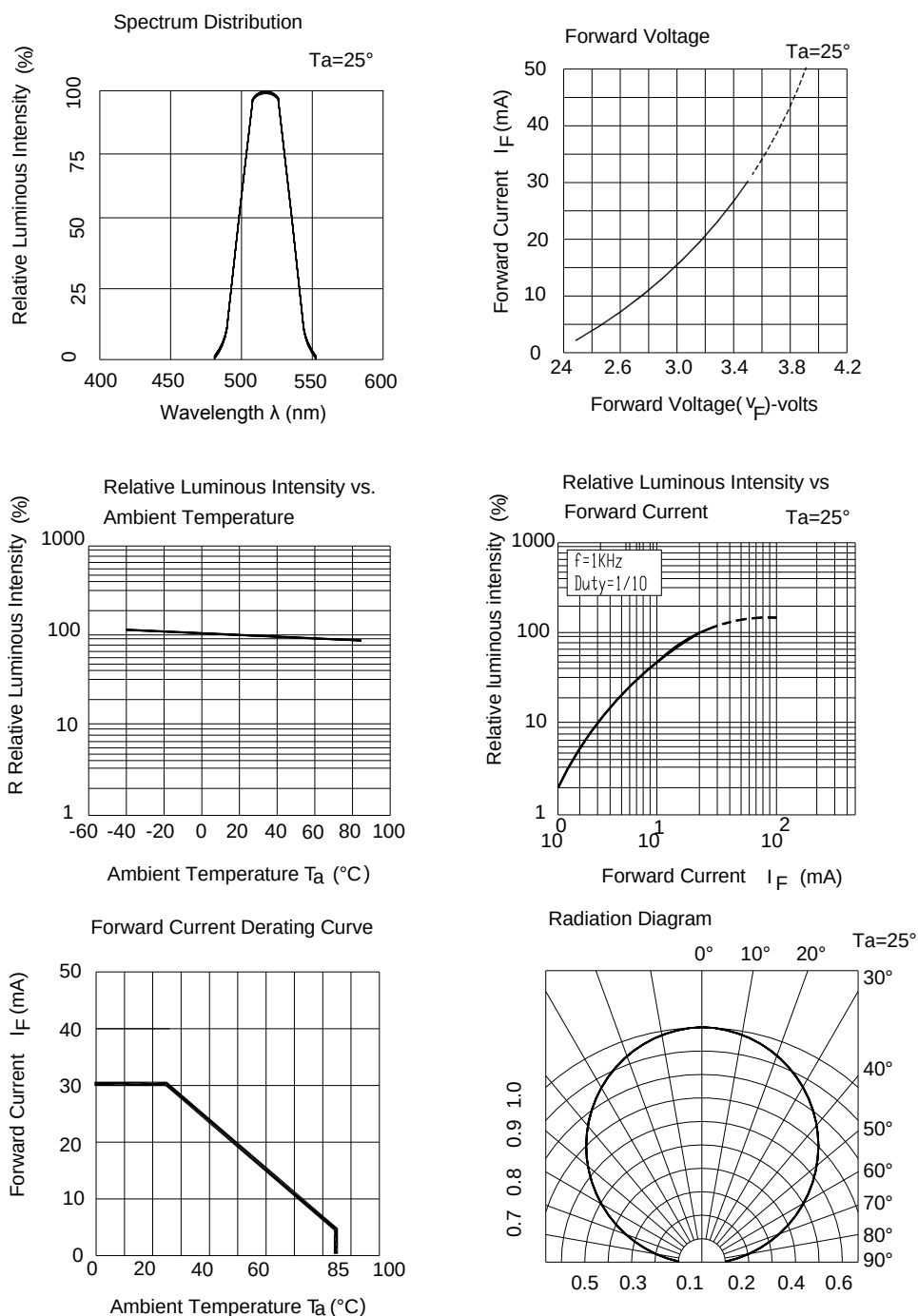


Technical Data Sheet - Preliminary

Full Color Side View LEDs (Height 0.8mm)

99-235/RSGHB7C-A07/2D

Typical Electro-Optical Characteristics Curves(GH)

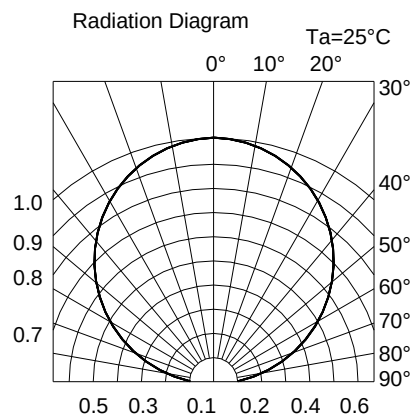
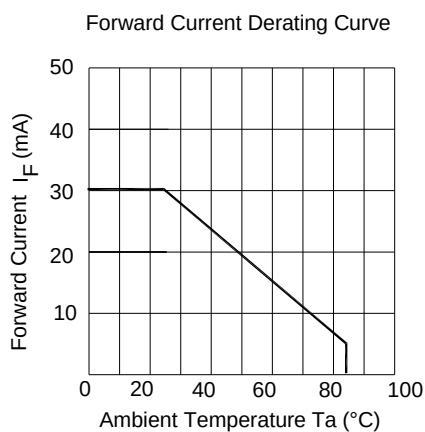
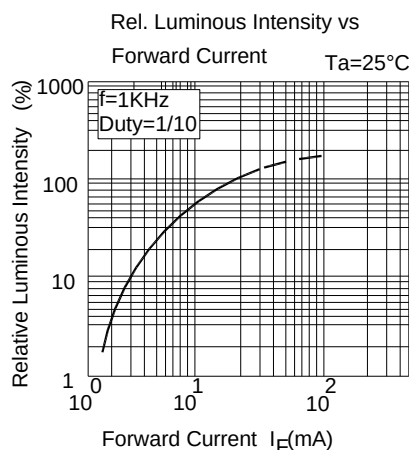
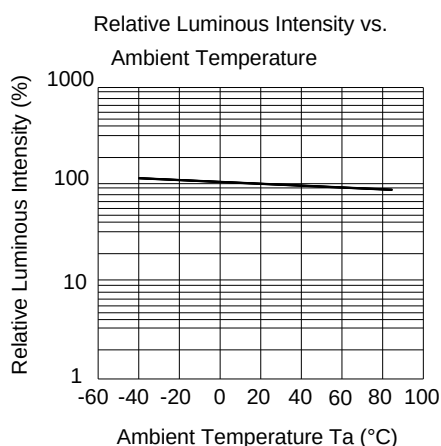
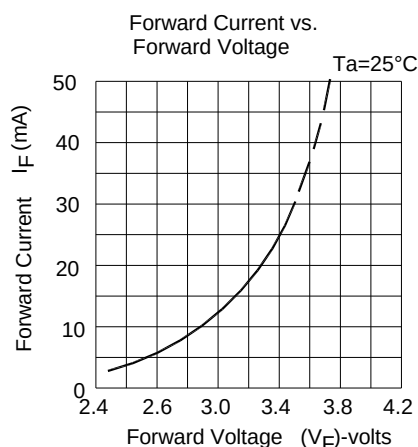
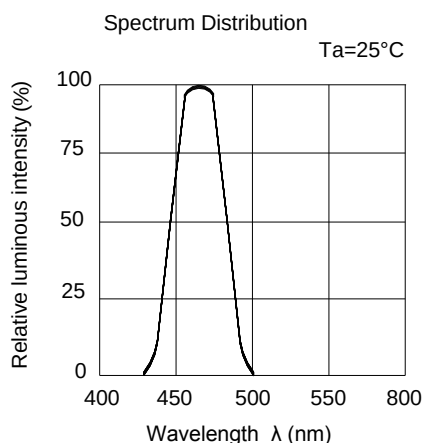


Technical Data Sheet - Preliminary

Full Color Side View LEDs (Height 0.8mm)

99-235/RSGHB7C-A07/2D

Typical Electro-Optical Characteristics Curves(B7)



Technical Data Sheet - Preliminary

Full Color Side View LEDs (Height 0.8mm)

99-235/RSGHB7C-A07/2D

Label Explanation

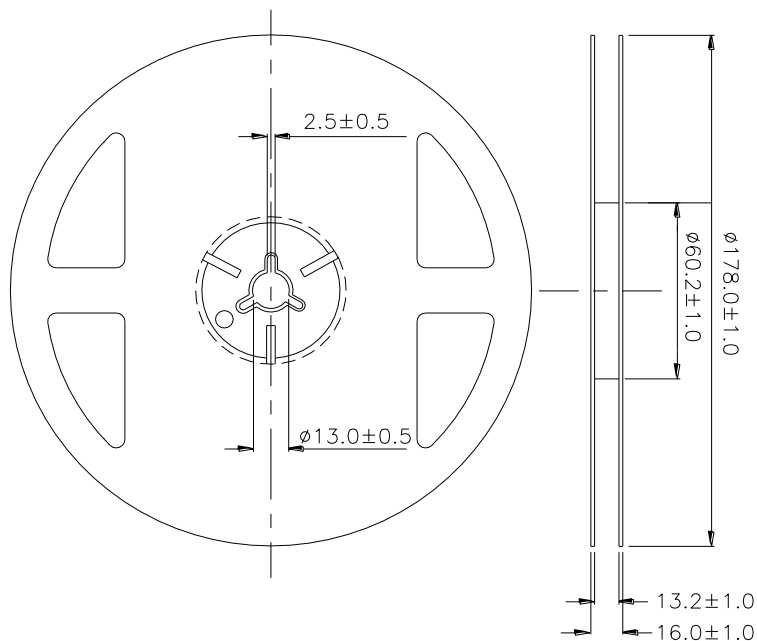
CAT: Luminous Intensity Rank

HUE: Dom. Wavelength Rank

REF: Forward Voltage Rank



Reel Dimensions



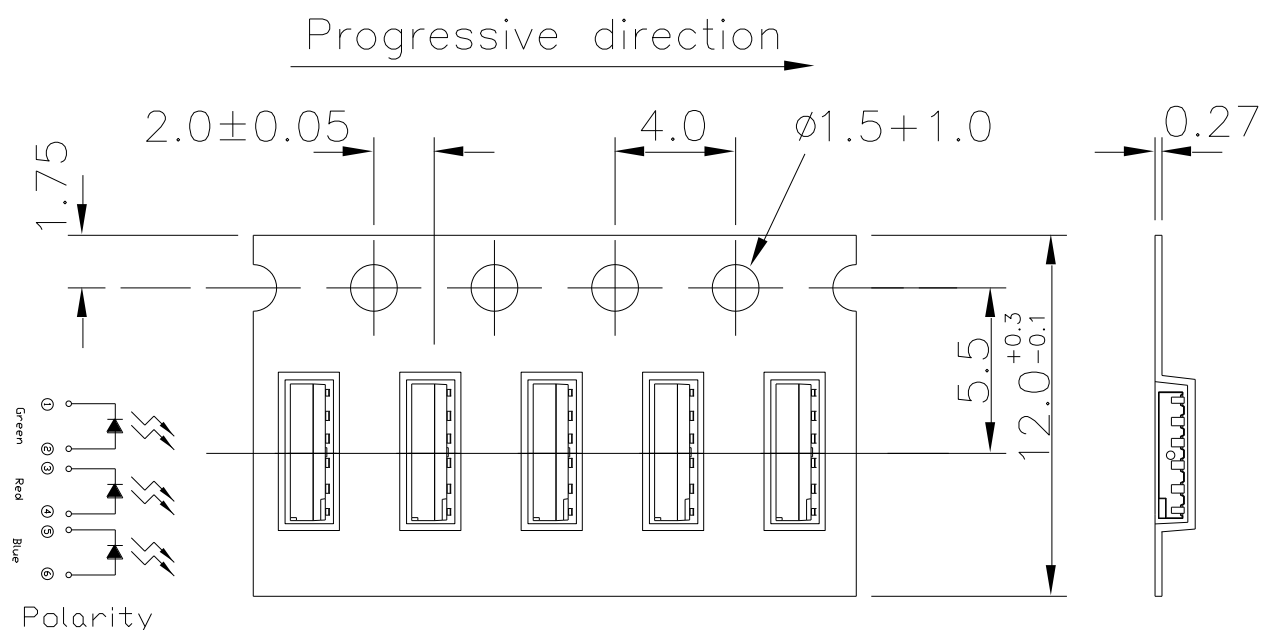
Note: Tolerances Unless Dimension $\pm 0.1\text{mm}$, Unit = mm

Technical Data Sheet - Preliminary

Full Color Side View LEDs (Height 0.8mm)

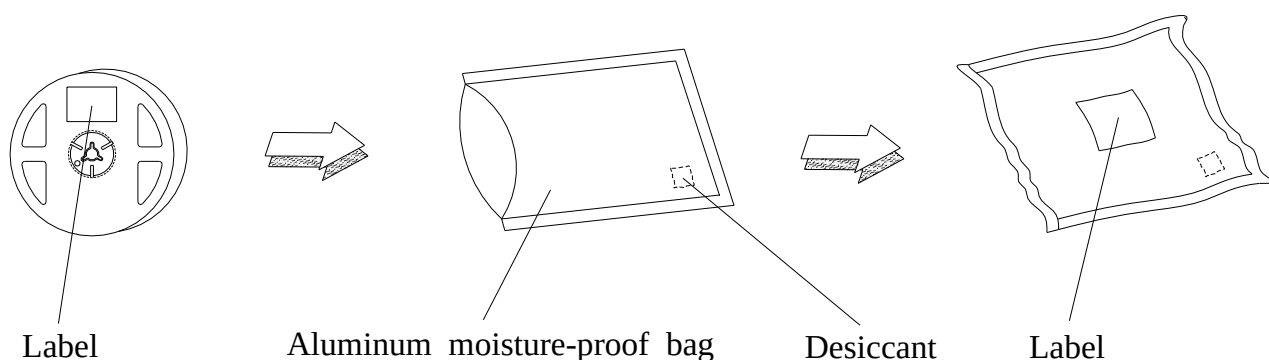
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Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel.



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

Moisture Resistant Packaging



Technical Data Sheet - Preliminary

Full Color Side View LEDs (Height 0.8mm)

99-235/RSGHB7C-A07/2D

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. 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/RH85%	1000 Hrs.	22 PCS.	0/1

Technical Data Sheet - Preliminary

Full Color Side View LEDs (Height 0.8mm)

99-235/RSGHB7C-A07/2D

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.

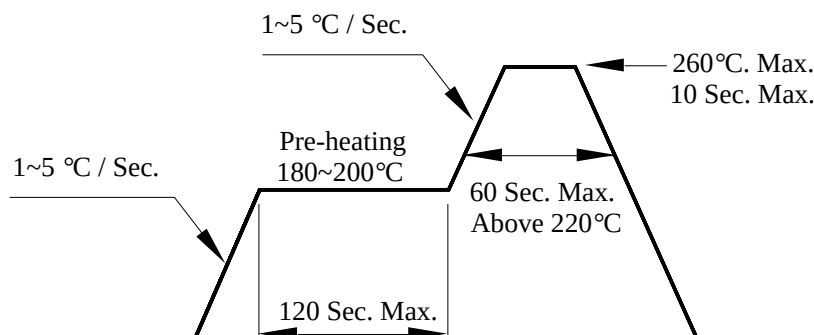
2.3 After opening the package: The LED's floor life are 168 hours under 30°C or less and 60% RH or less. If unused LEDs remain, it should be stored in moisture proof packages.

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.

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.

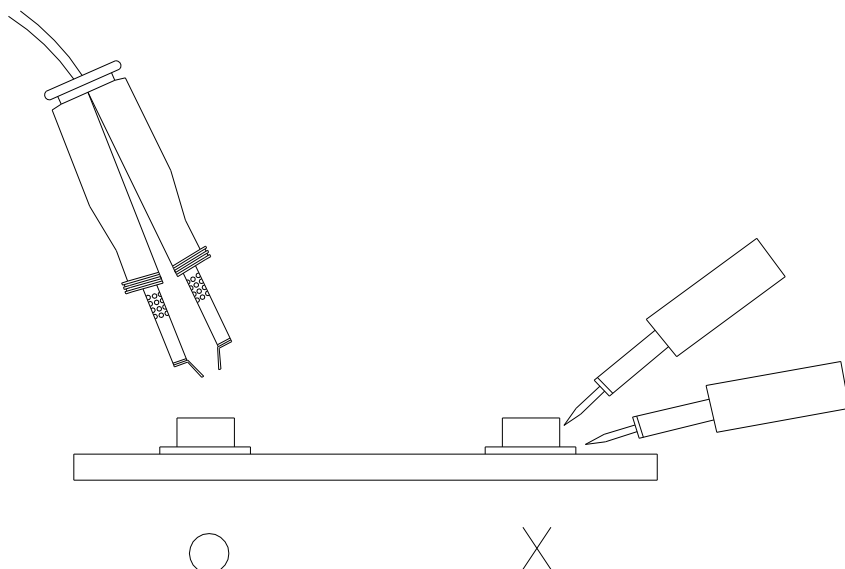
Technical Data Sheet - Preliminary

Full Color Side View LEDs (Height 0.8mm)

99-235/RSGHB7C-A07/2D

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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