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SURFACE MOUNT LED TAPE AND REEL



Lead-Free Parts

LG-2835W-1-T60-D701

## DATA SHEET

DOC. NO : QW0905-LG-2835W-1-T60-D701

REV. : B

DATE : 05 - Nov. - 2015



### Features:

1. Top view white LED.
2. white SMT package.
3. Leadframe package with individual 2 pin.
4. Wide viewing angle.
5. Soldering methods: IR reflow soldering.
6. Feature of the device: more light due to higher optical efficiency; extremely wide viewing angle; ideal for backlighting and coupling in light guide.

### Descriptions:

The LG-2835 SMD has wide viewing angle, low power consumption and white LEDs are devices which are materialized by combining blue LEDs and special phosphors. This feature makes the LED ideal for light guide application.

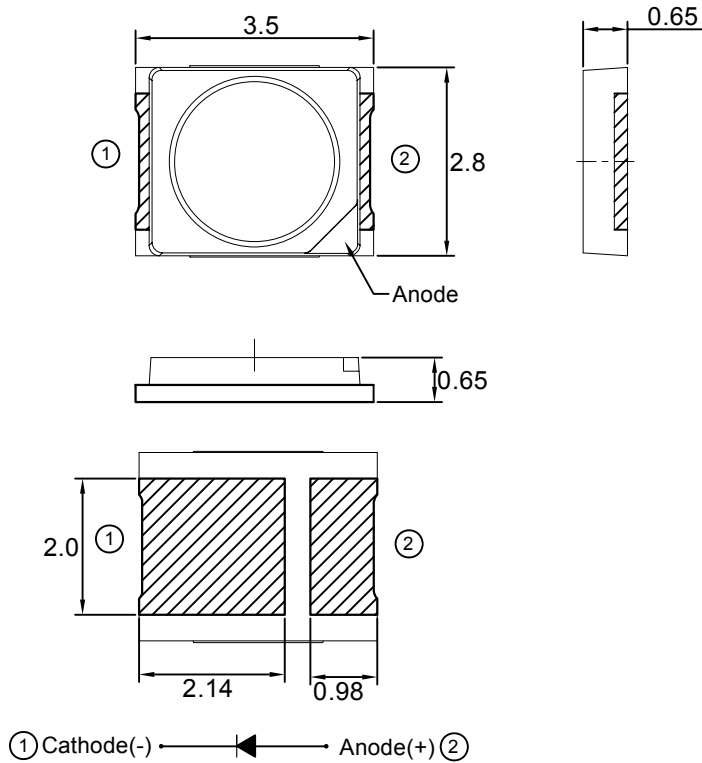
### Applications:

1. LCD back light.
2. Mobile phones.
3. Indicators.
4. Switch lights.

### Device Selection Guide:

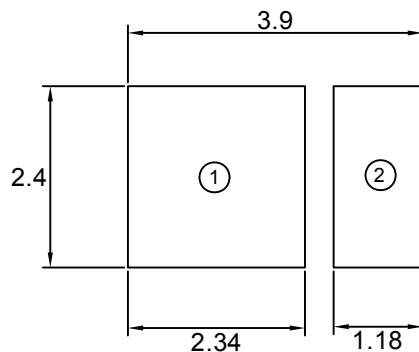
PART NO	MATERIAL	COLOR	
		Emitted	Lens
LG-2835W-1-T60-D701	InGaN	White	Yellow Diffused

### Package Dimensions



Note : 1.All dimension are in millimeter tolerance is  $\pm 0.2\text{mm}$  unless otherwise noted.  
2.Specifications are subject to change without notice.

### Recommended Soldering Pad Dimensions



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

### Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Ratings	UNIT
Forward Current	IF	60	mA
Peak Forward Current Duty 1/10@10KHz	IFP	100	mA
Power Dissipation	PD	216	mW
Reverse Current @5V	Ir	50	μA
Electrostatic Discharge	ESD	500	V
Operating Temperature	Topr	- 40 ~ + 85	°C
Storage Temperature	Tstg	- 40 ~ + 100	°C
LED junction Temperature	Tj	125	°C

### Typical Electrical & Optical Characteristics (Ta=25°C)

Items	Symbol	Min.	Typ.	Max.	UNIT	CONDITION
Luminous Intensity	Iv	18	20	----	lm	IF=60mA
Chromaticity Coordinates	X	0.4373	----	0.4813	----	IF=60mA
	Y	0.3893	----	0.4319	----	IF=60mA
Forward Voltage	V <sub>F</sub>	2.8	----	3.6	V	IF=60mA
Viewing Angle	2θ 1/2	----	120	----	deg	IF=60mA
Color Rendering Index	CRI	70	----	---	----	IF=60mA

- Note : 1.The forward voltage data did not including ±0.1V testing tolerance.  
 2.The luminous intensity data did not including ±15% testing tolerance.  
 3.The color coordinates measurement allowance is ±0.01 testing tolerance  
 4.4.The CRI measurement allowance is ±2 testing tolerance.

### Luminous Intensity Classification

BIN CODE	Iv(lm) at60mA	
	Min.	Max.
F18D	18	20
F20D	20	22
F22D	22	24
F24D	24	26

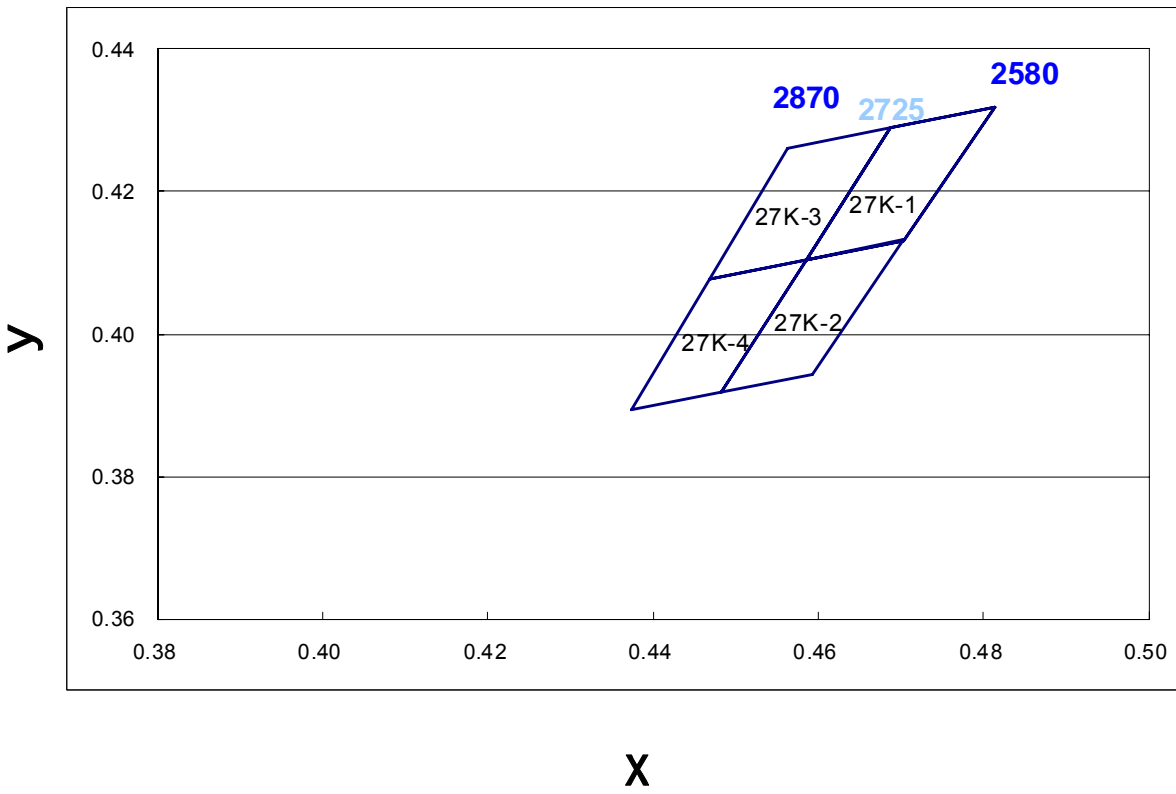
### Forward Voltage Classification

BIN CODE	Vf(v) at60mA	
	Min.	Max.
1	2.8	2.9
2	2.9	3
3	3	3.1
4	3.1	3.2
5	3.2	3.3
6	3.3	3.4
7	3.4	3.5
8	3.5	3.6

**Chromaticity Coordinates Specifications For Bin Grading**

Color Coordiante at60mA								
BIN CODE	1		2		3		4	
	X	Y	X	Y	X	Y	X	Y
27K-1	0.4813	0.4319	0.4688	0.2490	0.4585	0.4104	0.4703	0.4132
27K-2	0.4703	0.4132	0.4385	0.4104	0.4483	0.3919	0.4593	0.4104
27K-3	0.4688	0.4290	0.4562	0.426	0.4468	0.4077	0.4585	0.4104
27K-4	0.4585	0.4104	0.4468	0.4077	0.4373	0.3893	0.4483	0.3919

CIE Chromaticity Diagram



## Typical Electro-Optical Characteristics Curve

Fig.1 Forward current vs. Forward Voltage

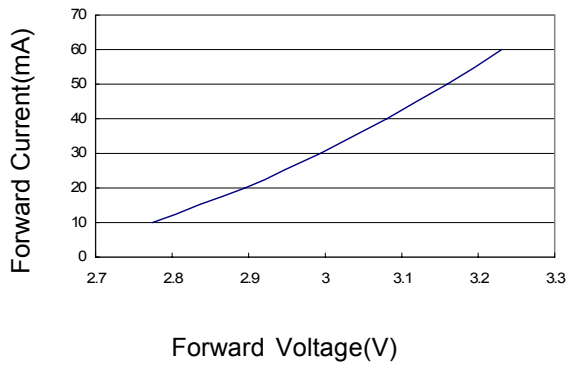


Fig.3 Max. Driving Forward Current VS. Soldering Temperature

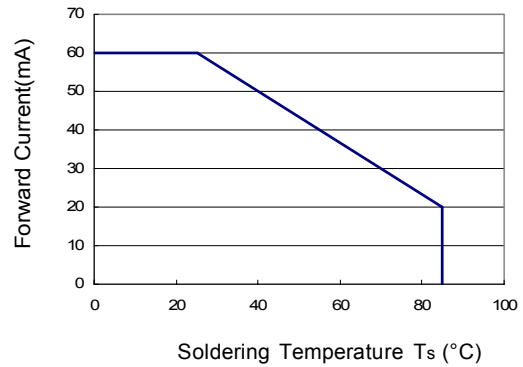


Fig.2 Forward current vs. Luminous Intensity

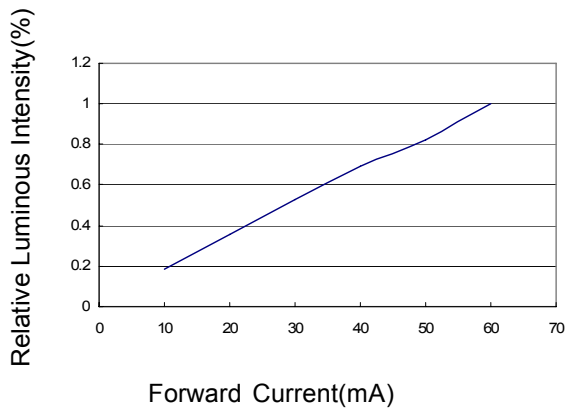


Fig.4 Luminous Intensity vs. Temperature

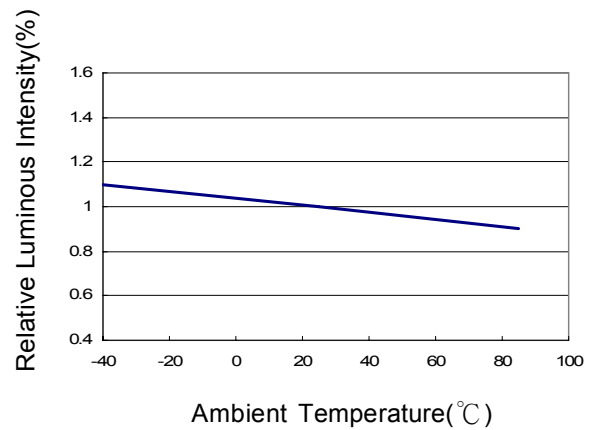


Fig.5 Luminous Spectrum ( $T_a=25^\circ\text{C}$ )

SPECTRAL RADIANCE

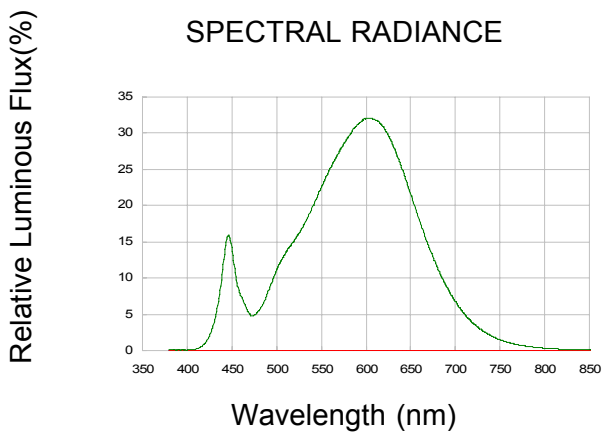
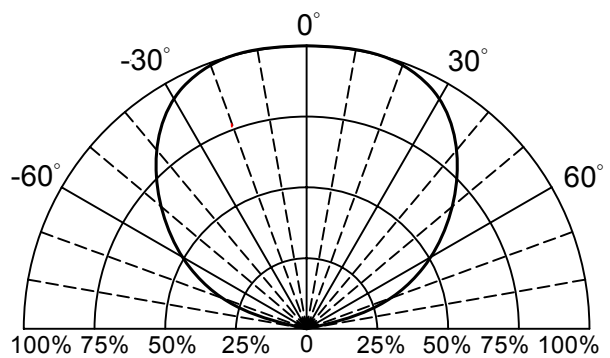
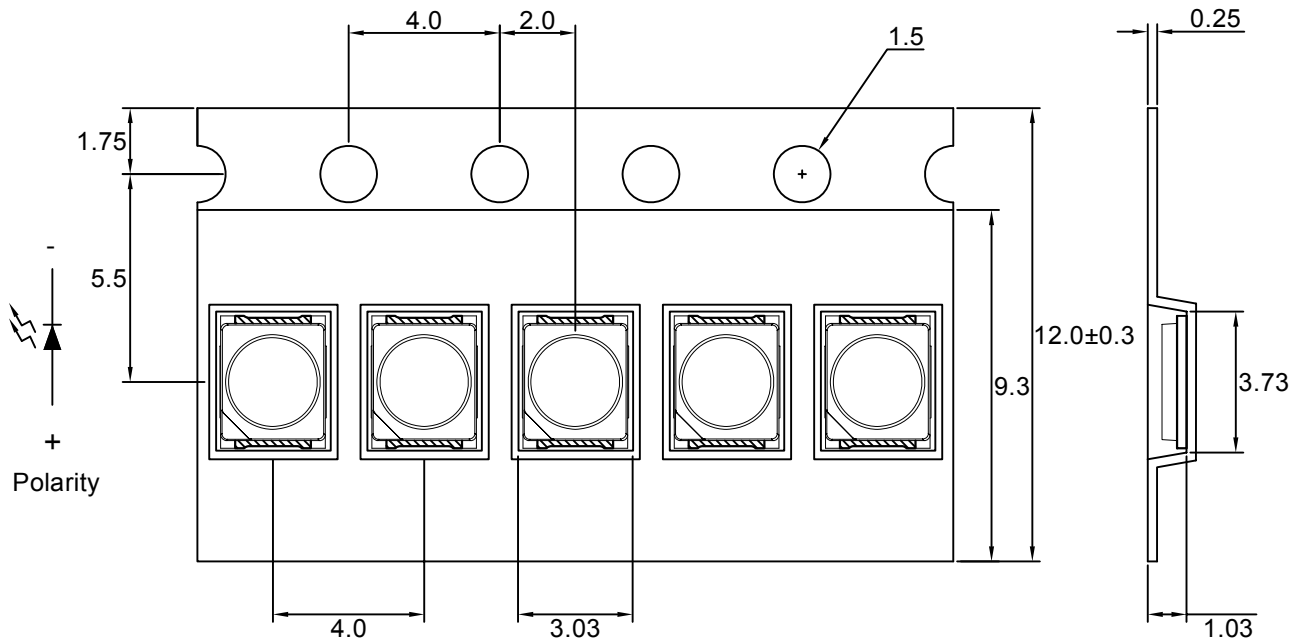


Fig.6 Directivity Radiation



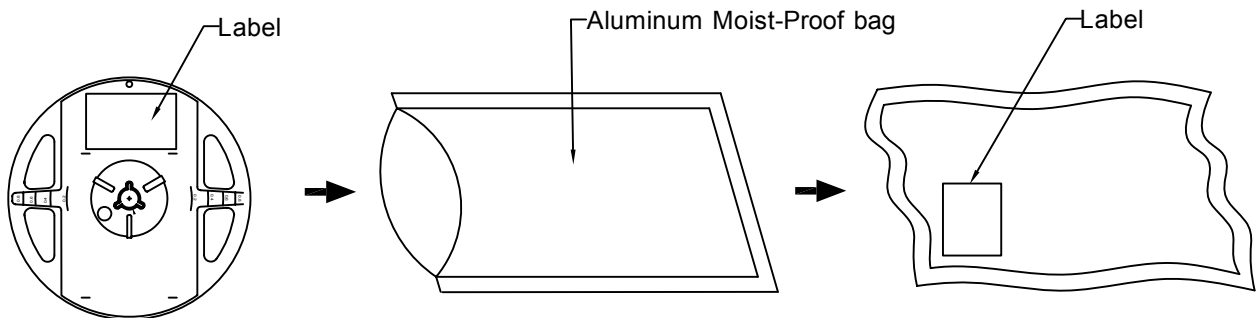


### Carrier Type Dimensions









Note : The tolerances unless mentioned is  $\pm 0.1\text{mm}$ , Angle  $\pm 0.5$ . Unit=mm.

### • Packing Specifications



Part No.	Description	Quantity/Reel
LG-2835W-1-T60-D701	12.0mm tape, 7" reel	2000 PCS

## Label Explanation

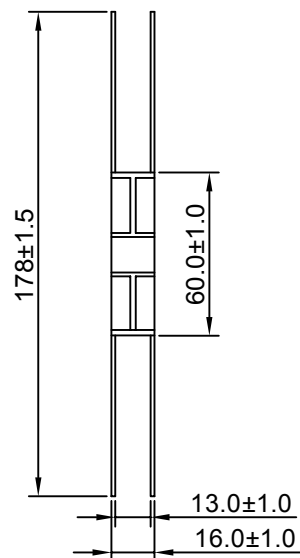
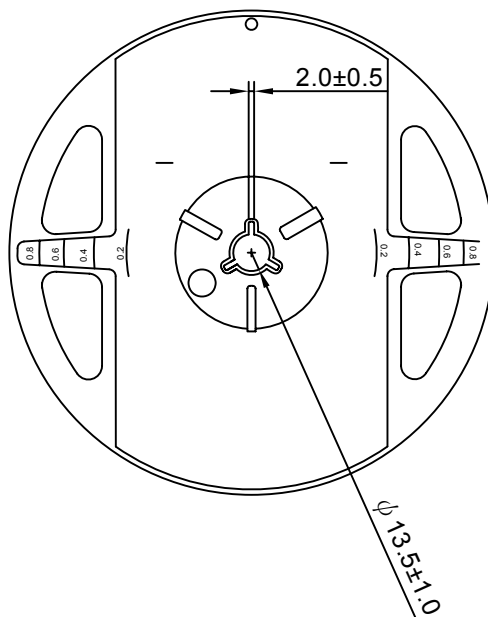
	LIGITEK ELECTRONICS CO., LTD.			
PART :		LG-2835W-1-T60-D701		
LOT :		GS11490168		
QTY(PCS):		2000		
BIN/HUE :		F20D/27K-2		VF:3.0-3.1

BIN : Luminous Flux

HUE : Chromaticity Coordinates  
(CIE\_x , CIE\_y)

VF : Forward Voltage

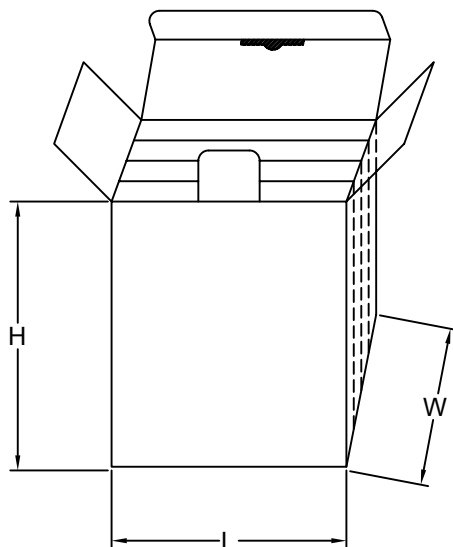
## Reel Dimensions



## Box Explanation

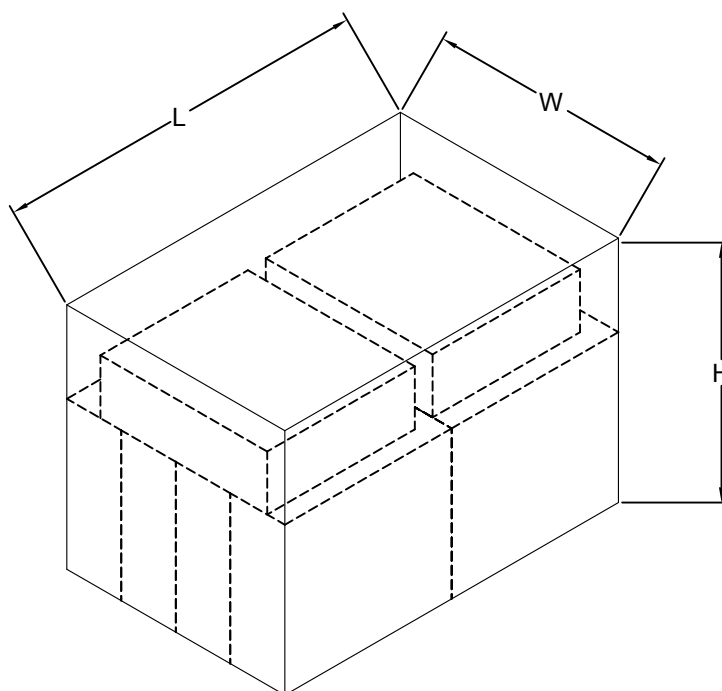
1. 4 BAG / INNER BOX

2. INNER BOX SIZE : L X W X H 23cm X 8.5cm x 26cm



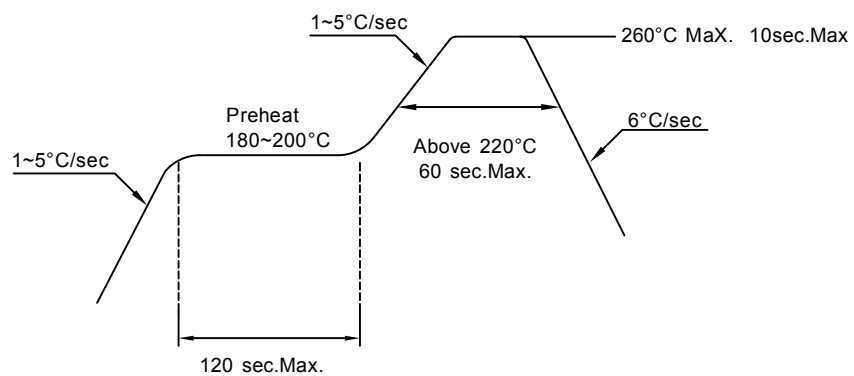
3. 10 INNER BOXES / CARTON

4. CARTON SIZE : L X W X H 58cm X 34cm x 35cm



**Recommended Soldering Conditions****1. Hand Solder**

Basic spec is  $\leq 320^{\circ}\text{C}$  3 sec one time only.

**2. PB-Free Reflow Solder****Note:**

- 1.Reflow soldering should not be done more than two times.
- 2.When soldering,do not put stress on the LEDs during heating.
- 3.After soldering,do not warp the circuit board.

**Precautions For Use:****Storage time:**

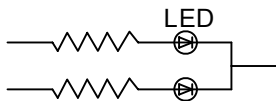
- 1.The operation of Temperatures and RH are : 5 °C~30°C,RH60%.
- 2.Once the package is opened, the products should be used within a week.  
Otherwise, they should be kept in a damp proof box with descanting agent.  
Considering the tape life, we suggest our customers to use our products within a year(from production date).
- 3.If opened more than one week in an atmosphere 5 °C ~ 30°C,RH60%,  
they should be treated at 60°C±5 °C for 24hrs.

**Drive Method:**

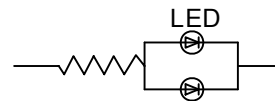
LED is a current operated device, and therefore, requirer some kind of current limiting incorporated into the driver circuit. This current limiting typically takes the form of a current limiting resistor placed in series with the LED.

Consider worst case voltage variations than could occur across the current limiting resistor. The forwrdrd current should not be allowed to change by more than 40% of its desired value.

Circuit model A



Circuit model B



(A) Recommended circuit.

(B) The difference of brightness between LED could be found due to the VF-IF characteristics of LED.

**Cleaning:**

Use alcohol-based cleaning solvents such as isopropyl alcohol to clean the LED.

**ESD(Electrostatic Discharge):**

Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrosatic glove is recommended when handing these LED. All devices, equipment and machinery must be properly grounded.

Classification	Test Item	Test Condition	Sample Size
Endurance Test	Operating Life Test	1.Ta=25°C 2.If=60mA 3.t=1000 hrs (-24hrs,+72hrs)	22
	High Temperature Storage Test	1.Ta=100°C±5°C 2.t=1000 hrs (-24hrs,+72hrs)	22
	Low Temperature Storage Test	1.Ta=-40°C±5°C 2.t=1000 hrs (-24hrs,+72hrs)	22
	High Temperature High Humidity Storage Test	1.Ta=85°C 2.RH=85% 3.t=1000hrs(-24hrs,+72hrs)	22
Environmental Test	Thermal Shock Test	1.Ta=100°C±5°C ~ -40°C±5°C 20min/ 10sec / 20min 2.total 100 cycles	22
	Temperature Cycling	1.100°C±5°C ~ -40°C±5°C 30mins / 5mins / 30mins 2.100 Cyeles	22
	IR Reflow	1.T=260°C Max. 10sec.Max. 2. 6 Min	22