

EL TOP VIEW LED 67-11S-G81000H-AM



Features

- Package : PLCC 2 package
- Color: General White
- Typ. Luminous Flux: 42 lm @ 100mA
- Viewing angle: 120°
- ESD: 8KV
- MSL: 2
- Typ.color coordinates : (0.37,0.37)
- Preconditioning: According to JEDEC J-STD 020D Level 2
- Qualifications: According to AEC-Q101
- Compliance with EU REACH.
- The product itself will remain within RoHS compliant version.
- Compliance Halogen Free .(Br <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm).

Applications

- Automotive Interior Lighting
- Reading light

Contents

1. Characteristics	3
2. Absolute Maximum Ratings	4
3. Characteristics Graph	5
4. Binning Information	10
5. Part Number.....	20
6. Ordering Information	21
7. Mechanical Dimension.....	22
8. Recommended Soldering Pad.....	23
9. Reflow Soldering Profile.....	23
10. Packaging Information.....	24
11. Precaution for Use	26

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1. Characteristics

Parameter		Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Current		I_F	15	100	150	mA	---
Luminous Intensity		I_v	35	42	50	lm	$I_F=100\text{mA}$
Forward Voltage		V_F	2.5	3.0	3.5	V	$I_F=100\text{mA}$
Viewing Angle		ϕ	---	120	---	deg	$I_F=100\text{mA}$
Color		CIE x	---	0.37	---	---	$I_F=100\text{mA}$
Color		CIE y	---	0.37	---	---	$I_F=100\text{mA}$
Color Rendering Index		Ra	80	---	---	---	$I_F=100\text{mA}$
Thermal Resistance (Junction to Solder)	Real	$R_{th JS real}$	---	50	---	K/W	$I_F=100\text{mA}$
	Electrical	$R_{th JS el}$	---	22	---		

Notes:

1. Luminous Flux measurement tolerance: $\pm 8\%$.
2. The data of Luminous Flux measured at thermal pad=25°C
3. Forward voltage measurement tolerance: $\pm 0.05\text{V}$
4. The VF range shown in the table above indicates 99% output.
5. Tolerance of Chromaticity Coordinates x,y : ± 0.005

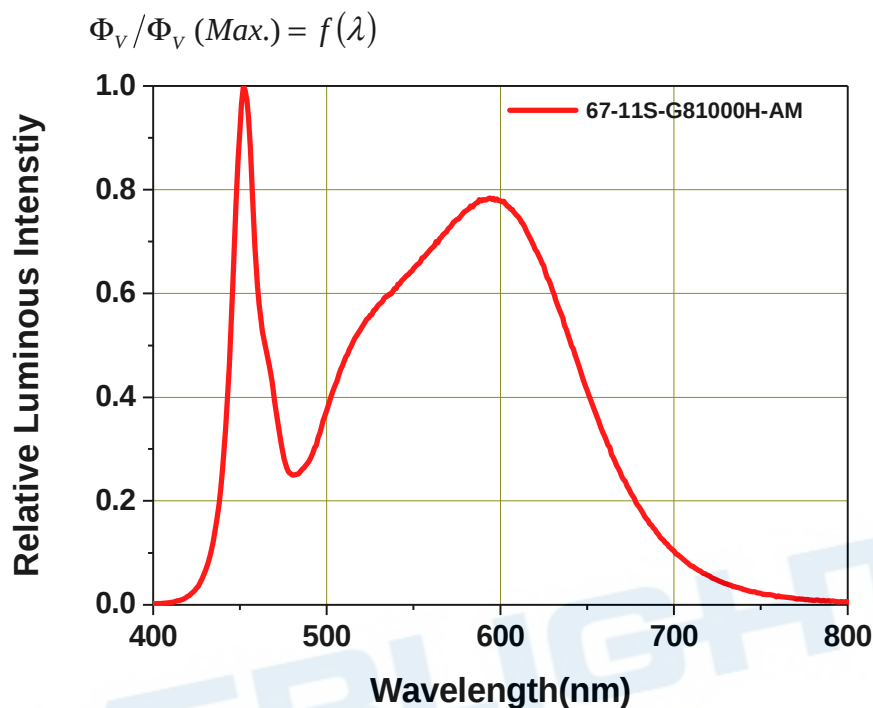
2. Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Power Dissipation	P_d	525	mW
Forward Current	I_F	150	mA
Surge Current Condition ($t \leq 10 \mu s$; $D=0.005$; $T_s=25^\circ C$)	I_{FM}	200	mA
Reverse Voltage	V_R	Not designed for reverse operation	V
Junction Temperature	T_J	150	$^\circ C$
Operating Temperature	T_{opr}	-40 ~ +110	$^\circ C$
Storage Temperature	T_{stg}	-40 ~ +110	$^\circ C$
ESD Sensitivity ($R=1.5k\Omega$, $C=100pF$)	ESD_{HBM}	8	kV
Soldering Temperature	Reflow	260 $^\circ C$ for 30sec	---

3.Characteristics Graph

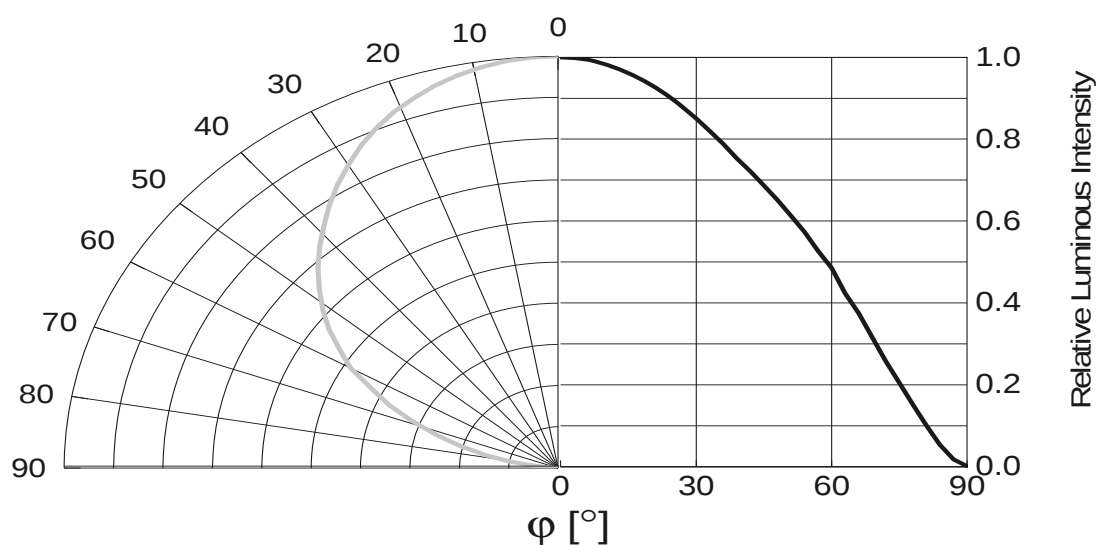
Wavelength Characteristics Relative Spectral Distribution

@ Ts = 25°C, I_F = 100mA



Typical Diagram Characteristics of Radiation

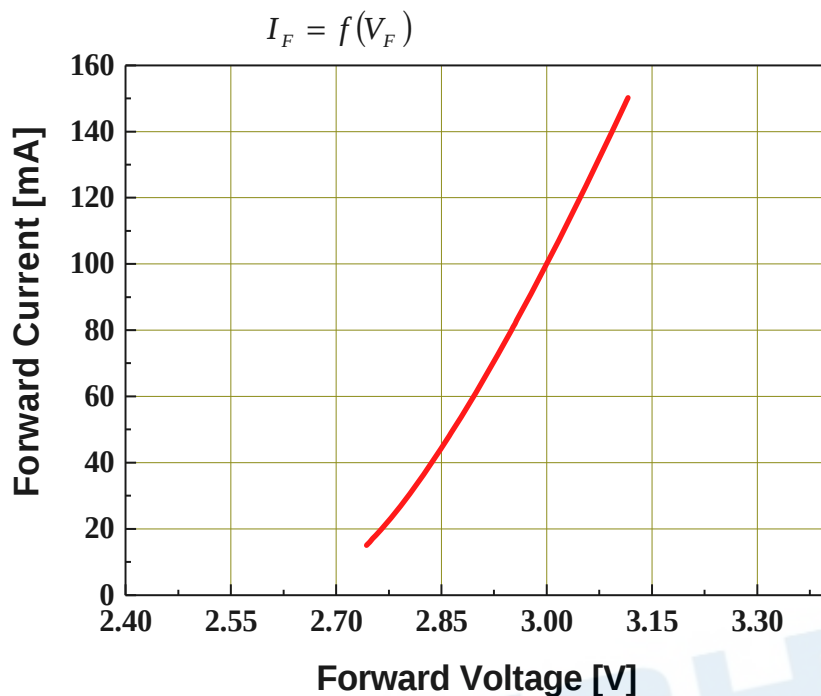
$$\Phi_V / \Phi_V (0^\circ) = f(\varphi)$$



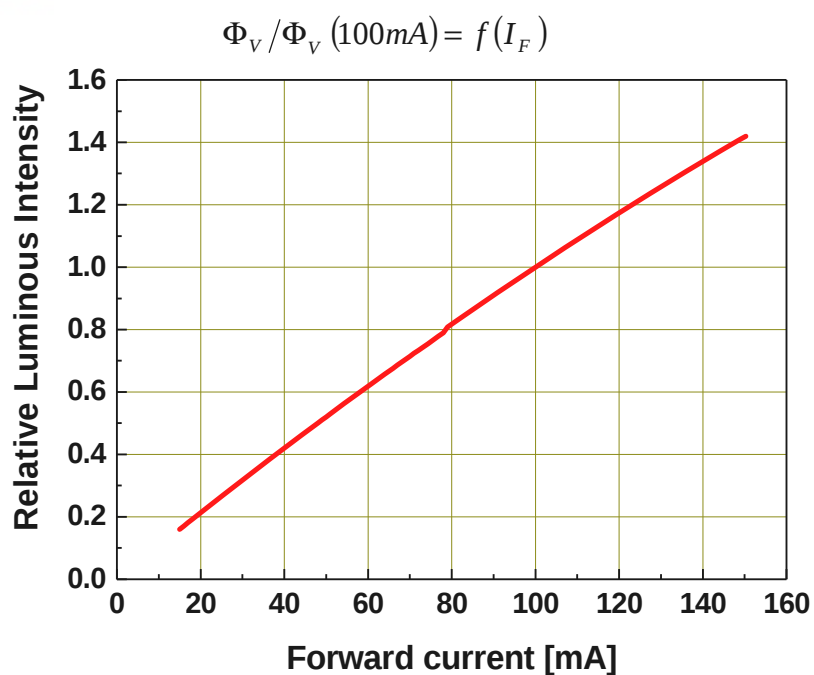
Notes:

1. φ is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.
2. View angle tolerance is $\pm 5^\circ$.

Forward Current vs. Forward Voltage
@ Ts = 25°C

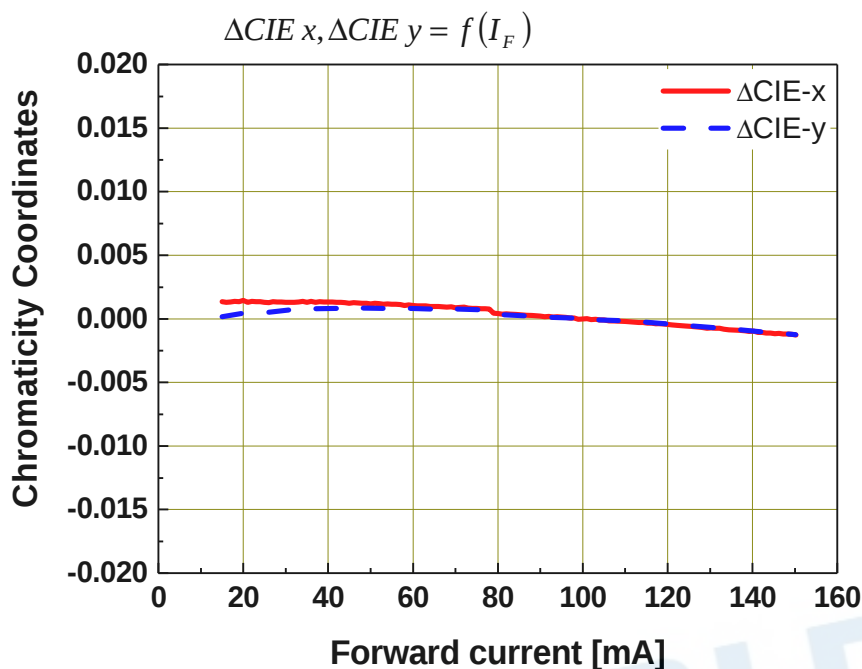


Relative Luminous Flux vs. Forward Current
@ Ts = 25°C



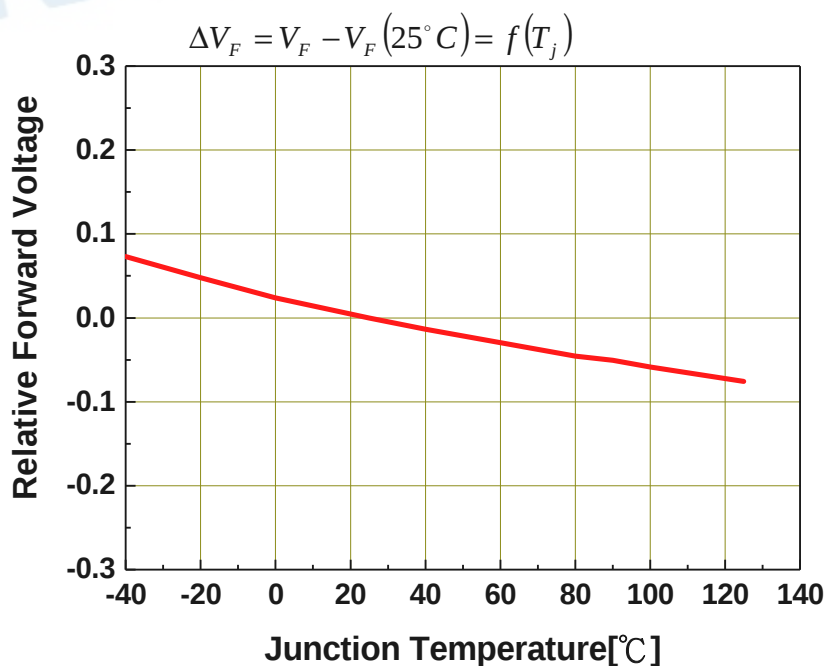
Chromaticity Coordinates Shift vs. Forward Current

@ $T_s = 25^\circ\text{C}$



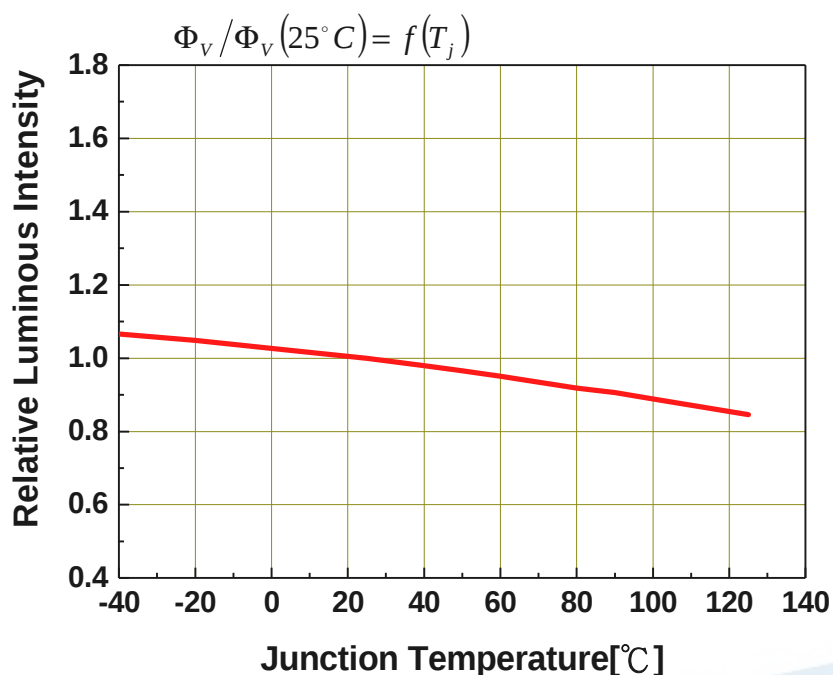
Relative Forward Voltage vs. Junction Temperature

@ $I_F = 100\text{mA}$



Relative Luminous Flux vs. Junction Temperature

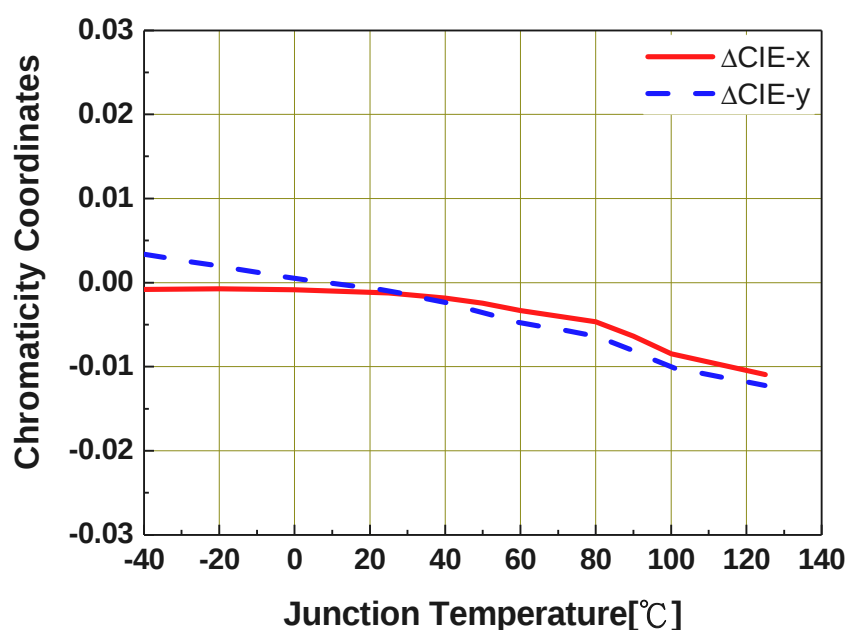
@ $I_F = 100\text{mA}$



Chromaticity Coordinates Shift vs. Junction Temperature

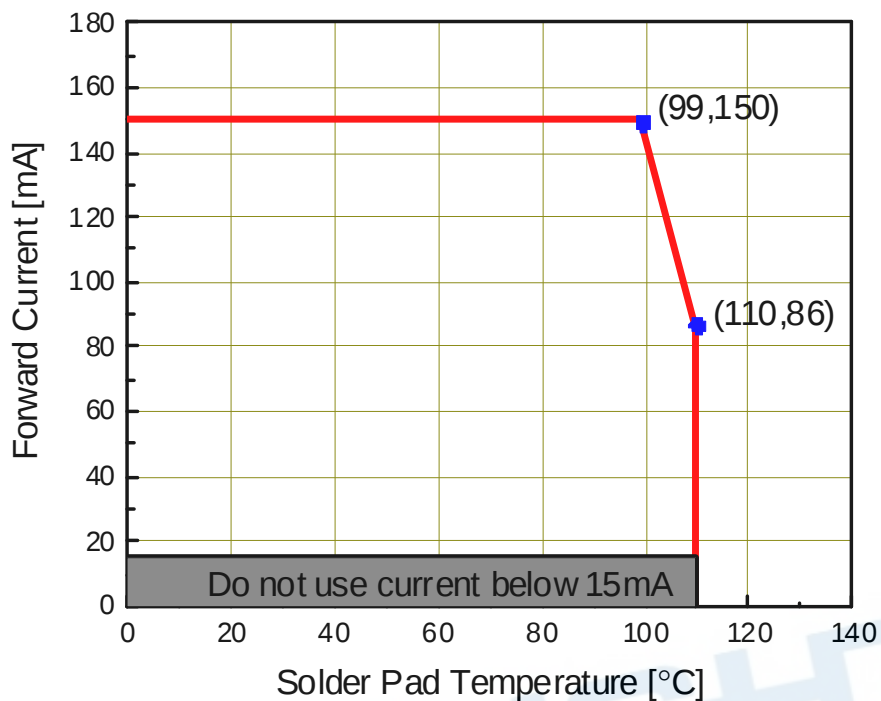
@ $I_F = 100\text{mA}$

$$\Delta CIE\ x, \Delta CIE\ y = f(T_j)$$



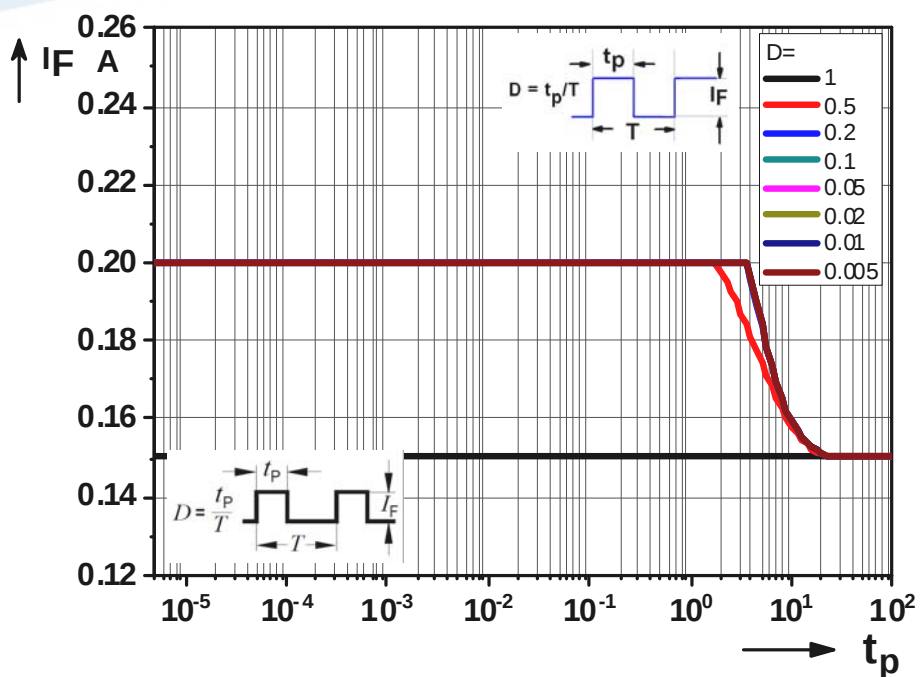
Forward Current Derating Curve

$$I_F = f(T_S)$$



Permissible Pulse Handling Capability

$$I_F = f(t_p); D = \text{Duty cycle}; T_A = 25^\circ\text{C}$$



4.Binning Information

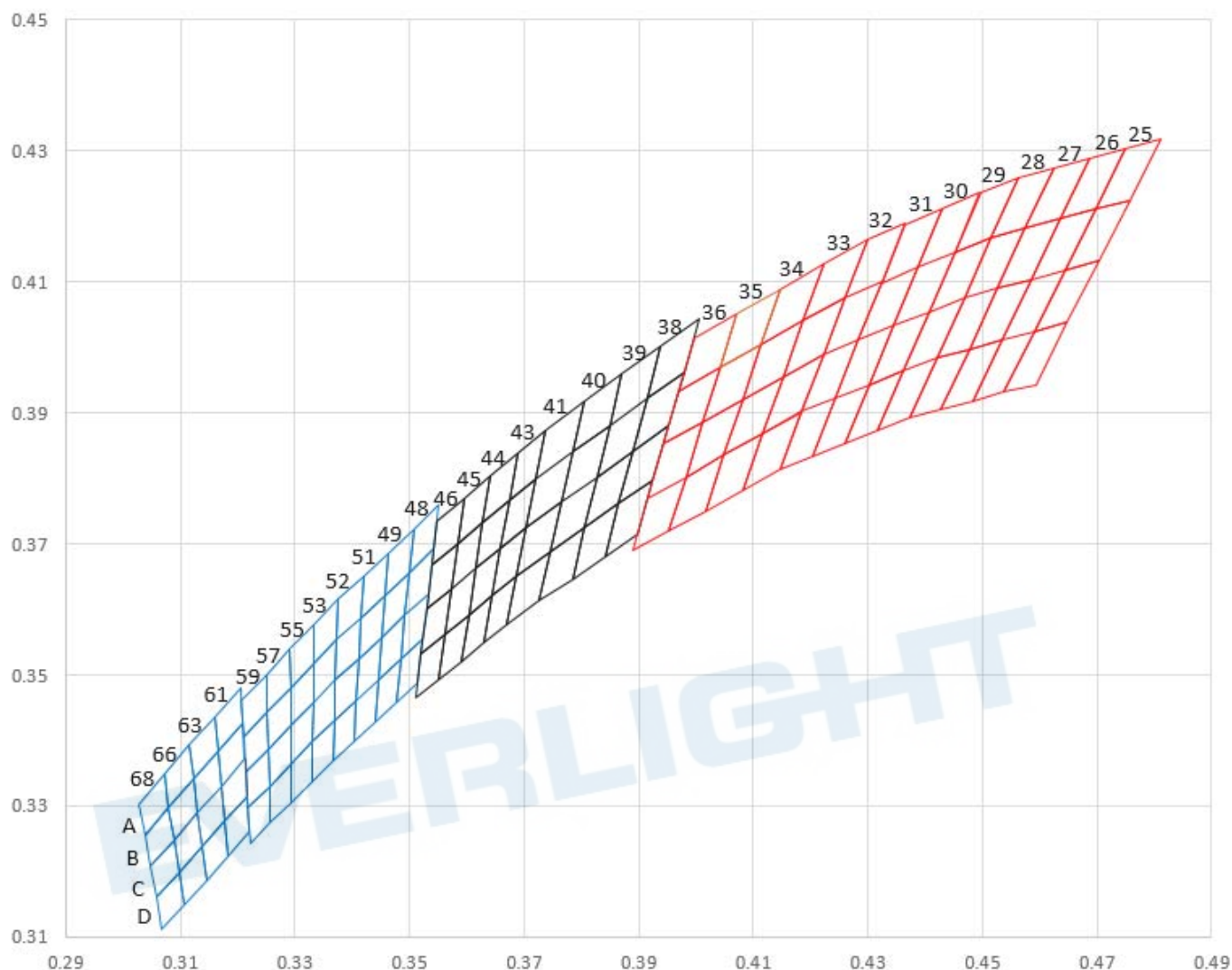
Luminous Intensity Bins

Group Bin	Minimum Luminous Flux (lm)	Maximum Luminous Flux (lm)	Minimum Luminous Intensity (mcd)	Maximum Luminous Intensity (mcd)
Z1	1	3	330	990
Z3	3	5	990	1650
Z5	5	7	1650	2310
Z7	7	9	2310	2970
Z9	9	12	2970	3960
A2	12	15	3960	4950
A5	15	18	4950	5940
A8	18	21	5940	6930
B1	21	24	6930	7920
B4	24	27	7920	8910
B7	27	30	8910	9900
C0	30	35	9900	11550
C5	35	40	11550	13200
D0	40	45	13200	14850
D5	45	50	14850	16500
E0	50	55	16500	18150
E5	55	60	18150	19800

Notes:

1. Luminous flux measurement tolerance: $\pm 8\%$.

Standard White Color Bin Structure



General White Color Bin Coordinates

錯誤! 連結無效。

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錯誤! 連結無效。

Forward Voltage Bins

Bin code	Min Forward Voltage [V]	Max Forward Voltage [V]
1012	1.00	1.25
1215	1.25	1.50
1517	1.50	1.75
1720	1.75	2.00
2022	2.00	2.25
2225	2.25	2.50
2527	2.50	2.75
2730	2.75	3.00
3032	3.00	3.25
3235	3.25	3.50
3537	3.50	3.75
3740	3.75	4.00
4042	4.00	4.25
4245	4.25	4.50
4547	4.50	4.75
4750	4.75	5.00
5052	5.00	5.25
5255	5.25	5.50
5557	5.50	5.75
5760	5.75	6.00
6062	6.00	6.25
6265	6.25	6.50
6567	6.50	6.75
6770	6.75	7.00

Notes:

1. Forward Voltage measurement tolerance: $\pm 0.05V$.
2. Forward Voltage bins are defined at $I_F = 100mA$ operation.

5.Part Number

67-11S-G81000H-AM

Part number is designated with below details.

67-11S = Product family name.

G = Color ^[1]

8 = CRI (N/A=0; >70=7; >80=8; >90=9)

100 = Test current [mA]

0 = Lead Frame Type (0=Ag ; 1=Au ; 2=MLP)

H = Chip Code

AM = Automotive application

Note

^[1] Color :

Symbol	Description
C	Cool White
N	Neutral White
W	Warm White
PA	Phosphor Converted Amber
PR	Phosphor Converted Red
UB	Blue
IB	Ice Blue
SB	Sky Blue
UP	Purple
UG	Green
UY	Yellow
UYG	Brilliant Yellow Green
UPG	Pale Green
UA	Amber
UR	Red
SR	Super Red
RGB	RGB-Color
PYG	Phosphor Converted Yellow Green
G	General White

6. Ordering Information

67-11S-G81000H-ABCDEFGHIJLMNOP-QR-AM

Part Number of the 67-11S	Order Code
67-11S-G81000H-AM	67-11S-G81000H -ABCDEFGHIJLMNOP-PQ-AM

Order code contains information with below details :

ABCDEF = min/max wavelength or CCT

GHJK = min./max. luminous flux in [lm] or luminous intensity in [mcd]

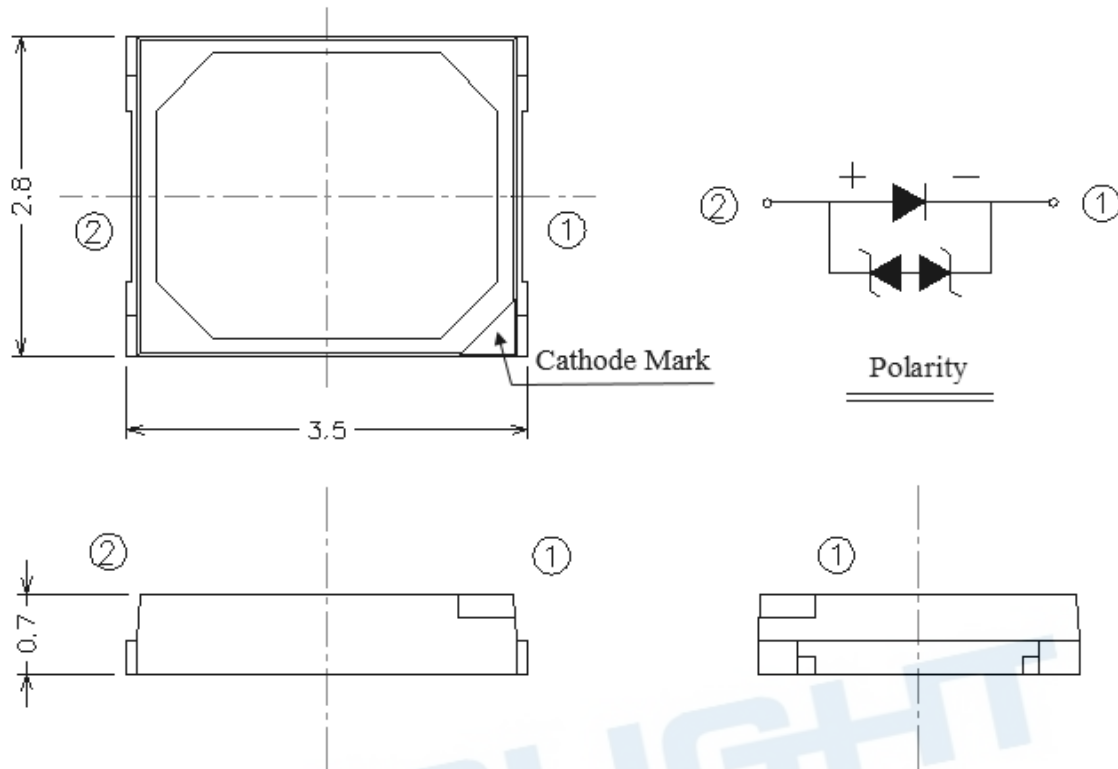
LMNO = min./max. forward voltage

PQ = internal code

AM = Automotive Application

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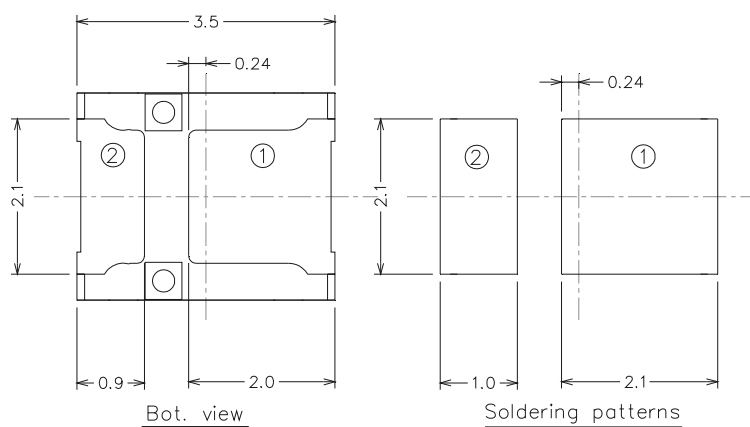
7. Mechanical Dimension



Notes:

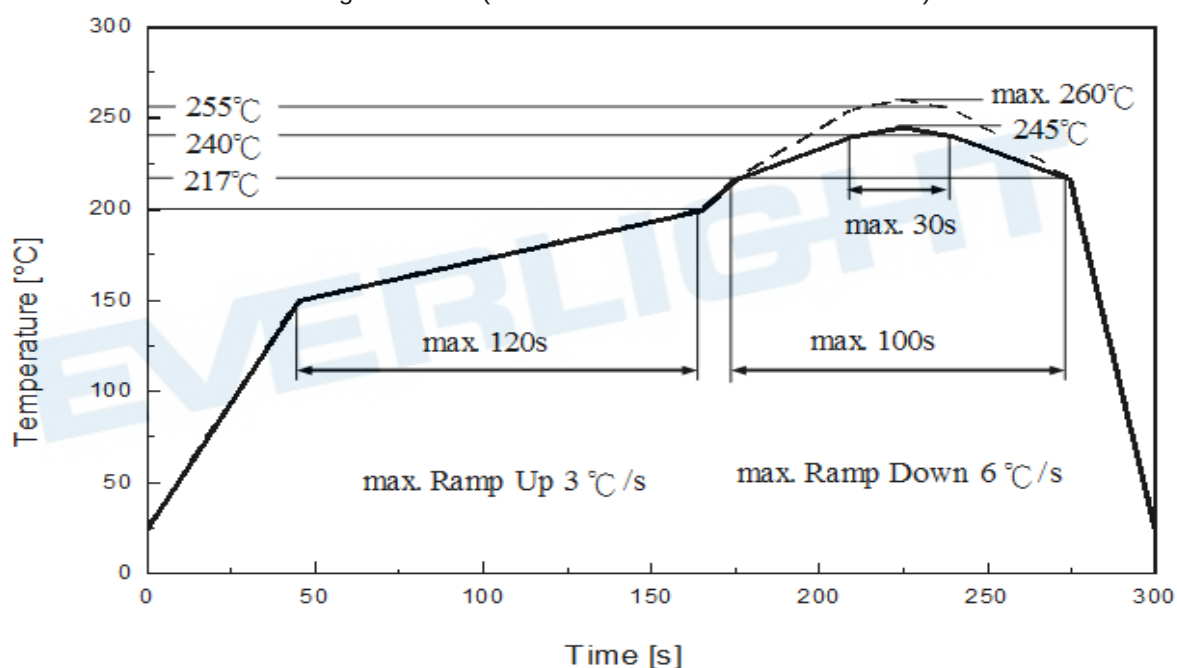
1. Dimensions are in millimeters.
2. Tolerances unless mentioned are $\pm 0.1\text{mm}$.

8. Recommended Soldering Pad



9. Reflow Soldering Profile

Soldering Condition (Reference: IPC/JEDEC J-STD-020D)



Profile Feature	Pb-Free Assembly	Unit
	Recommendation	
Ramp-up rate to preheat 25 °C to 150 °C	3	°C /sec
Time of soaking zone 150 °C to 200 °C	120	sec
Ramp-up rate to peak	3	°C /sec
Liquefied temperature	217	°C
Time above liquefied temperature	100	sec
Peak temperature (max.)	260	°C
Time within 5°C of the specified peak temperature	30	sec
Ramp-down Rate (max.)	6	°C /sec

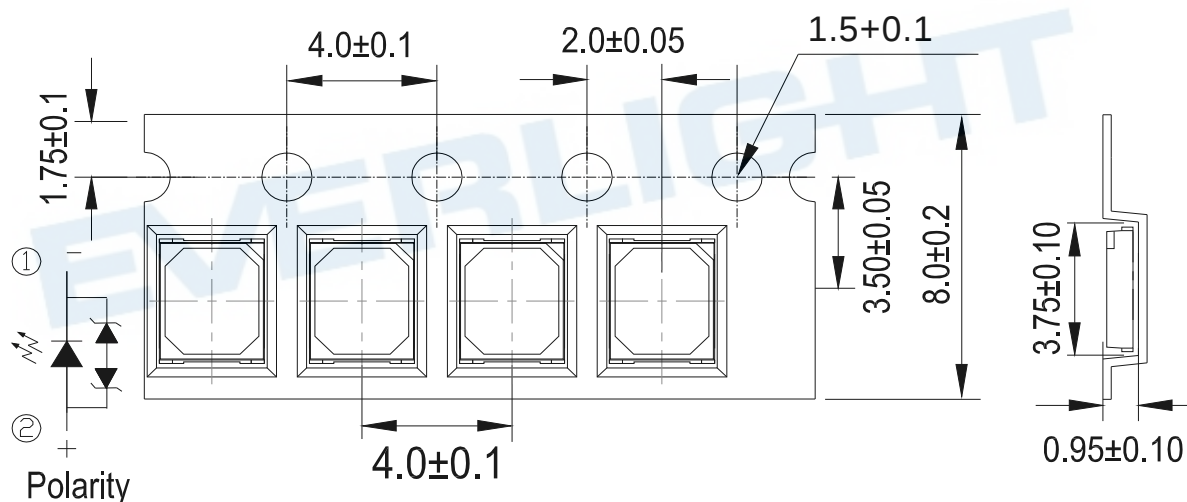
10. Packaging Information

• Product Labeling



- CPN : Customer's Product Number
- P/N : Everlight Part Number
- QTY : Packing Quantity
- CAT : Luminous Flux (Brightness) Bin
- HUE : Color Bin
- REF : Forward Voltage Bin
- LOT No : Lot Number

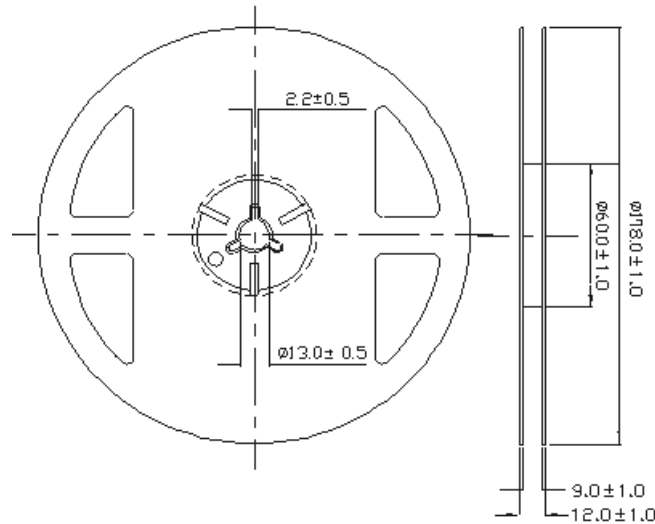
• Packing: Loaded Quantity 2000 pcs Per Reel



Notes:

1. Dimensions are in millimeters.

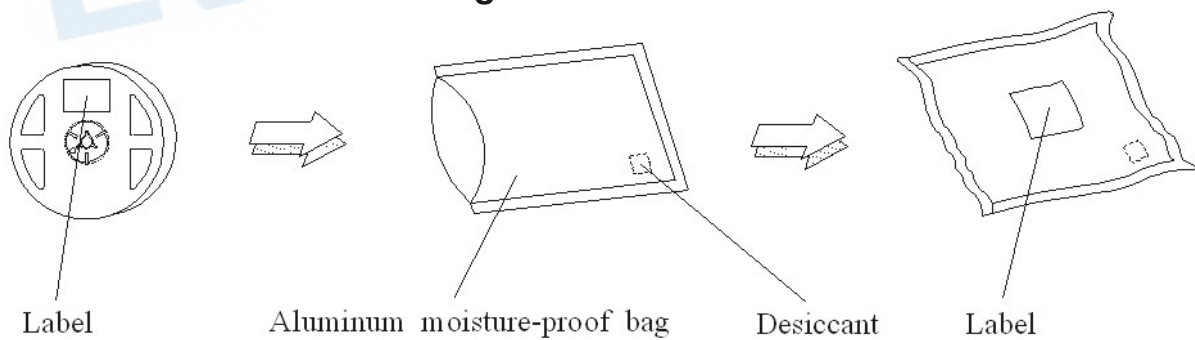
- Reel Dimensions



Notes:

1. Dimensions are in millimeters.

- Moisture Resistant Packing Process



11. Precaution 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. Assemblies

Do not stack assemblies containing LEDs to prevent damage to the optical surface of LEDs. Forces applied to the optical surface may result in the surface being damaged.

3. Soldering Condition

3.1 When soldering, do not put stress on the LEDs during heating.

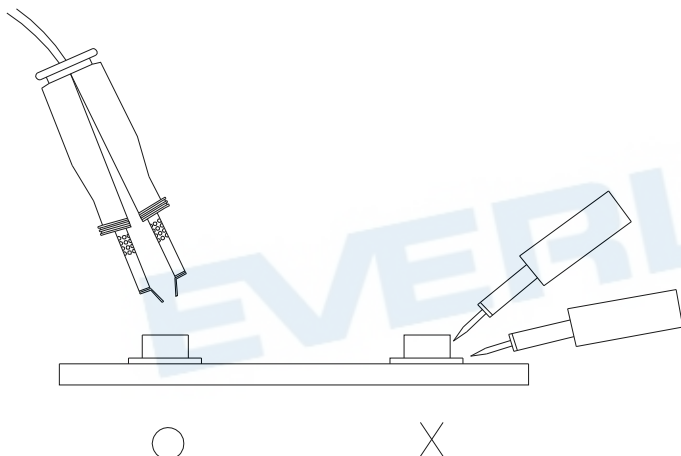
3.2 After soldering, do not warp the circuit board.

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.



Revision History

Current version: Aug/19/2019

Issue No: DSE-0022257

Version: 1

Created by:Miles Hsu

Rev.	Subjects (major change in previous version)	Modified date
1	Standard data sheet	Aug.19.2019

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