Spec. No.	PS-SC-NPLSB54XX-YSX
Rev.	A

PRODUCT SPECIFICATION

Model No：CSSC-NPLSB54XX-YSX

Descriptions:		
・ Product Type	:	Chip LED
・ Package Size	:	3.2x1.6x1.85mm
・ Emitting Color	:	Blue

CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY
	2022.03.18 Leon All right reserved	2022.03.18 ZXY All right reserved	2022.03.18 ZHH All right reserved

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■ Absolute Maximum Rating Polarity–

（Ta=25℃）

Parameter	Symbol	Value	Unit
Forward current	I_F	30	mA
Pulse Forward Current	I_{FP}	100	mA
Reverse voltage	V_R	5	V
Electrostatic Discharge	ESD	2000	V
Operating temperature range	T_{op}	-40~ +90	℃
Storage temperature range	T_{stg}	-40 ~ +90	℃
Soldering Temperature	T_{sld}	Reflow Soldering: 260° C	for 10sec.

1. IFP Conditions : 1/10 Duty Cycle, 0.1 msec Pulse Width
2. The device can not operated under continuous reverse voltage.

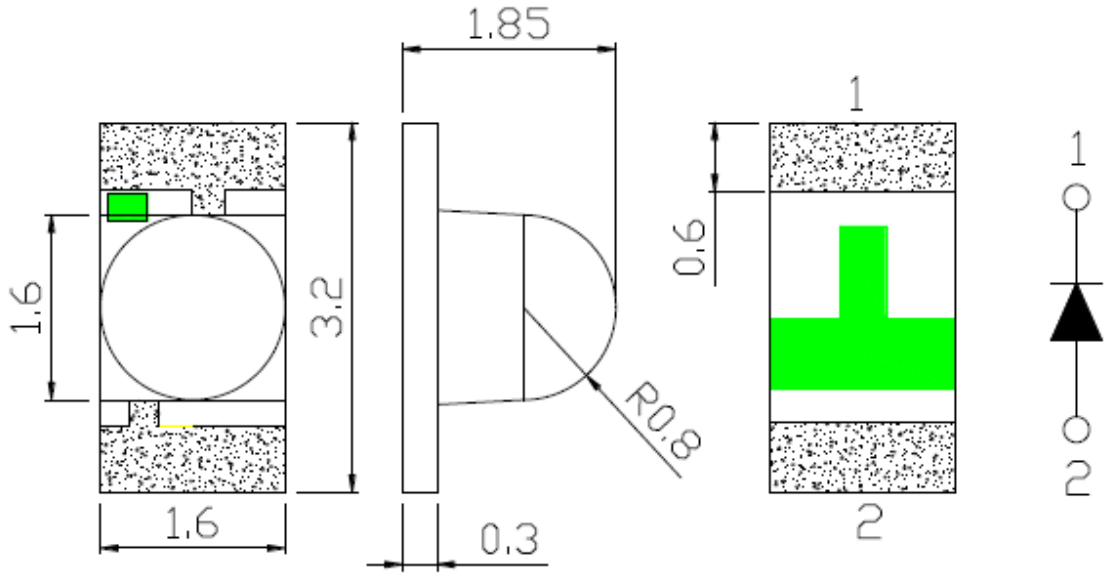
■ Electrical / Optical Characteristics –

（Ta=25℃）

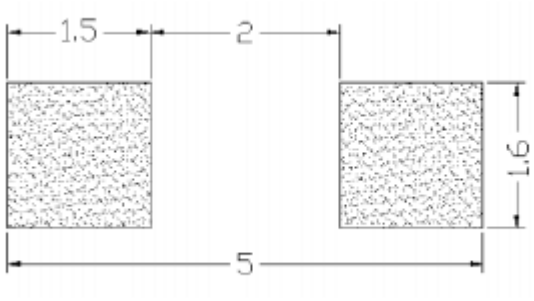
Parameter	Symbol	Value			Unit	Test Condition
		Min	Typ	Max		
Forward voltage	Vf	2.9	3.0	3.4	V	I_F=20mA
Luminous Intensity	IV	500	800	1000	mcd	
Dominant Wavelength	λd	460	465	475	nm	
Peak Wavelength	λp	--	470	--	nm	
Viewing angle at 50% Iv	2θ1/2	--	30	--	Deg	
Reverse current	Ir	--	--	10	μA	V_R=10V

1. Luminous Intensity Measurement allowance is ± 10%.
2. Tolerance of measurement of Vf is ±0.1 V..

■ Package Outline Dimensions –



■ Recommended Soldering Pattern –



NOTES:

All dimensions area in mm tolerance is ±0.2mm unless otherwise noted.

■ Bin Range of Luminous Intensity –

Bin Code	Min	Max	Condition
L1	500	1000	IF=20mA
L2	-	-	
L3	-	-	

Luminous Intensity Measurement allowance is ± 10%.

■ Bin Range Of Forward Voltage –

Bin Code	Min	Max	Condition
V1	2.9	3.0	IF=20mA
V2	3.0	3.1	
V3	3.1	3.2	
V4	3.2	3.3	
V5	3.3	3.4	

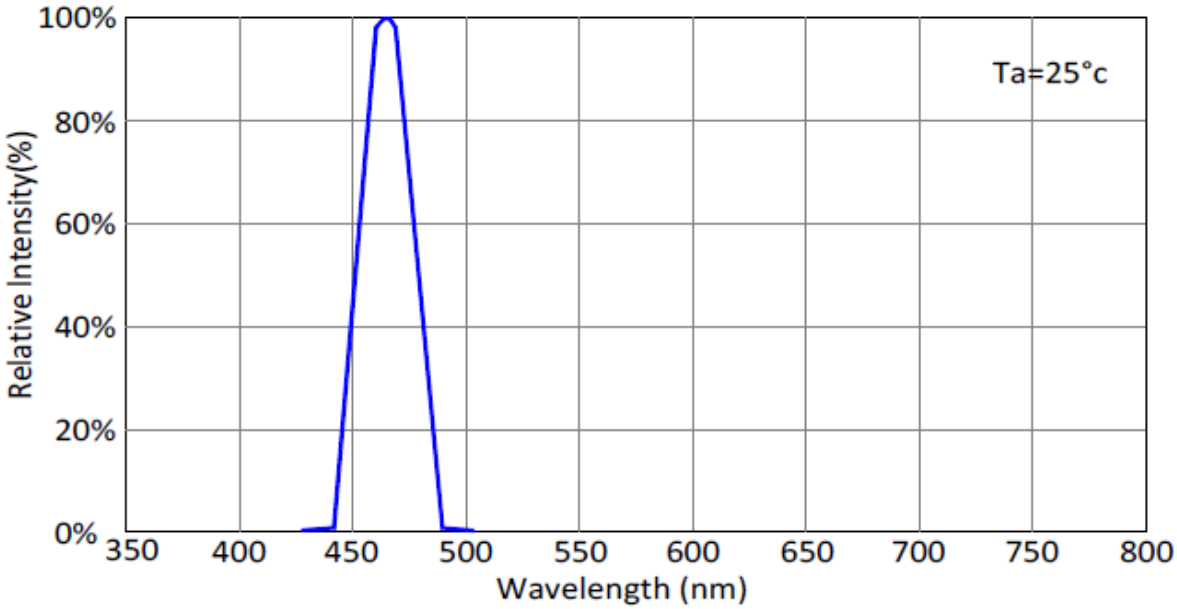
Tolerance of measurement of Vf is ±0.1V.

■ Bin Range Of Wavelength (Unit:nm)-

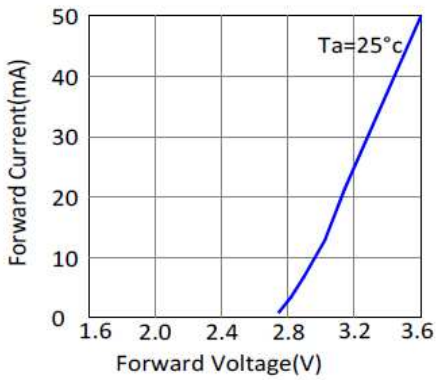
Bin Code	Min	Max	Condition
B1	460	462.5	IF=20mA
B2	462.5	465	
B3	465	467.5	
B4	467.5	470	
B5	470	472.5	
B6	472.5	475	

■ Optical Characteristic Curves –

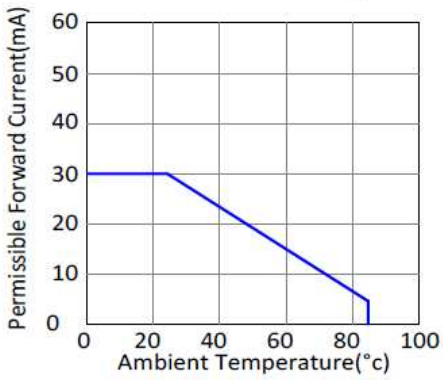
Spectral Power Distribution VS. Wavelength



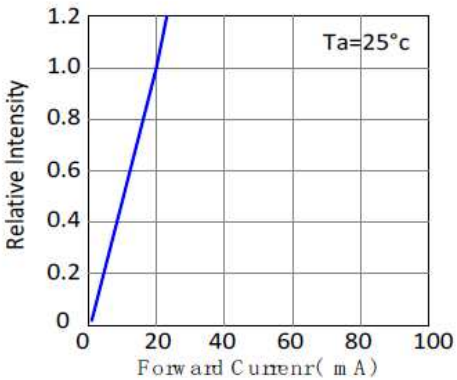
Forward Current vs.Forward Voltage



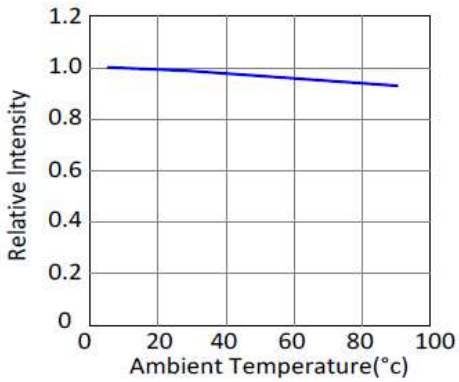
Forward Current vs.Ambient Temperature



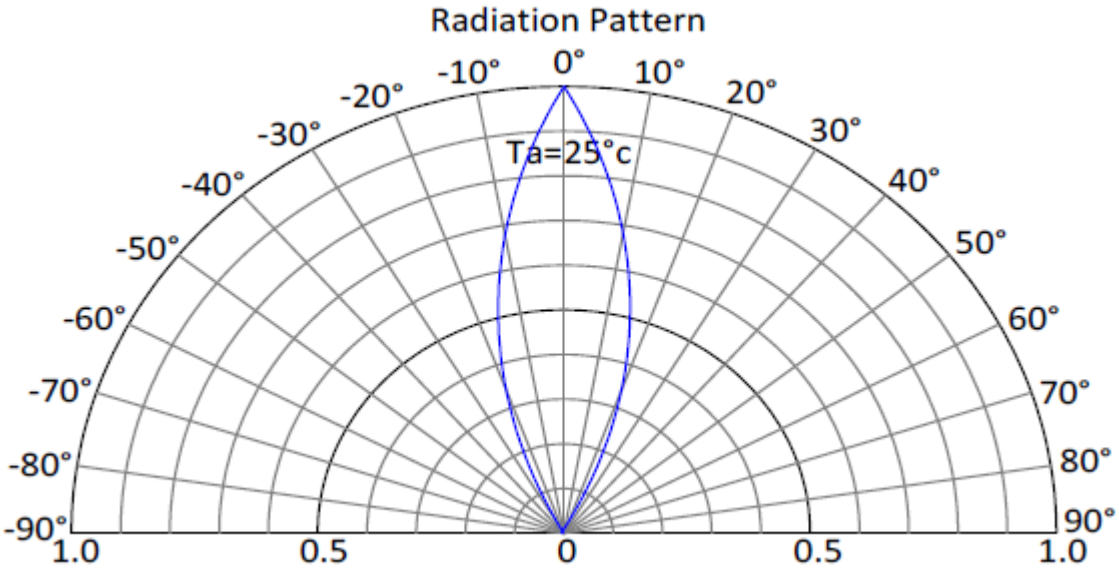
Relative Intensity vs.Forward Currenr



Relative Intensity vs.Ambient Temperature



Relative Luminosity VS. Radiation Angle



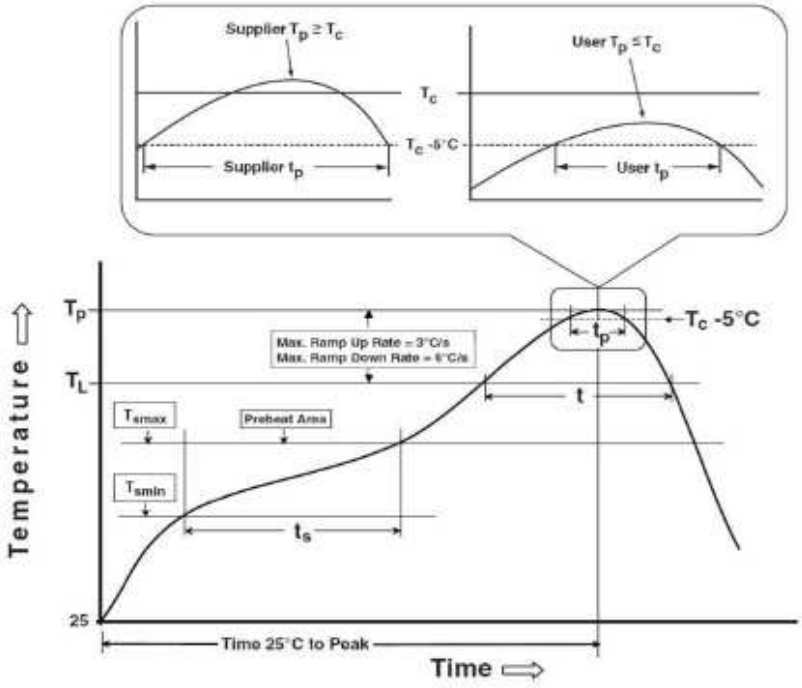
■ Cautions –

Table of Classification Reflow Profiles

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat & Soak Temperature min (Tsmin) Temperature max (Tsmax) Time (Tsmin to Tsmax) (ts)	100 °C 150°C 60-120 seconds	150 °C 200 °C 60-120 seconds
Average ramp-up rate (Tsmax to Tp)	3 °C/second max	3 °C/second max
Liquidous temperature (TL) Time at liquidous (tL)	183 °C 60-150 seconds	217 °C 60-150 seconds
Peak package body temperature (Tp)*	230 °C ~235 °C	255 °C ~260 °C
Classification temperature (Tc)	235 °C	260 °C
Time (tp) within 5 °C of the specified Classification temperature (Tc)	20 seconds	30 seconds
Average ramp-down rate (Tp to Tsmax)	6 °C/second max	6 °C/second max
Time 25 °C to peak temperature	6 minutes max	8 minutes max

1. Tolerance for peak profile temperature (Tp) is defined as a supplier minimum and a user maximum.

2.Tolerance for time at peak profile temperature (tp) is defined as a supplier minimum and a user maximum.



Precautions

1. Storage:

●Moisture proof and anti-electrostatic package with moisture absorbent material is used, to keep moisture to aminimum.

●Before opening the package, the product should be kept at 30℃ or less and humidity less than 60% RH, and beused within a year.

●After opening the package, the product should be stored at 30℃ or less and humidity less than 10%RH. It is recommended that the product be operated at the workshop condition of 30℃ or less and humidity less than 60%RH.

●If the moisture absorbent material has fade away or the LEDs have exceeded the storage time, baking treatment should be performed based on the following condition: (70±5)℃ for 24 hours.

2. Static Electricity:

Static electricity or surge voltage damages the LEDs. Damaged LEDs will show some unusual characteristic such as the forward voltage becomes lower, or the LEDs do not light at the low current. even not light.

All devices, equipment and machinery must be properly grounded. At the same time, it is recommended that wrist bands or anti-electrostatic gloves, anti-electrostatic containers be used when dealing with the LEDs.

3. Vulcanization:

LED curing is due to sulfur being in bracket and the +1 price of silver in the chemical reaction generated Ag2S in the process. It will lead to the capacity of reflecting of silver layer reducing, light color temperature drift and serious decline ,seriously affecting the performance of the product.So we should take corresponding measures to avioding vulcanization, such as to avoid using sulphur volatile substances and keeping away from high sulphur content of the material.

■ Packaging –

The LEDs are packed in cardboard boxes after taping.

Taping Specifications (Units : mm)

Manner of packing

●Tape Specification:3,000pcs Per Reel