

## Deep UV LED Package (SCF35BUC00D1Z3)

### Product Introduction

Sanan SCF35BUC series deep ultraviolet packaging products are a kind of organic package. It's specially designed for lower radiation power application.

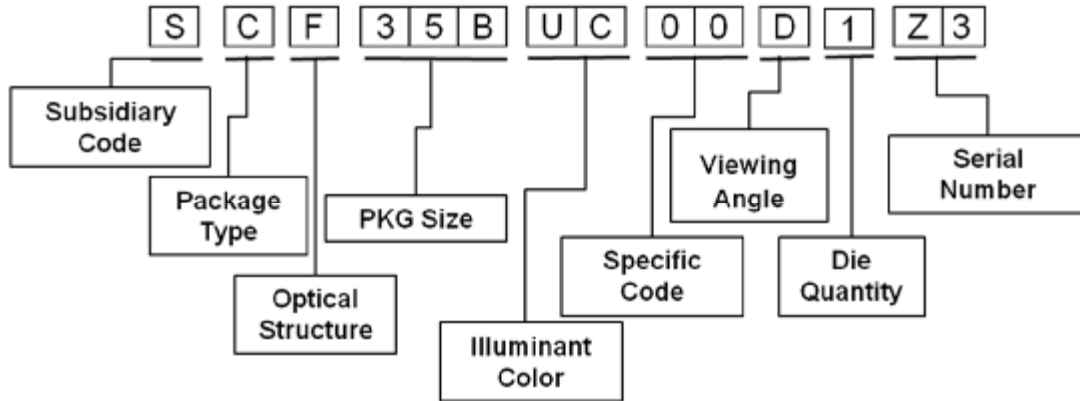
### Features & benefits

I Customized emission wavelength

I High power density (3.5mW/cm<sup>2</sup> to 0.95W/cm<sup>2</sup>)

## Product Nomenclature

The part number for Sanan SCF35BUC00D1Z3 series deep UV package products is explained as follows:



### Ordering information:

Part Number: SCF35BUC00D1Z3

Specification: Refer to Bin for Wavelength & Radiant Power & Forward Voltage

( 270BBA002C10 )

### Electro-Optical Characteristics @ 40mA

Parameter	Symbol	Bin	Min.	Typ.	Max.	Unit
Peak Wavelength	$\lambda_P$	270B	270	-	275	nm
		275B	275	-	280	
Output Radiant Power	$P_{opt}$	BA002	2	-	4	mW
		BA004	4	-	6	
		BA006	6	-	8	
Forward Voltage	$V_F$	C09	4.5	-	5.0	V
		C10	5.0	-	5.5	
		C11	5.5	-	6.0	
		C12	6.0	-	6.5	
		C13	6.5	-	7.0	
		C14	7.0	-	7.5	
FWHM	$\Delta\lambda$		-	9.6	-	nm
Viewing Angle	$2\theta_{1/2}$		-	130	-	°
Thermal Resistance ( $T_j - T_{sp}$ )	$R_{th}$		-	50	-	°C/W

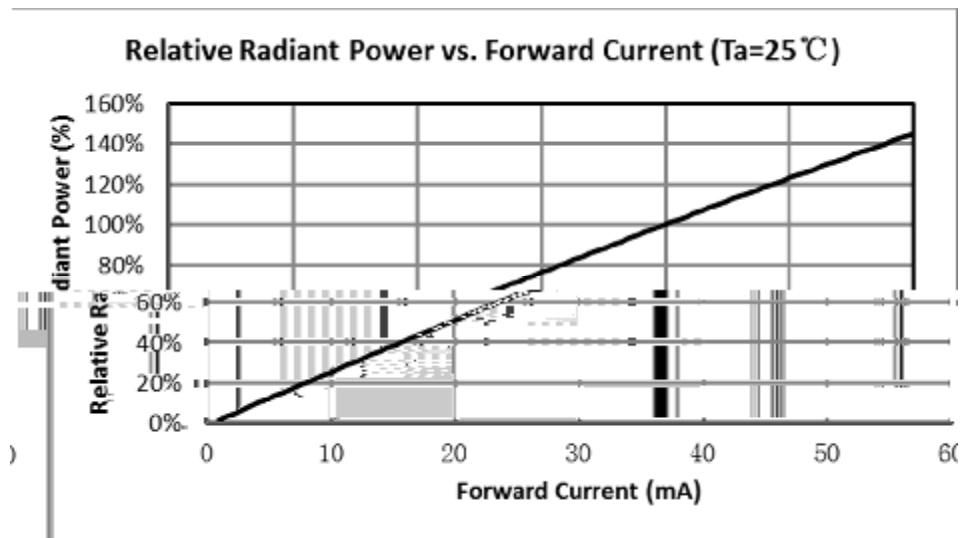
**Notes:**

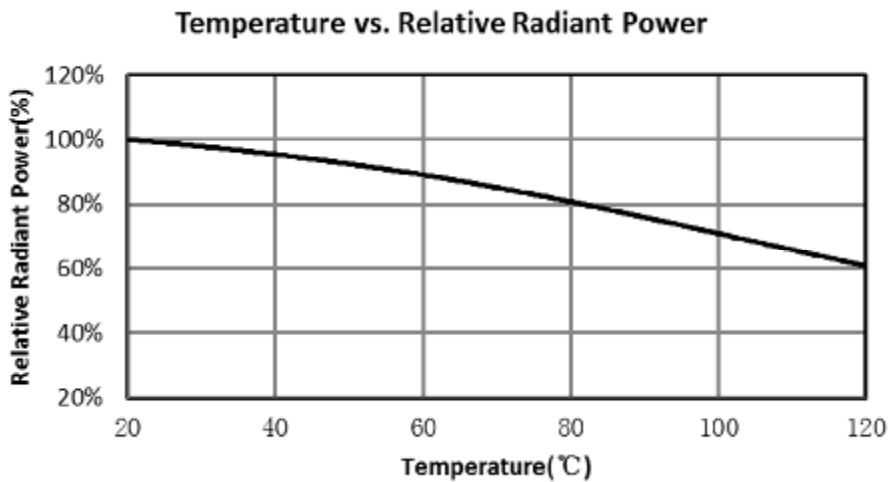
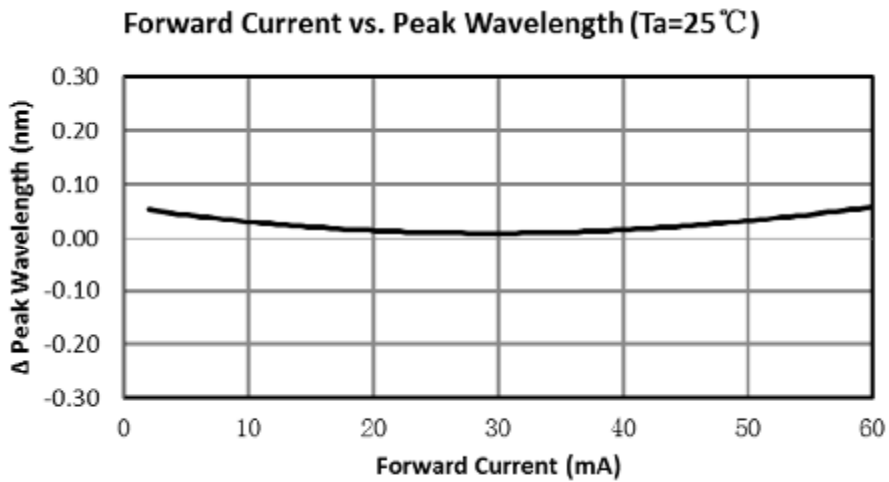
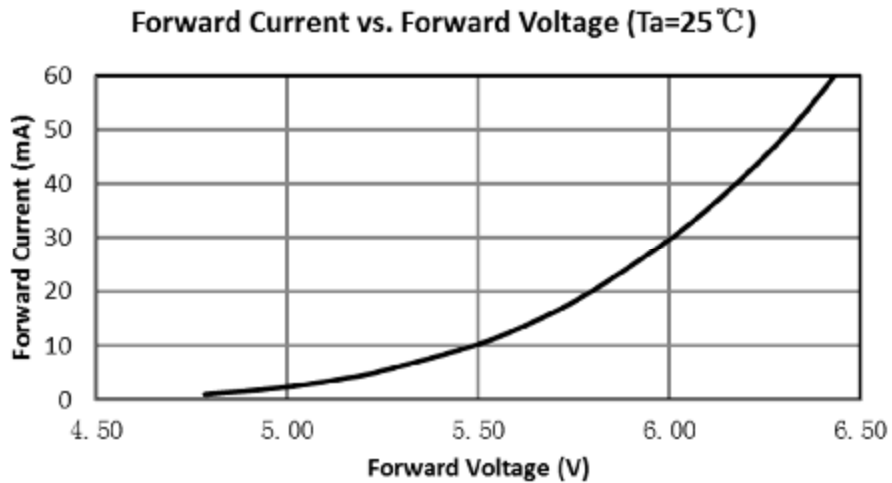
1. Radiant Flux Tolerance:  $\pm 10\%$
2. Forward Voltage Tolerance:  $\pm 0.1V$
3. Peak Wavelength Tolerance:  $\pm 1nm$
4. Viewing Angle Tolerance:  $\pm 5^\circ$
5. LEDs from the above ranks will be shipped. The rank combination ratio per shipment will be decided by Sanan

## Absolute Maximum Ratings

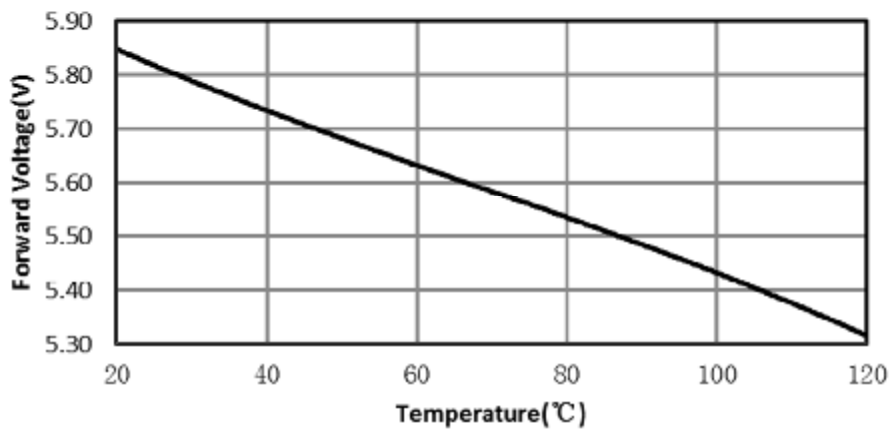
Parameter	Symbol	Max. Ratings	Units
Forward Current	$I_F$	60	mA
Reverse Voltage	$V_R$	-5	V
Operating Temperature	$T_{op}$	-40 ~ 55	°C
Storage Temperature	$T_{stg}$	-40 ~ 85	°C
Junction Temperature	$T_j$	70	°C
Soldering temperature	$T_{solder}$	260	°C

## Optical and Electrical Characteristics Curve

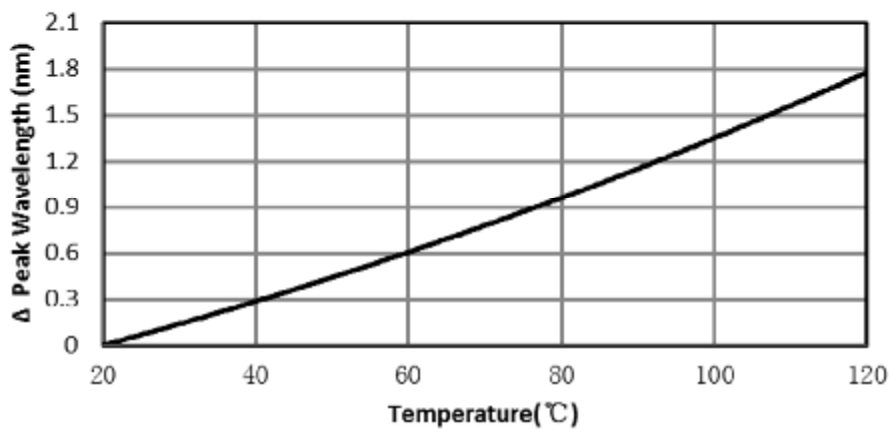




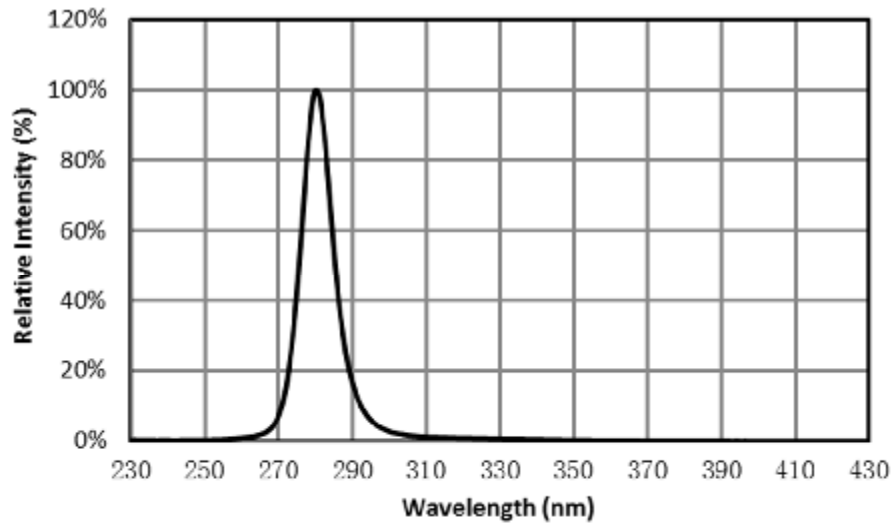
Temperature vs. Forward Voltage



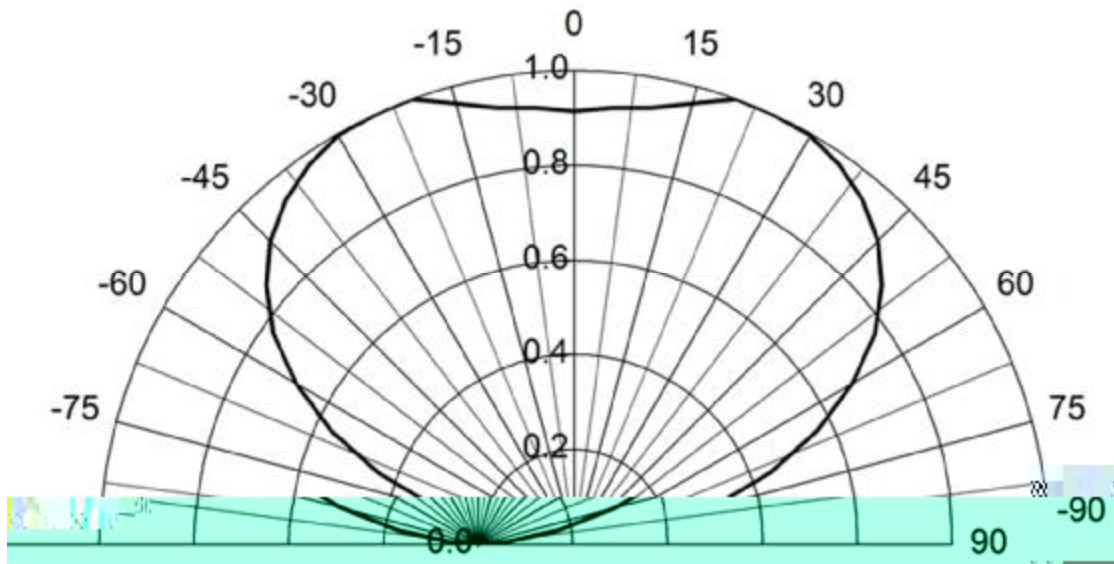
Temperature vs. Peak Wavelength



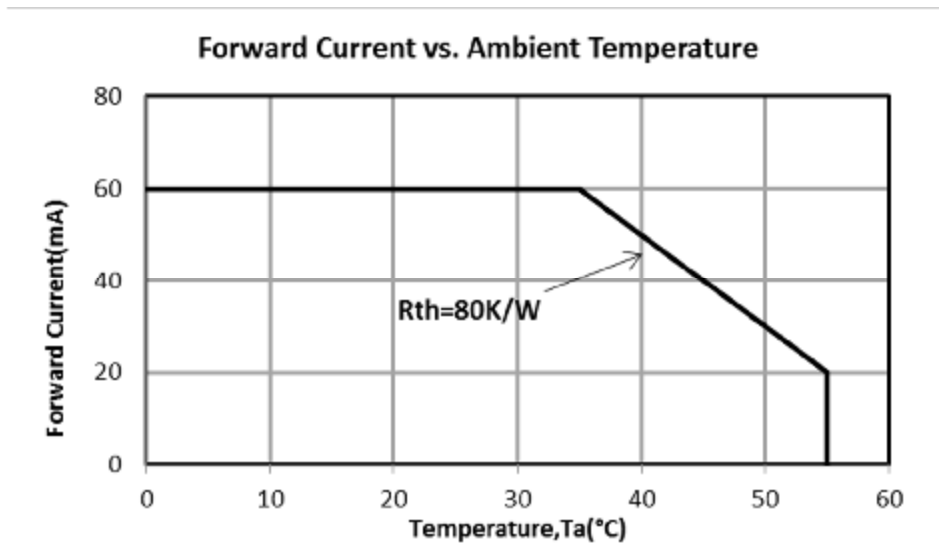
### Spectrum Distribution@40mA



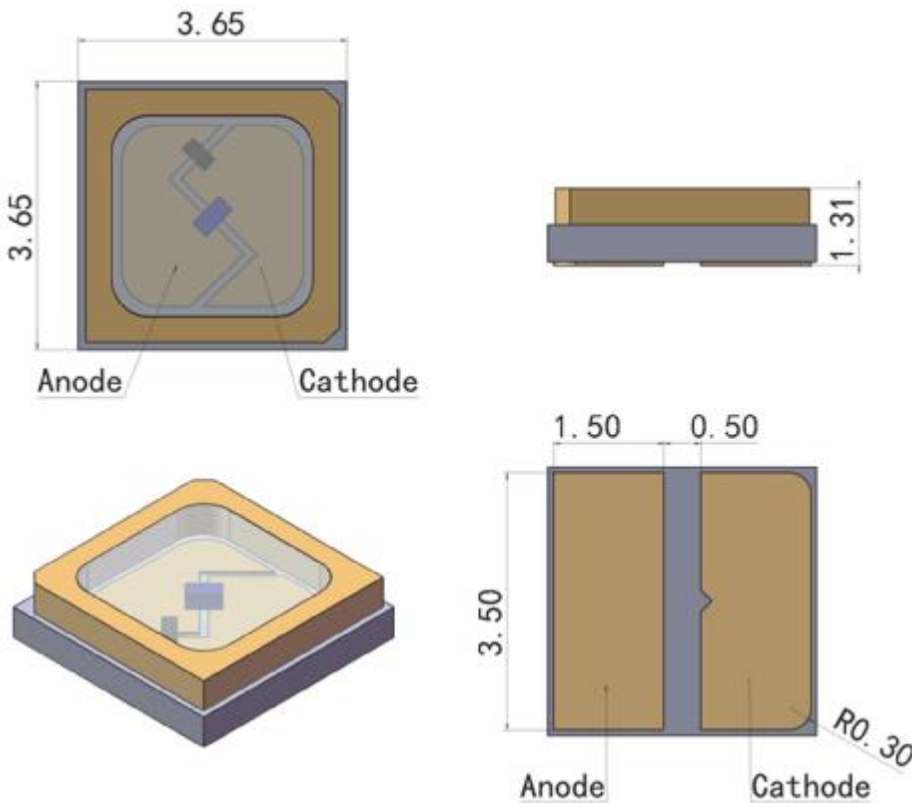
### Radiation Pattern @40mA



## Derating Curve

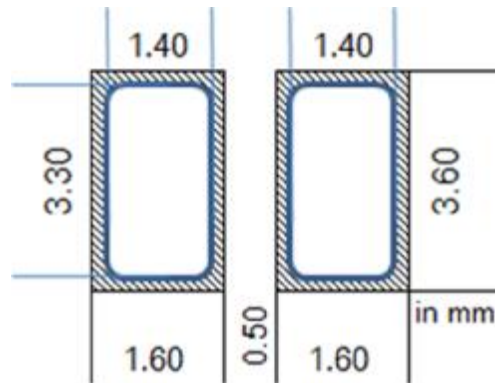


## Mechanical Dimensions (Unit: mm ; tolerance +/-0.1mm):





**Recommended Solder Pad & Stencil Pattern (Unit: mm ; tolerance +/-0.1mm):**

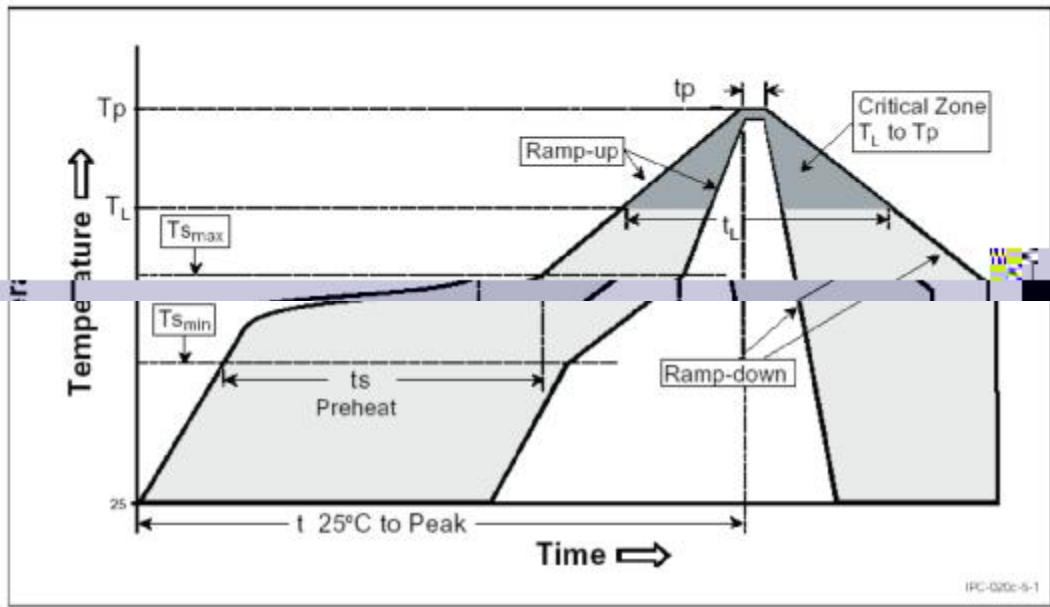


<b>Solder Pad</b>	<b>3.6 mm x1.6mm</b>
<b>Stencil Pattern</b>	<b>3.3mm x 1.4mm</b>

## Recommended Reflow Profile

As a general guideline, Sanan recommends that users follow the recommended soldering profile provided by the manufacturer of the solder paste used.

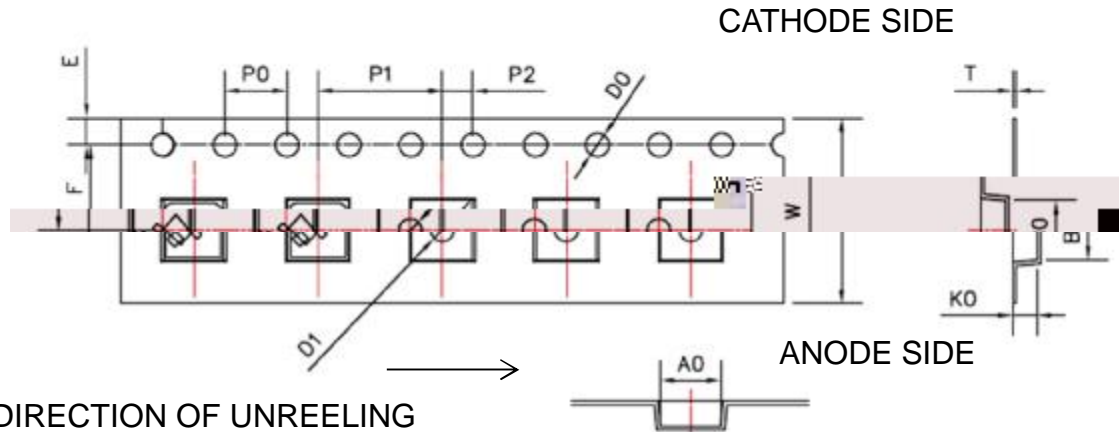
Note that this general guideline may not apply to all PCB designs and configurations of reflow soldering equipment.



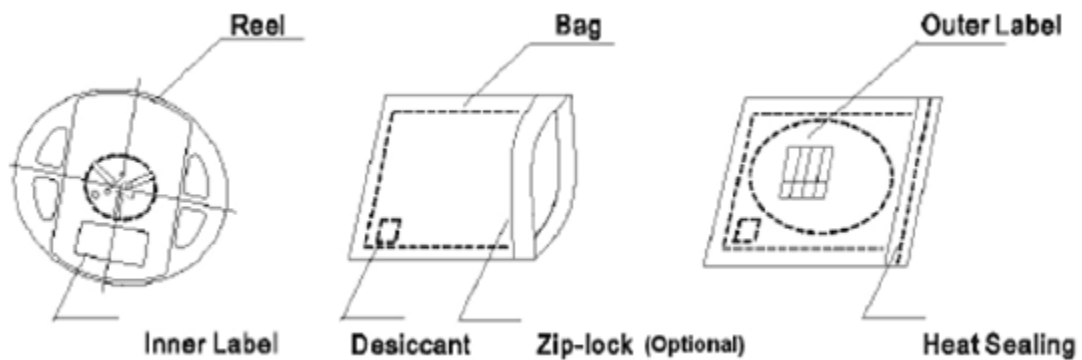
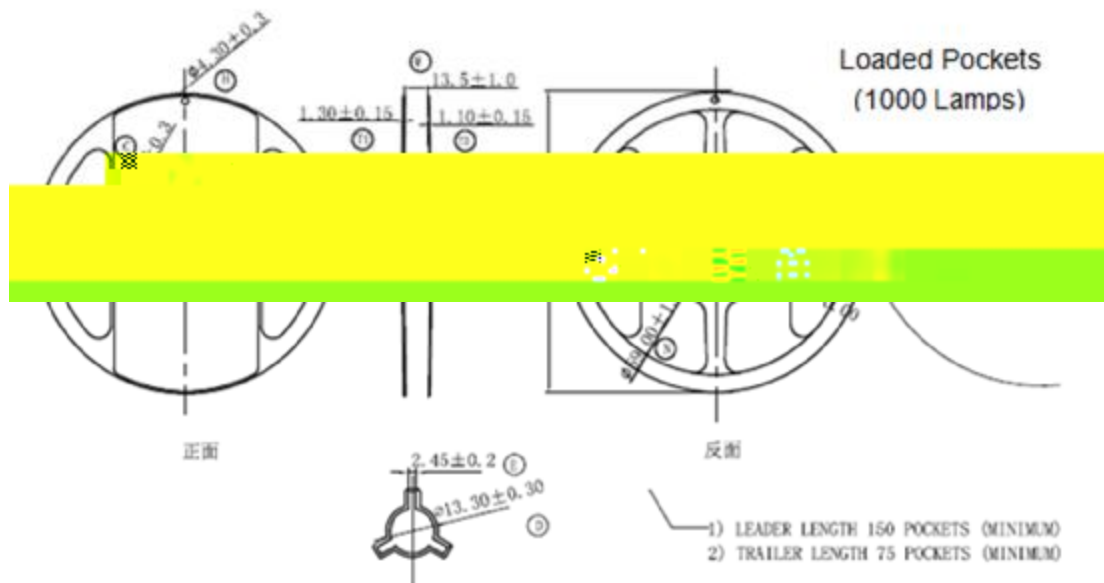
Profile Setting	Pb-Free Profile
Average Ramp-up Rate (T <sub>smax</sub> to T <sub>p</sub> )	1°C/sec
Preheat Temperature Min (T <sub>smin</sub> )	100-150°C
Preheat Temperature Max (T <sub>smax</sub> )	180-200°C
Preheat Time (t <sub>smin</sub> to t <sub>smax</sub> )	60-120 sec
Liquidus Temperature (T <sub>L</sub> )	217°C
Time Maintained Above Time (t <sub>L</sub> )	50-80 sec
Peak / Classification Temperature (T <sub>P</sub> )	260°C
Time within 5°C of Actual Peak Temp (t <sub>P</sub> )	20-40 sec
Ramp-Down Rate	2-3°C/sec
Time 25°C Peak Temperature	4 min

## Tape & Reel Packaging

(Unit: mm)



<b>Symbol</b>	<b>A0</b>	<b>B0</b>	<b>K0</b>	<b>P0</b>	<b>P1</b>	<b>P2</b>
Spec	4.1±0.1	4.0±0.1	1.56±0.10	4.00±0.10	8.00±0.10	2.00±0.10
<b>Symbol</b>	<b>W</b>	<b>T</b>	<b>E</b>	<b>F</b>	<b>D0</b>	<b>D1</b>
Spec	12.00±0.20	0.25±0.05	1.75±0.10	5.50±0.10	1.5+0.1/-0	1.5±0.05



**Notes: 1000pcs/reel**

Sanan Optoelectronics.,Co.,Ltd..

Deep UV LED Package Series Rev.1 (07/2020)

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## Notes for storage and retrieval

### UV Light

These devices are short wavelength Ultraviolet LED. During operation, the LED emits high intensity ultraviolet (UV) light, which is harmful to skin and eyes.

UV light is hazardous to skin and may cause cancer. Avoid exposure to UV light when LED is operational.

Precautions must be taken to avoid looking directly at the UV light without the use of UV light protective glasses. Do not look directly at the front or at the LED's lens when LED is operational.

### Static Electricity (ESD)

Despite with built-in Zener protection diodes, UV LED are particularly sensitive to ESD (Electrostatic Discharge); static electricity and surge voltages seriously damage UV LEDs and can result in complete failure of the device. Precautions must be taken against ESD when handling or operating these devices.

### Operating Conditions

In order to ensure the correct functioning of these LEDs, compliance to the typical electrical specifications is paramount. UV LEDs are particularly sensitive to any current value that exceed the max operating specifications, and will cause damage and possible complete failure to the device. The use of current regulated drive circuits are strongly recommended when operating these devices. These LEDs are susceptible to heat generation. Provide adequate thermal management to ensure LEDs do not exceed maximum recommended temperatures. Operating LEDs at temperatures in excess of specification will result in damage and possible complete failure of the device.

**The following warning labels are attached to the product/system using ultraviolet.**





**Label Information**

**Sanan Optoelectronics**

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PN: SCF35BUC00D1Z3                      Spec: 270BBA002C10  
Lot Cd: NPTU2005009                      WIP ID: CS2006010001

	Min	Avg	Max	
PO:	2	3	4	[mw]
WP:	270	272.5	275	[nm]
VF:	5	5.25	5.5	[V]

I (mA) : 40  
QTY: 1000                      