Specification For UV-C Series

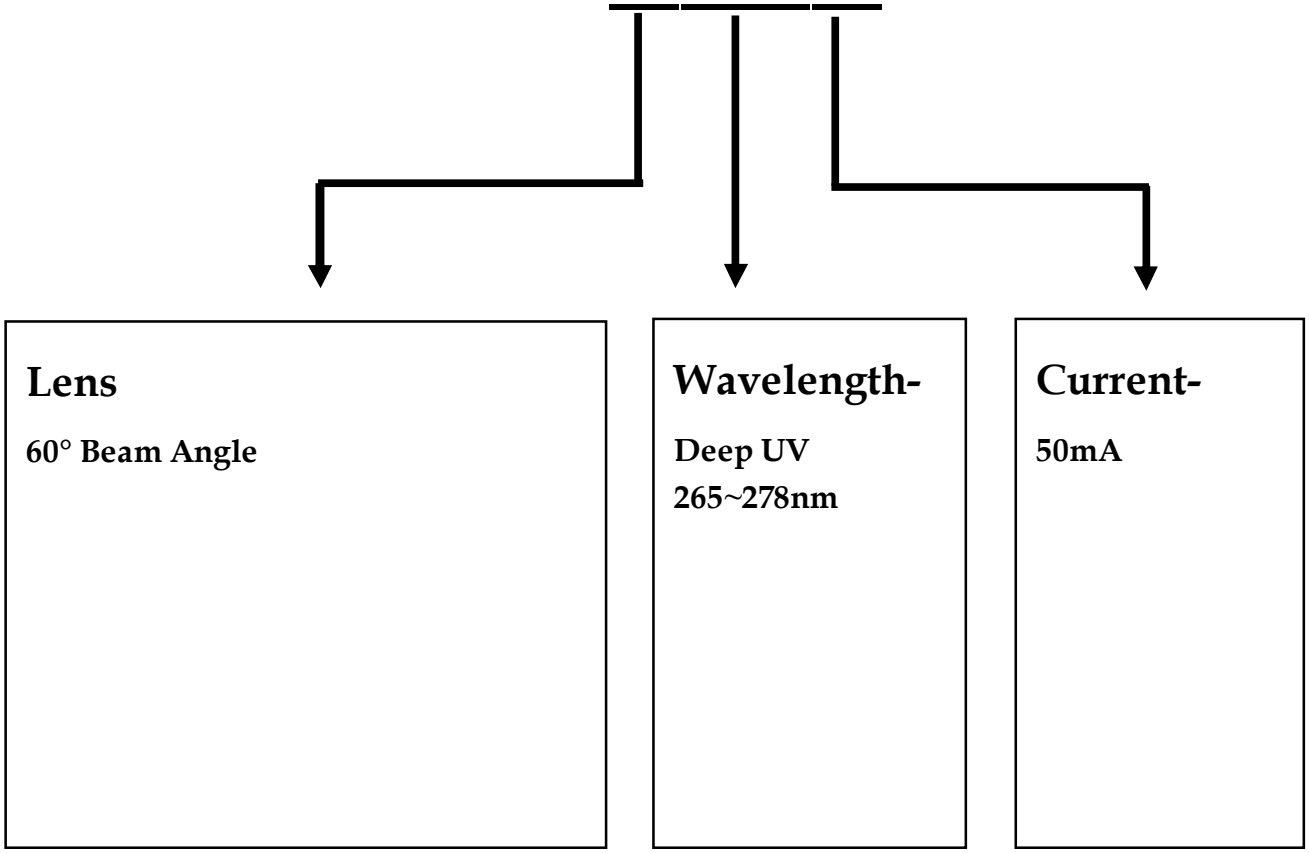
BRT-B44RD7C1CS0

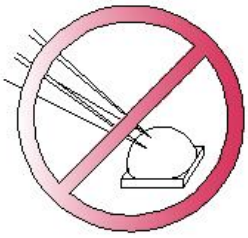
Features	Applications
■ Deep Ultraviolet LED ■ Dimension : 4.4mm(L)×4.4mm(W) ■ All Metal Design Cu Substrate/Al reflector ■ View Angle 60° ■ Low thermal resistance	■ Disinfection ■ Chemical and Biological analysis

RoHS Compliant

General Information

BRT - B44RD7C1CS0



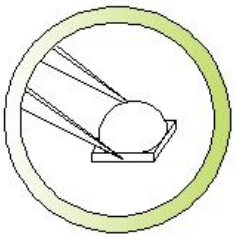


Do not poke the Led Lens with sharp object

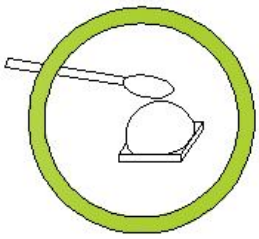
Do not stack assembled PCB

Do not hold the Led with hand

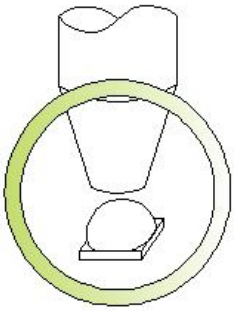
Do not press or push the Led Lens



Hold the Led only by the substrate



Clean the LED surface with cotton bud



Use pick and place nozzle per recommendation in data sheet

Absolute Maximum Ratings

(Tj=25℃)

Parameter	Symbol	Value	Unit
Power Dissipation	P	0.45	W
Forward Current	I_F	50	mA
Thermal Resistance, Junction-Case	R_{th}, J-C1	15	°C/W
Operating Temperature Range	T_{opr}	- 40°C to + 60°C	
Storage Temperature Range	T_{stg}	- 40°C to + 100°C	
Soldering Condition	T_{sol}	260°C For 5 Seconds	

Note: 1. The thermal resistance value is measured with MCPCB (Star).

Initial Electrical/Optical Characteristics

(Tj=25℃)

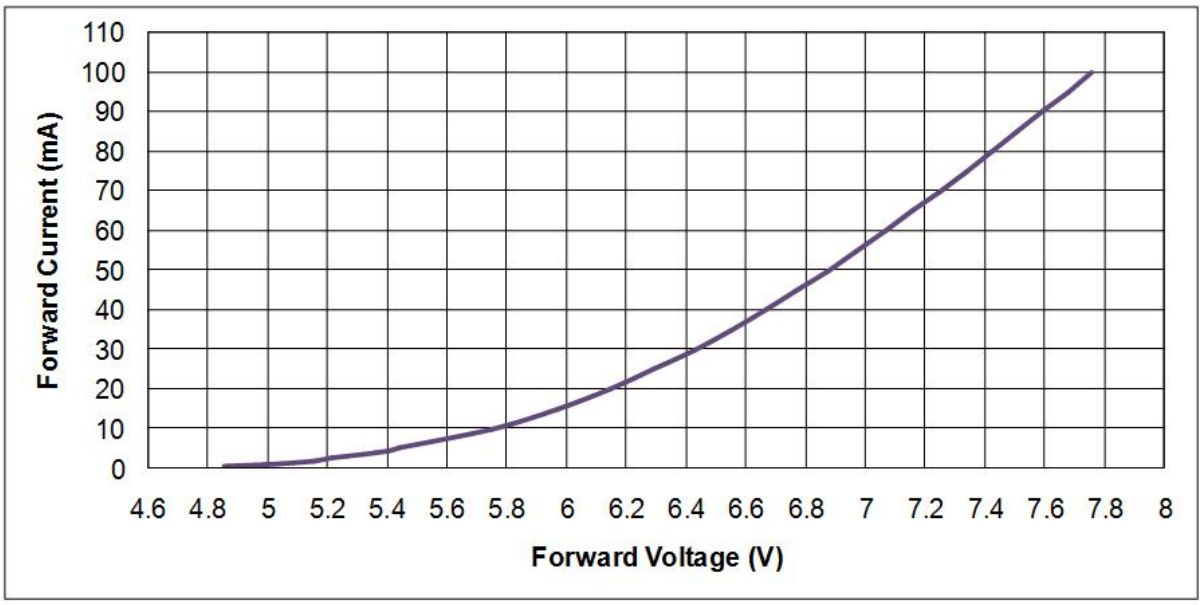
Parameter	Symbol	Min	Typ	Max	Test Condition	Unit
Peak wavelength	λ_p	265	-	278	I_F = 50mA	nm
Radiant Flux	Φ_e	2.5	4	-		mW
Radiant Irradiance	E_e	-	6.5	-		mW/cm^2
Forward Voltage	V_F	5	6	9		V
Spectra half-width	$\Delta\lambda$	-	15	-		nm

Note

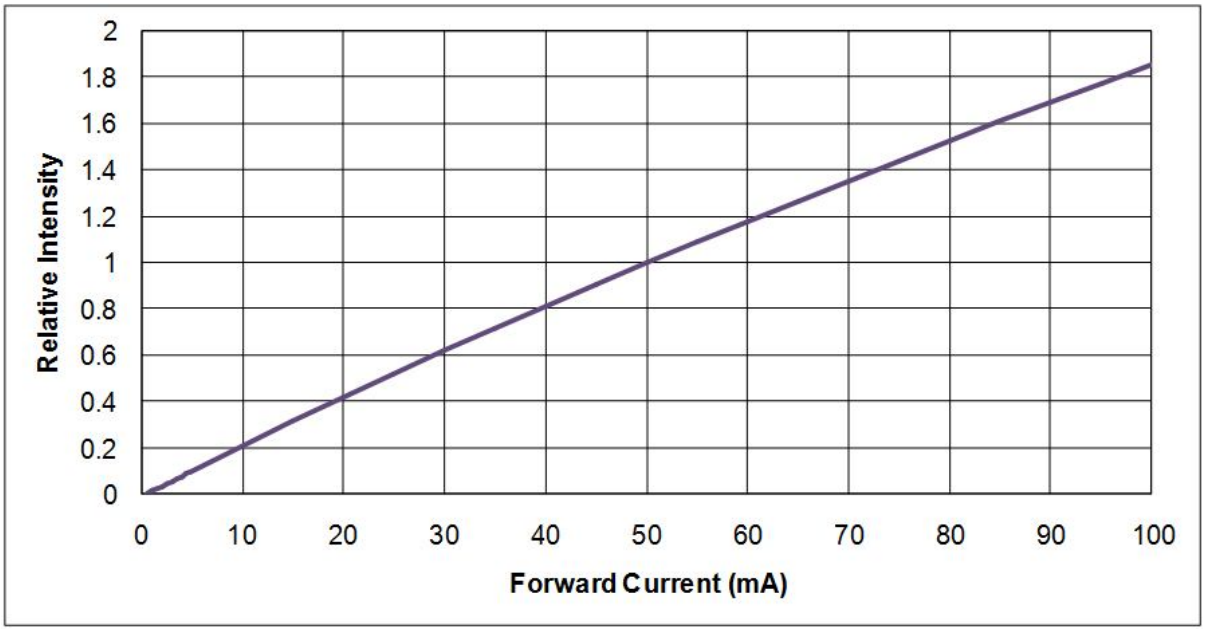
1. Forward voltage measurement allowance is ± 0.2V.
2. Radiant flux measurement allowance is ± 10%.
3. Irradiance tested at a distance 10mm from lens top.
4. Wavelength measurement allowance is ± 3nm.

Characteristic Diagram

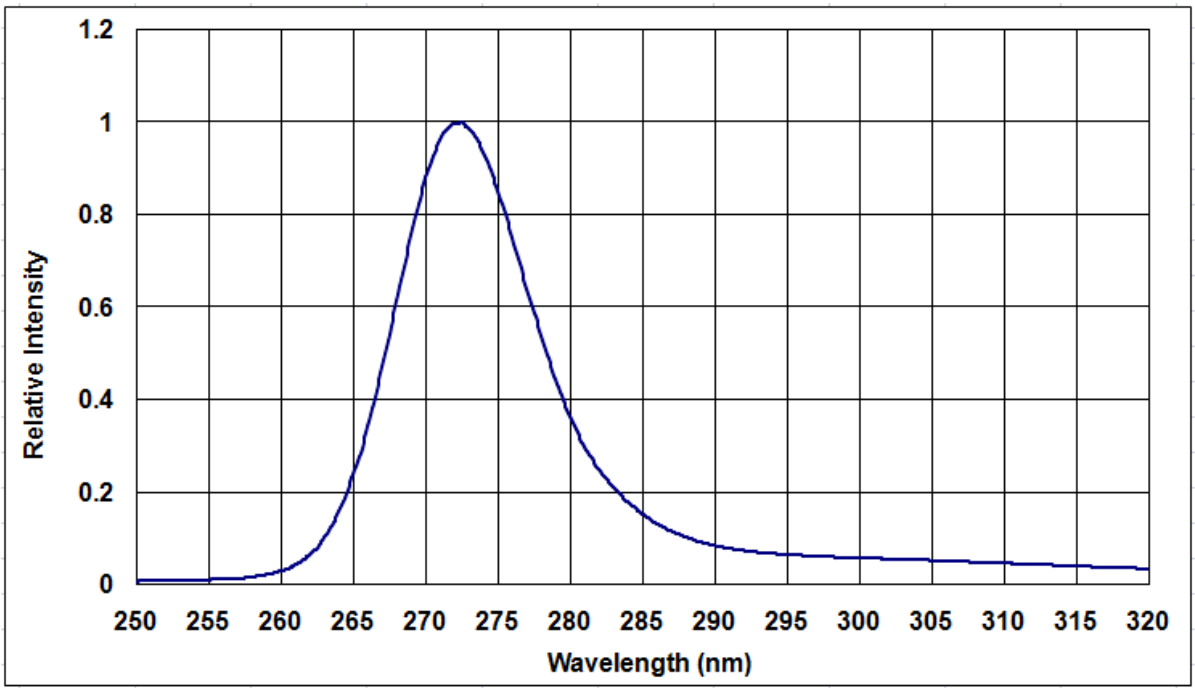
- **Forward Current vs. Forward Voltage**



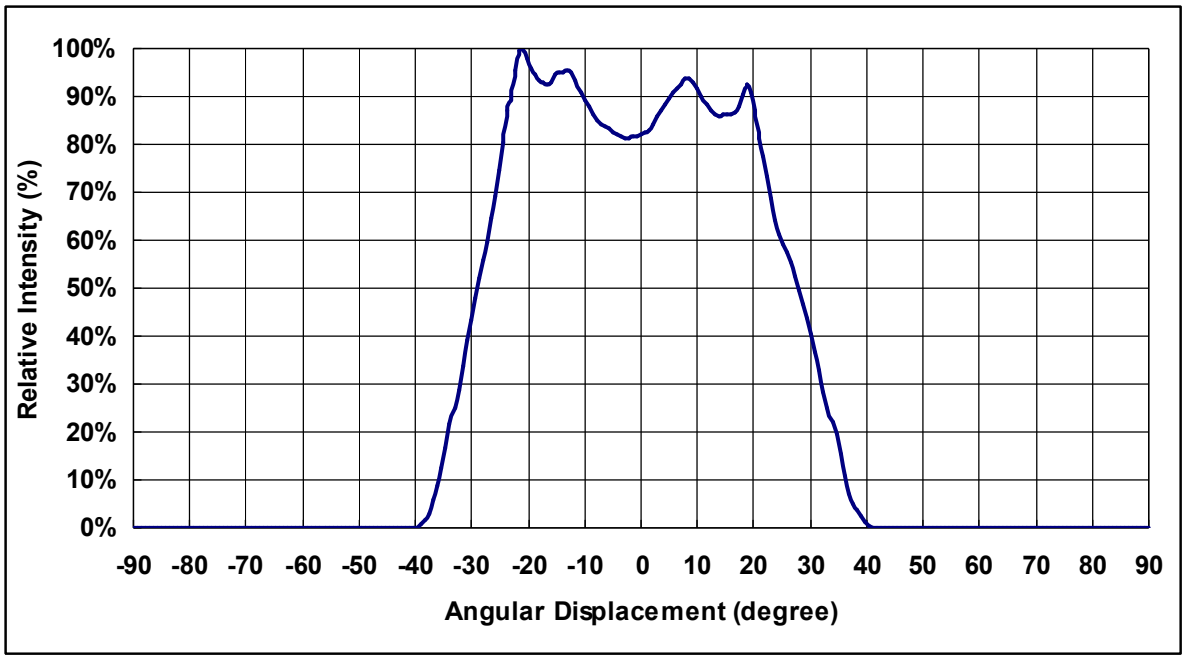
- **Relative Intensity vs. Forward Current**



- **Spectral Power Distribution**



- **Typical Radiation Pattern**



- **Bin Code List for Reference**

(Tj=25℃)

Item	Bin code	Symbol	Condition	Min.	Max.	Unit
Forward Voltage	E0	V_F	I_F =50 [mA]	**5**	**5.5**	**V**
	E5			**5.5**	**6**	
	F0			**6**	**6.5**	
	F5			**6.5**	**7**	
	G0			**7**	**7.5**	
	G5			**7.5**	**8**	
	H0			**8**	**8.5**	
	H5			**8.5**	**9**	
Radiant Flux	A25	Φ_e	I_F =50 [mA]	**2.5**	**6.5**	**mW**

※ Rank name : E5A25

- Forward Voltage = E5
- Radiant Flux = A25

Outline Dimension

B44RD7C1CS0

Unit : mm

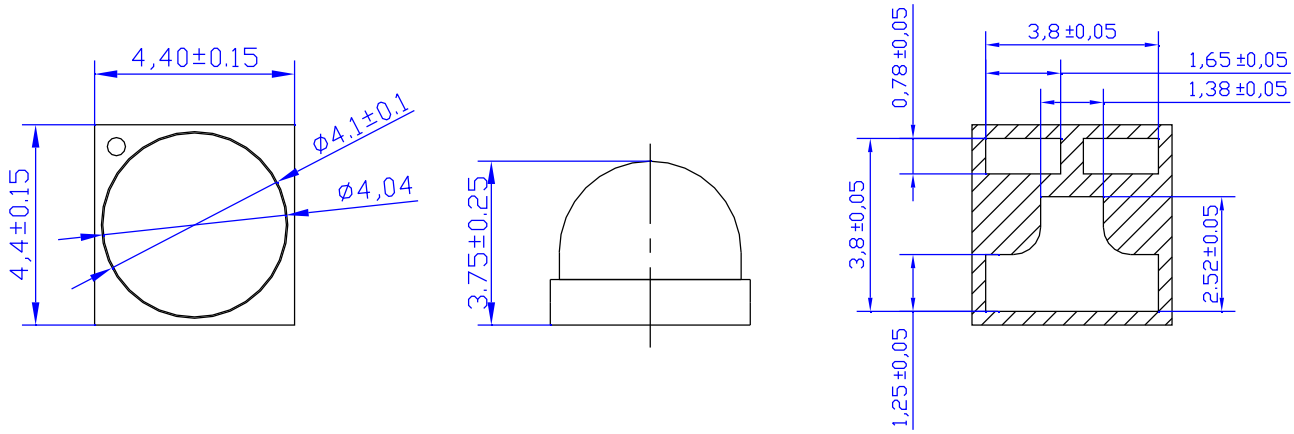
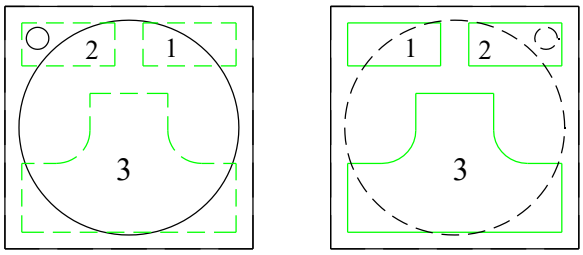


Fig. Package Outline Drawing.

Pad Configuration

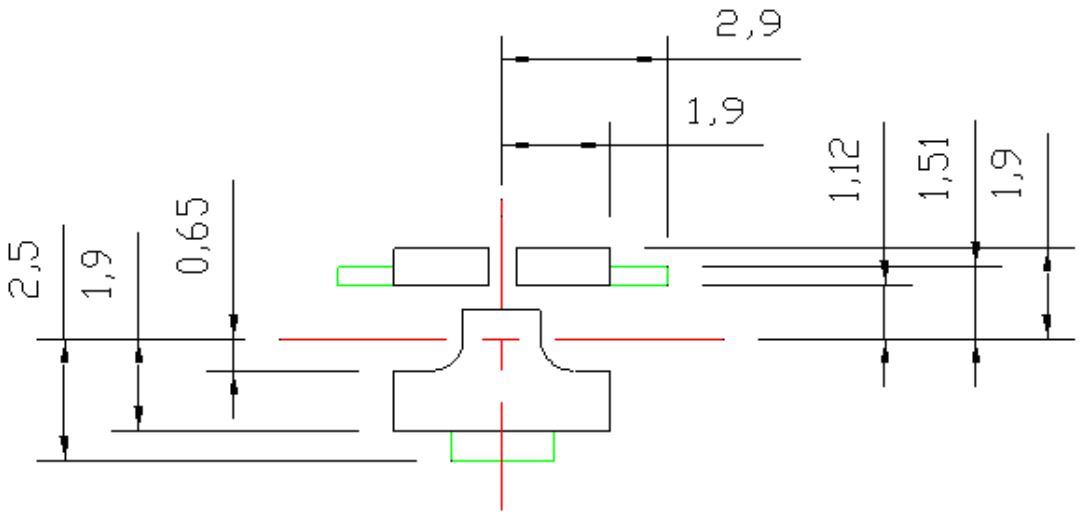


TOP **BOTTOM**

PAD	Function
1	Cathode
2	Anode
3	Thermal

Fig. Pad configuration.

Recommended Solder Pattern



SOLDER MASK **COPPER LAYER**

Fig. Solder Pad Layout.

Shipping Package Style

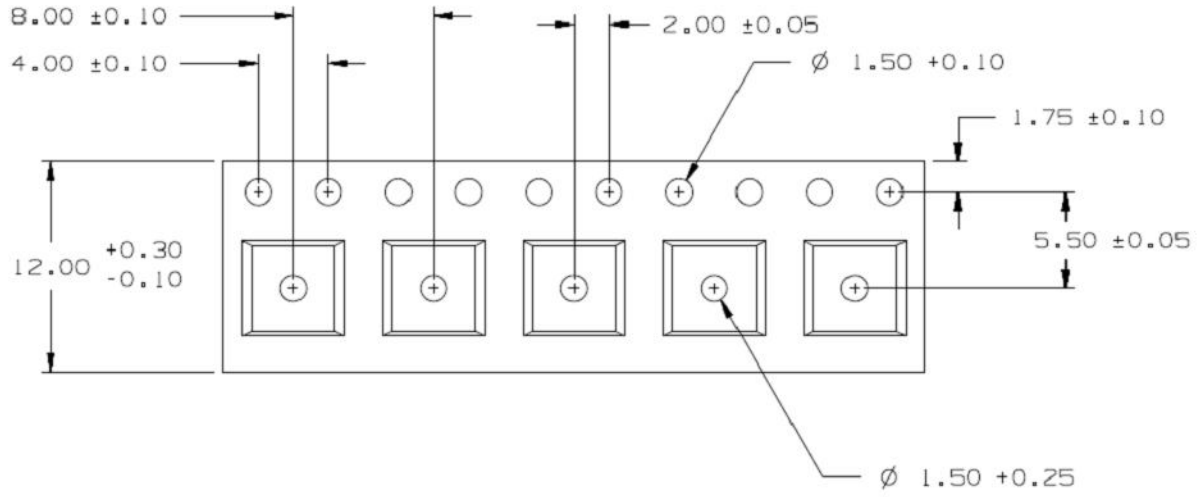
Lens Type

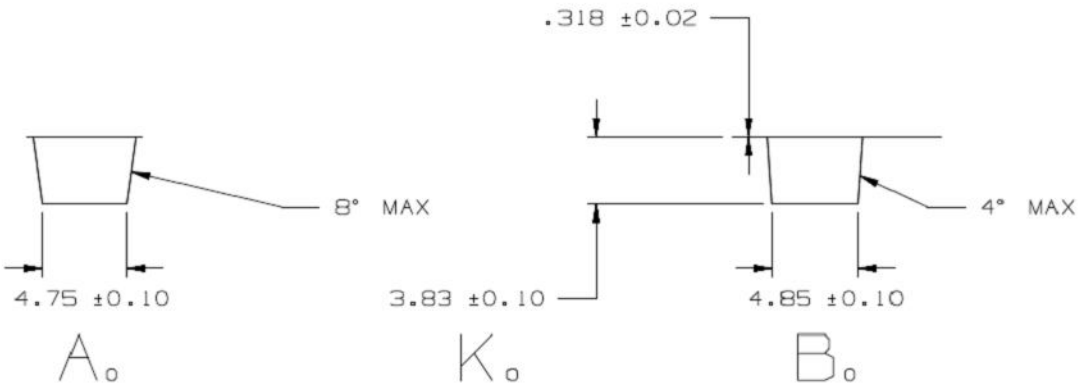
Tapping Dimension Packaging Specification

60 Degree Lens Type :

- Moisture proof bag.
- 1 Reel/bag.
- Q'ty: 650 (MAX)/Reel.

Unit : mm





Label Formation

P/N: XXXXXXXXXXXXXX	BIN Rank : XXXXXXXXXX
LOT: XXXXXXXXXXXXXX	Q'ty : XXXX PCS XXX

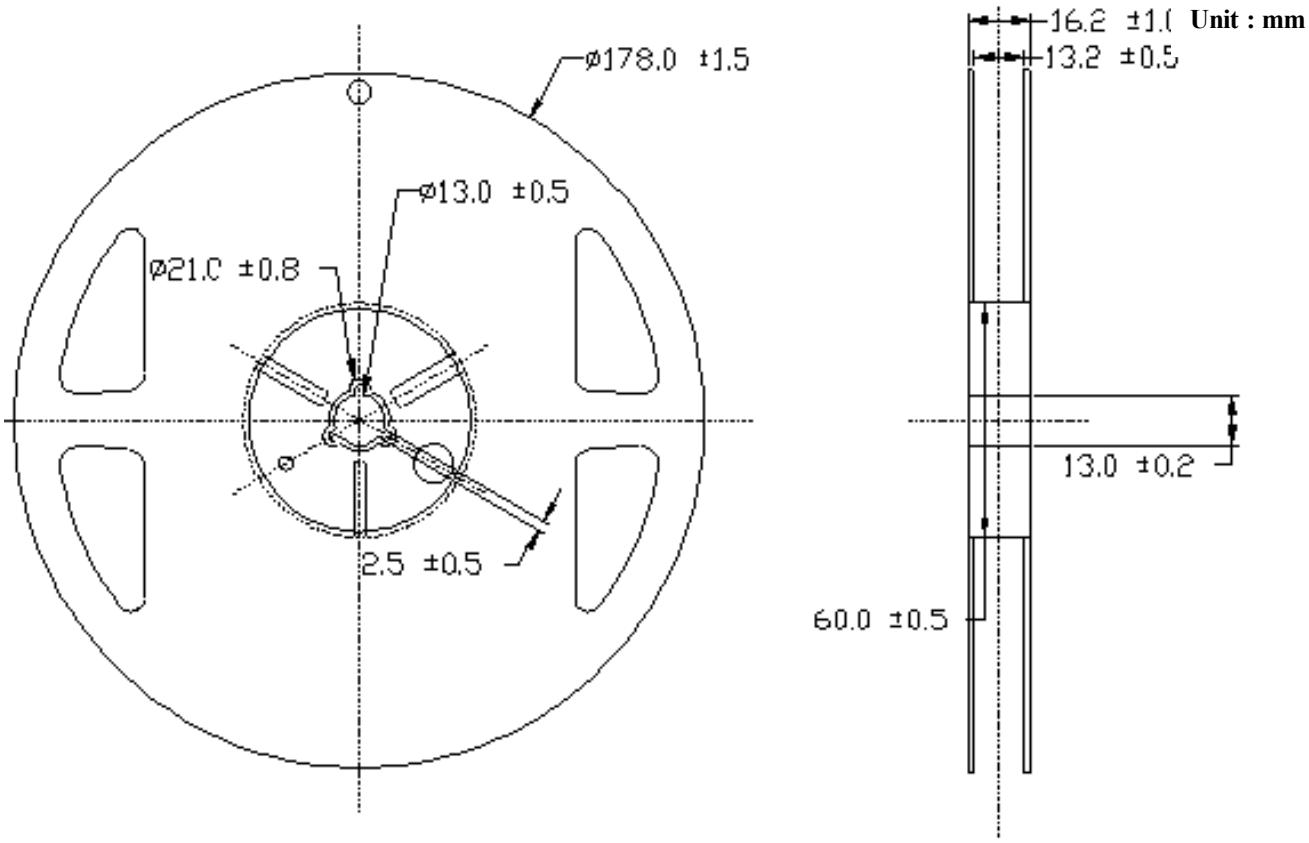
75mm*8mm

Package

Box Type	Dimension (mm)	Reel/Box	60°Lens Type(Pcs)
Small Box(S)	230x85x265	5 Reel/Box	3250
Middle Box(M)	470x265x270	30 Reel/Box	19500
Large Box(L)	470x435x270	50 Reel/Box	32500

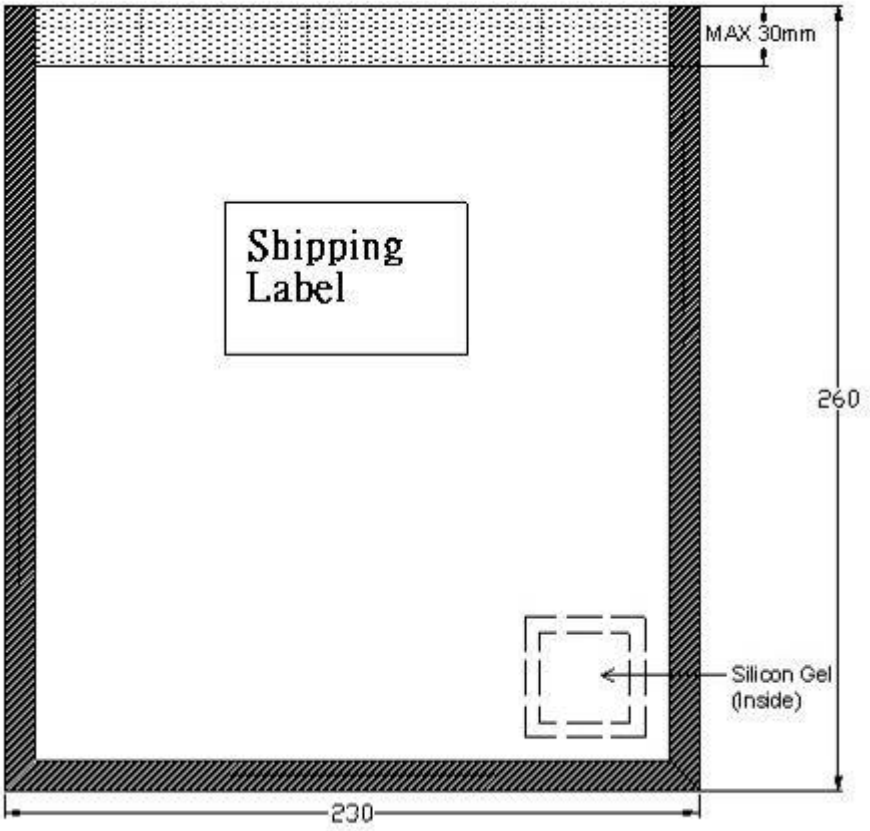
Reel Packaging :

Reel Part :



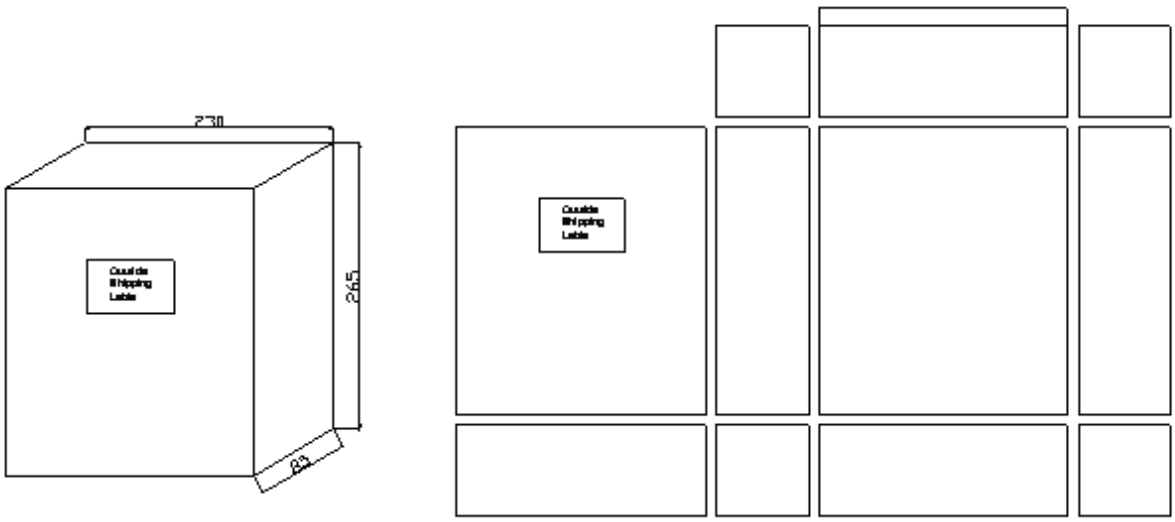
Anti Statistic Bag :

Unit : mm



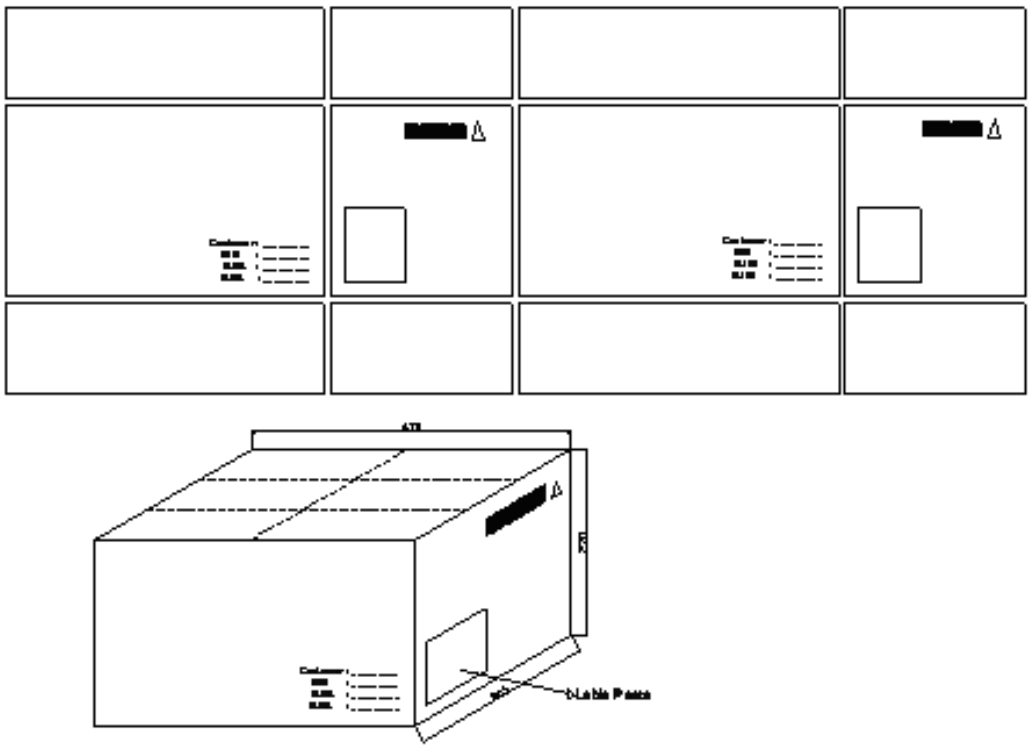
Small Box

Unit : mm



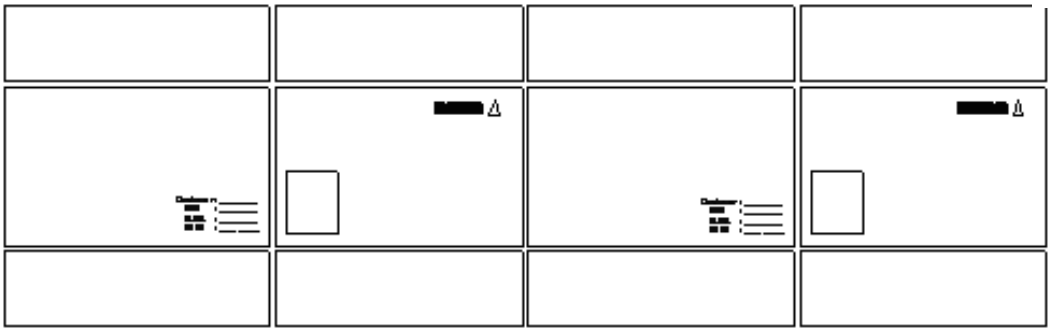
Middle Box

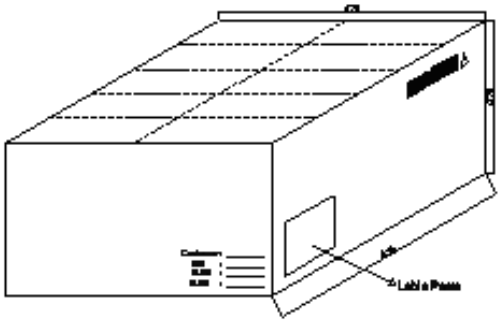
Unit : mm



Large Box

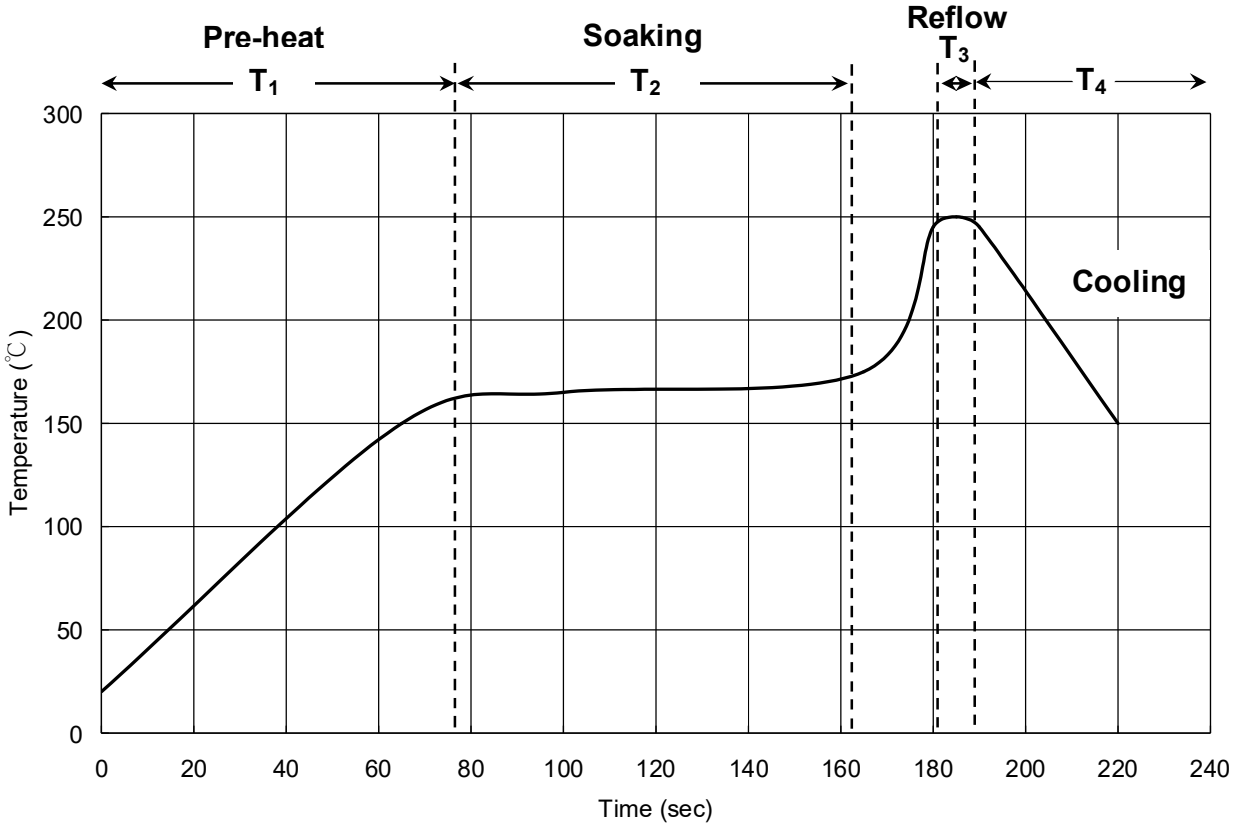
Unit : mm





Recommended Solder Profile

Soldering Recommended soldering conditions:



T_1	Ramp up rate	1.0 ~ 3.0 ℃/sec
	Pre-heat time	50 ~ 80 sec
T_2	Soaking temperature	155 ~ 185 ℃
	Dwell time during soaking	60 ~ 120 sec
T_3	Reflow temperature	240 ~ 250 ℃
	Reflow time	Max 10 sec
	Ramp up rate during reflow	1.2 ~ 2.3 ℃/sec
T_4	Cooling	1.0 ~ 6.0 ℃/sec

Note: Suggest using Sn96Ag3Cu0.5 lead free solder.

Cleaning

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

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