■ Maximum rating (Ta : 25℃)

Characteristics	Symbol	Min.	Typical	Max.	Unit
DC Forward Current[1]	I_F	---	500	1,000	mA
Pulse Current(@1/10 duty) [2]	Ip	---	---	1,200	mA
Forward Voltage	VF	3.1	---	3.9	V
Reverse Voltage	VR	---	---	-5	V
Leakage Current (5V)	IR	---	---	10	μA
Junction Temperature[3]	Tj	---	--	85	℃
Storage Temperature Range	Tsto	-40	–	100	℃
Soldering Temperature	Tsol		---	260	℃
Thermal Resistance Junction / Solder Point	Rth	---	10	---	℃/W
Beam Angle	2θ1/2	---	30 60 120	---	Deg

✧ Notes:

1. For other ambient, limited setting of current will depend on de-rating curves.
2. D=0.01s duty 1/10.
3. When driving at maximum current the Tj must be kept below 85℃
4. Viewing angle($2\theta_{1/2}$) ± 10°

■ Product list

Peak Wavelength Range	Beam Angle	Part Number
365~370nm	30°	YS-3535V365DF0300
	60°	YS-3535V365CF0300
	120°	YS-3535V365AF0300
380~390nm	30°	YS-3535V385DF0300
	60°	YS-3535V385CF0300
	120°	YS-3535V385AF0300
390~400nm	30°	YS-3535V395DF0300
	60°	YS-3535V395CF0300
	120°	YS-3535V395AF0300
400~410nm	30°	YS-3535V405DF0300
	60°	YS-3535V405CF0300
	120°	YS-3535V405AF0300

■ Peak-wavelength binning

Peak Wavelength		unit: nm@500mA
Bin Code	**Min**	**Max**
R1	365.0	370.0
S1	380.0	382.5
S2	382.5	385.0
S3	385.0	387.5
S4	387.5	390.0
T1	390.0	392.5
T2	392.5	395.0
T3	395.0	397.5
T4	397.5	400.0
U1	400.0	402.5
U2	402.5	405.0
U3	405.0	407.5
U4	407.5	410.0

✧ Notes: 1.Binning current is 500mA
2.Wavelength tolerance ± 2nm

■ Voltage binning

Voltage			unit: V@500mA
Peak Wavelength	**Bin Code**	**Min**	**Max**
365nm	V2	3.3	3.4
	V3	3.4	3.5
	V4	3.5	3.6
	V5	3.6	3.7
	V6	3.7	3.8
385nm	V1	3.2	3.3
	V2	3.3	3.4
	V3	3.4	3.5
	V4	3.5	3.6
	V5	3.6	3.7
395nm	V1	3.2	3.3
	V2	3.3	3.4
	V3	3.4	3.5
	V4	3.5	3.6
	V5	3.6	3.7
405nm	V1	3.2	3.3
	V2	3.3	3.4
	V3	3.4	3.5
	V4	3.5	3.6
	V5	3.6	3.7

✧ Notes:

1. Binning current is 500mA
2. Voltage tolerance ± 0.06 mm

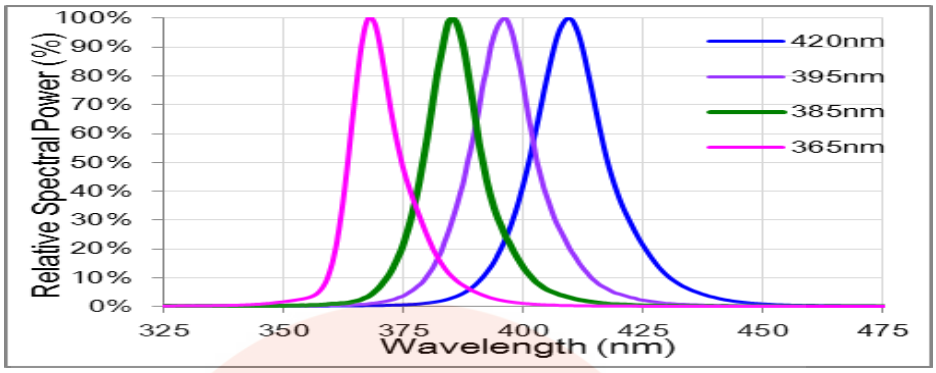
■ Radiant flux (Power) binning

Peak Wavelength	Radiant flux (Power) unit: mw@500mA		
	Bin Code	Min	Max
365nm	A4	420	460
	A5	460	500
	A6	500	540
	A7	540	580
	A8	580	620
	A9	620	660
385nm	B5	820	860
	B6	860	900
	B7	900	1000
	B8	1000	1080
	B9	1080	1160
395nm	B5	820	860
	B6	860	900
	B7	900	1000
	B8	1000	1080
	B9	1080	1160
405nm	B5	820	860
	B6	860	900
	B7	900	1000
	B8	1000	1080
	B9	1080	1160

✧ Notes:

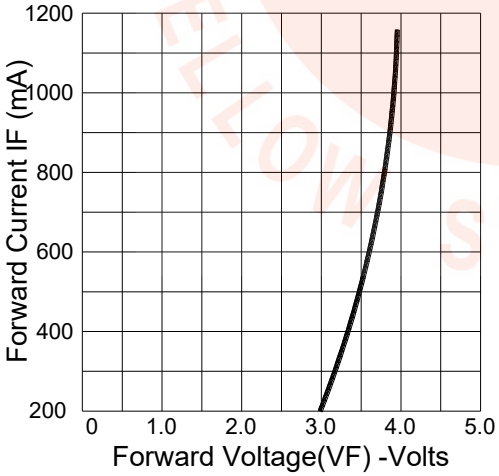
1. Binning current is 500mA
2. Power tolerance ± 50mw

■ Relative Spectral Power Distribution

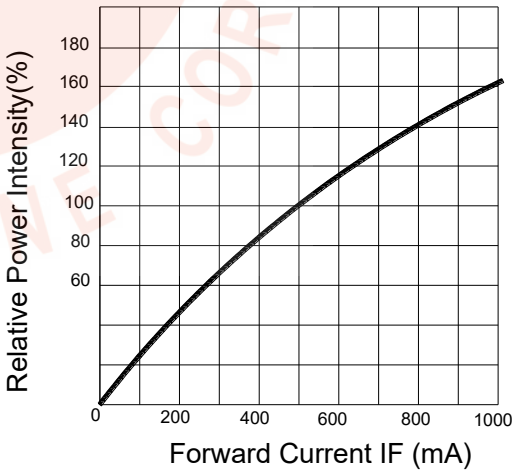


■ Electronic-optical characteristics

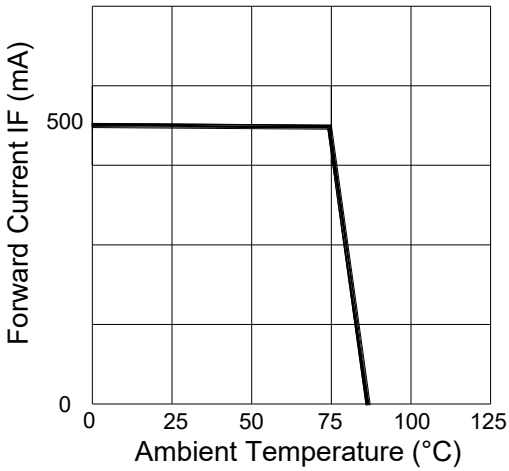
Forward Current VS. Forward Voltage



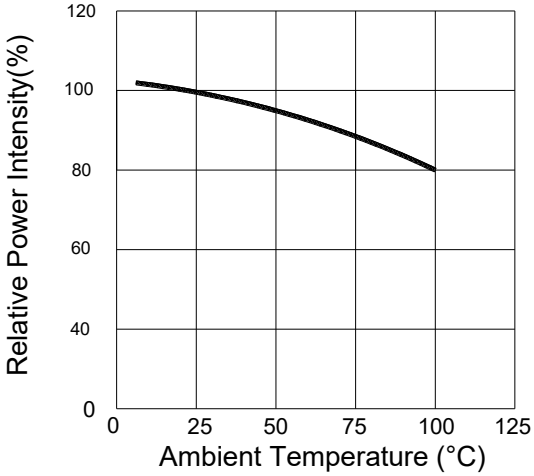
Luminous Intensity VS. Forward Current



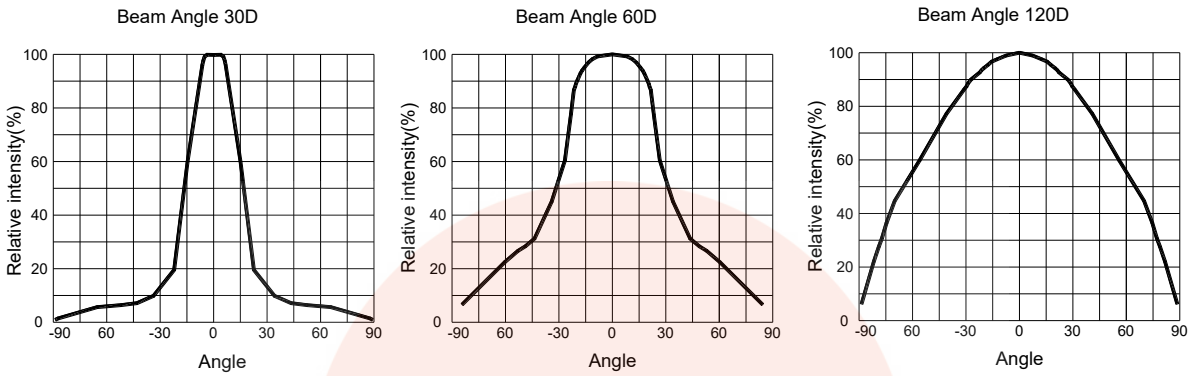
Forward Current VS. Ambient Temperature



Radiant Power VS. Ambient Temperature



■ Beam angle ($2\theta_{1/2}$)

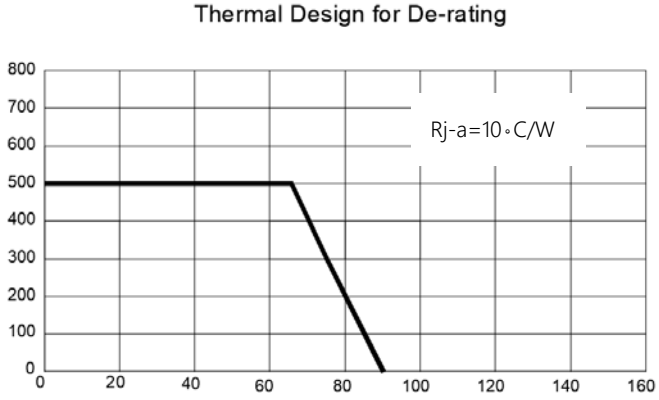


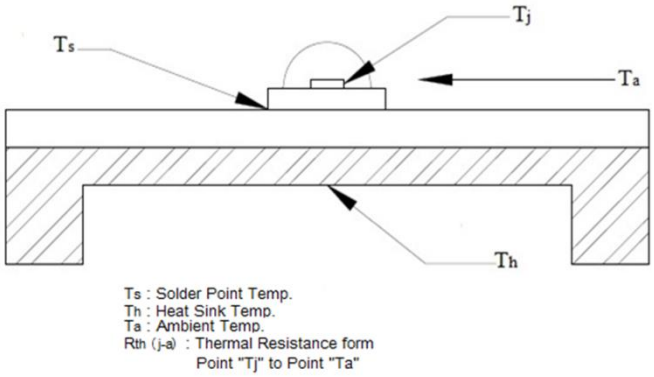
✧ Notes:

Viewing angle($2\theta_{1/2}$) ± 10°

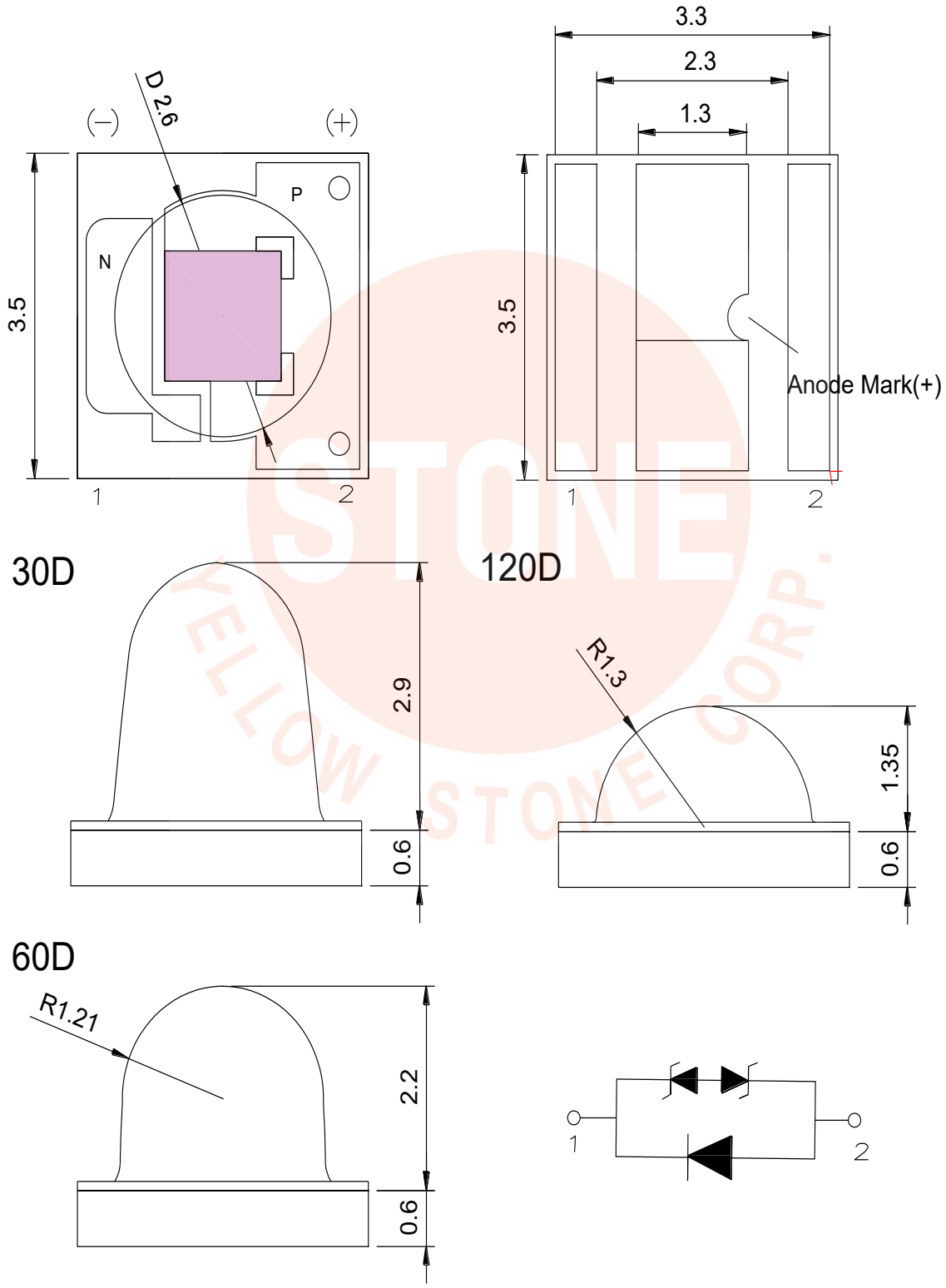
■ Thermal design for de-rating

The maximum forward current is determined by the thermal resistance between the LED junction and solder point. It is crucial for the end product to be designed in a manner that minimizes the thermal resistance from the junction to the solder point order to optimize LED life and optical characteristics.





■ Dimensions

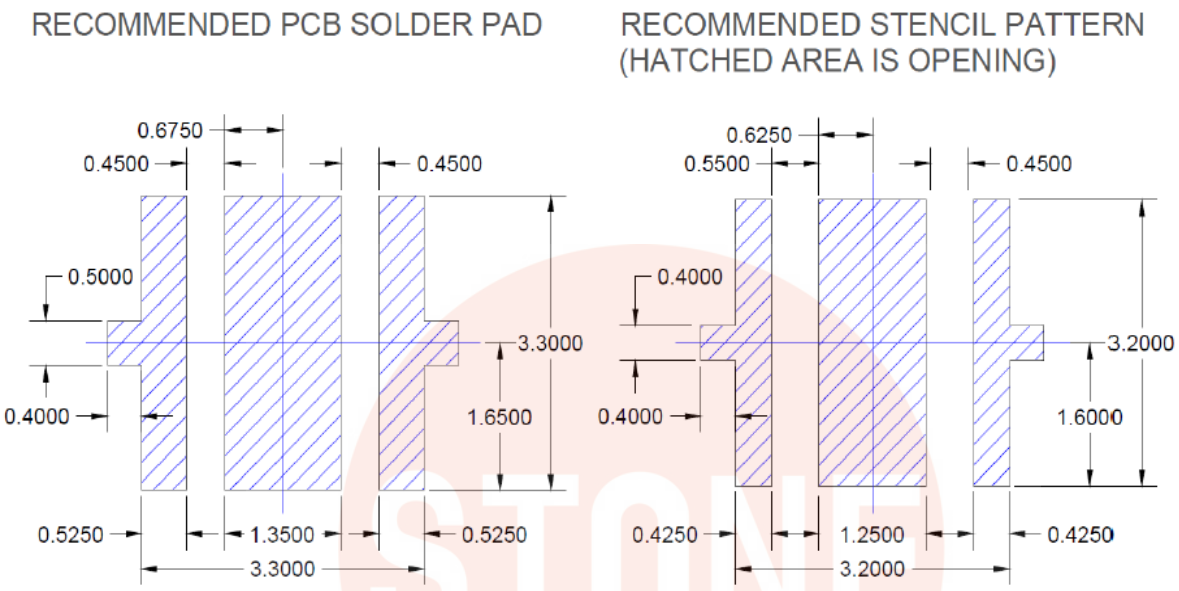


✧ Notes:

§ All dimensions are in millimeters.

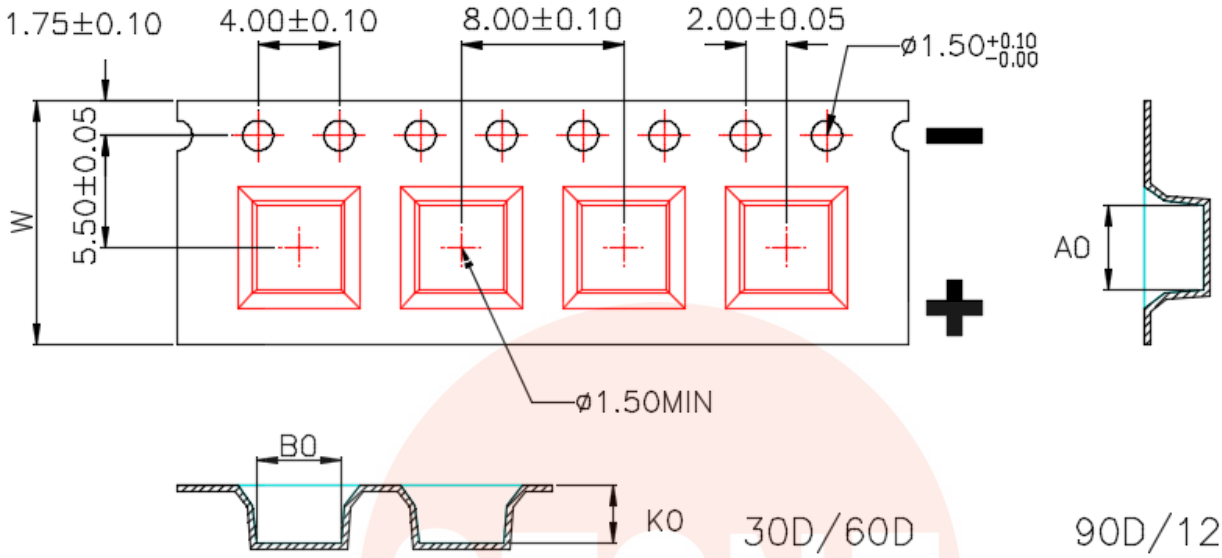
§ Tolerance is ±0.13mm unless other specified.

■ Suggest stencil pattern (Recommendations for reference)



§ Suggest stencil t =0.12 mm

■ Packing



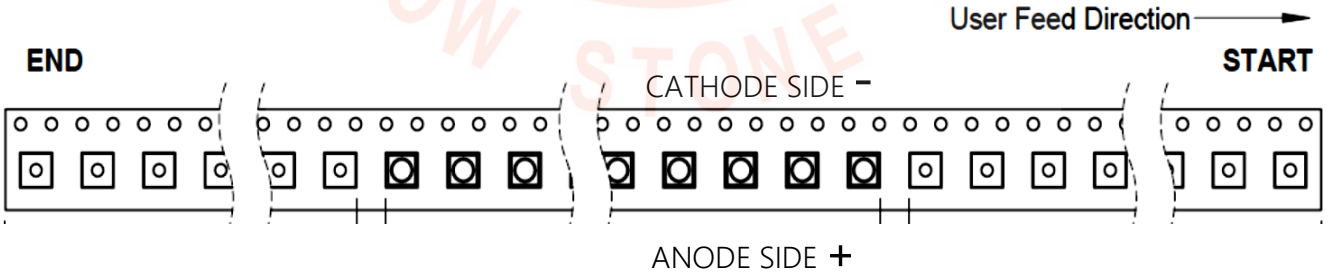
1. 10 sprocket hole pitch cumulative tolerance ±0.20.
2. Carrier camber is within 1 mm in 250 mm.
3. Material : Black Conductive Polystyrene Alloy.
4. All dimensions meet EIA-481-D requirements.
5. Thickness : 0.30±0.05mm.
6. Packing length per 22 " reel : 62.5 Meters(1:3).
7. Component load per 7" reel : 400~1000 pcs.

30D/60D

W	12.00±0.30
A0	3.70±0.10
B0	3.70±0.10
K0	3.15±0.10

90D/120D

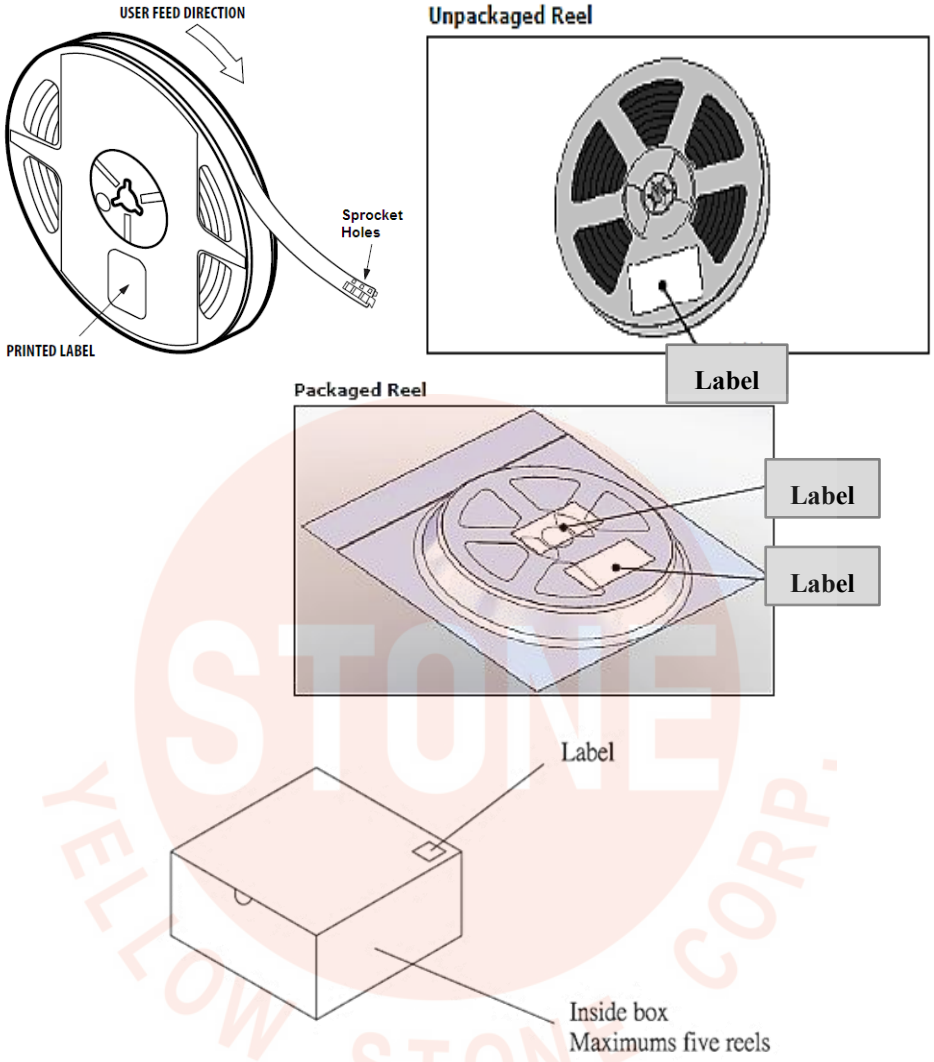
W	12.00±0.30
A0	3.67±0.10
B0	3.60±0.10
K0	2.20±0.10



Trailer 160mm (min) of empty pockets sealed

Loaded Pockets (500 or 1000 pcs)

Leader 400mm (min) of empty pockets sealed



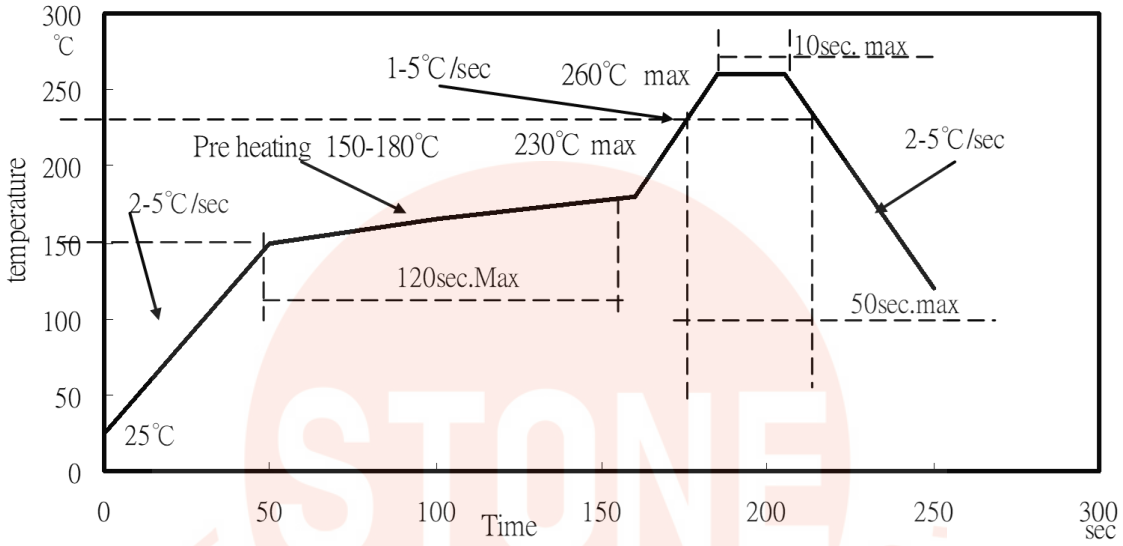
Notes:

1. Each Reel (minimum number of pieces is 100 and maximum is 500 (60D/30D)/1000 (90D/120D) is packed in a moisture-proof bag along with 1 packs of desiccant and a humidity indicator card;
2. A maximum of 6 moisture-proof bags are packed in an inner box (size: 240mm x 200mm x 105mm ±5mm)
3. A maximum of 4 inner boxes are put in an outer box (size: 410mm x 255mm x 230mm ±5mm)
4. Part No., Lot No., quantity should be indicated on the label of the moisture-proof bag and the cardboard box.

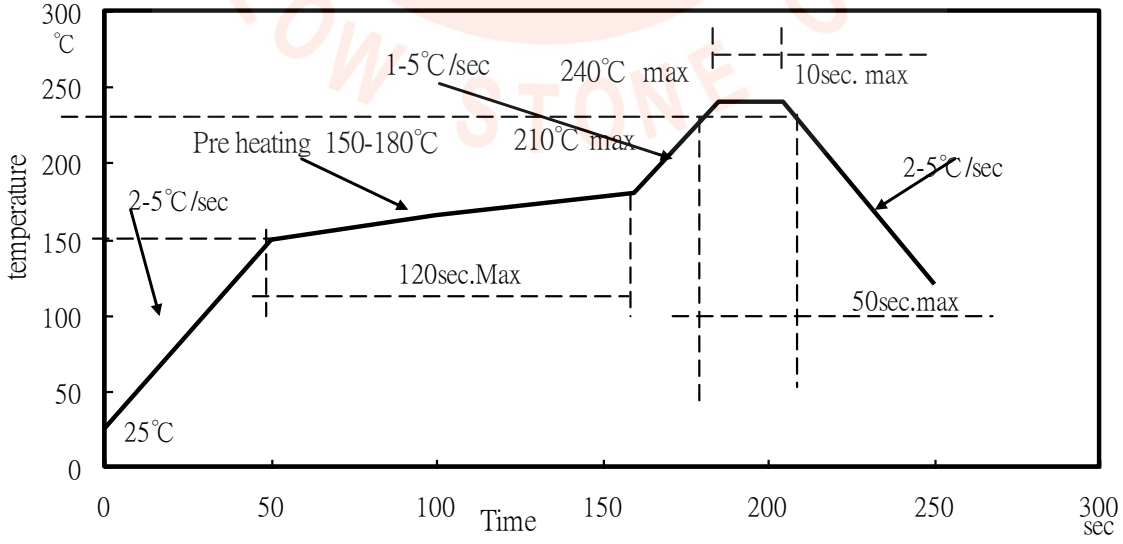
■ Reflow Profile

IR reflow soldering Profile

Lead Free solder



Lead solder

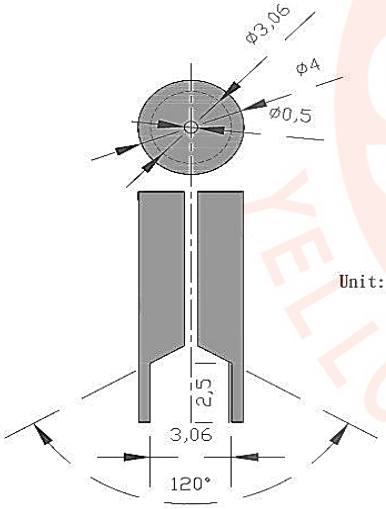


Notes:

1. The recommended reflow temperature is 240℃(±5℃). The maximum soldering temperature should be limited to 260℃.
2. Do not stress the silicone resin while it is exposed to high temperature.
3. The number of reflow process should not exceed 3 times.

■ Precautions

1. Recommendation for using LEDs
   1.1 The lens of LEDs should not be exposed to dust or debris. Excessive dust and debris may cause a drastic decrease in the luminosity.
   1.2 Avoid mechanical stress on LED lens.
   1.3 Do not touch the LED lens surface. It would affect the optical performance of the LED due to the LED lens' damage.
   1.4 Pick & place tools are recommended for the remove of LEDs from the factory tape & reel packaging
2. Pick & place nozzle
   The pickup tool was recommended and shown as below



3. Lens handling
   Please follow the guideline to pick LEDs
   3.1 Use tweezers to pick LEDs
   3.2 Do not touch the lens by using tweezers
   3.3 Do not touch lens with fingers
   3.4 Do not apply more than 4N of lens (400g) directly onto the lens
4. Lens cleaning
   In the case which a small amount of dirt and dust particles remain on the lens surface, a suitable cleaning solution can be applied.
   4.1 Try a gentle wiping with dust-free cloth
   4.2 If needed, use dust-free cloth and isopropyl alcohol to gently clean the dirt from the lens surface.
   4.3 Do not use other solvents as they may directly react with the LED assembly
   4.4 Do not use ultrasonic cleaning which will damage the LEDs

■ Test Items and Results of Reliability

Test Item	Test Conditions	Duration/ Cycle	Number of Damage	Reference
Thermal Shock	–40℃ 30min ↑↓5min 125℃ 30min	100 cycles	0/22	AECQ101
High Temperature Storage	Ta=100℃	1000 hrs	0/22	EIAJ ED-4701 200 201
Humidity Heat Storage	Ta=85℃ RH=85%	1000 hrs	0/22	EIAJ ED-4701 100 103
Low Temperature Storage	Ta=-40℃	1000 hrs	0/22	EIAJ ED-4701 200 202
Life Test	Ta=25℃ If=500mA	1000 hrs	0/22	Tested with standard
High Humidity Heat Life Test	85℃ RH=85% If=500mA	1000 hrs	0/22	Tested with standard
High Temperature Life Test	Ta=85℃	1000 hrs	0/22	Tested with standard
ESD(HBM)	8KV at 1.5kΩ;100pf	3 Times	0/22	MIL-STD-883

Criteria for Judging the Damage				
Item	Symbol	Condition	Criteria for Judgment	
			Min	Max
Forward Voltage	VF	If=500mA	LSL ×0.9	USL ×1.1
Reverse Current	IR	VR =5V	_	100μA
Luminous Intensity	Iv	If=500mA	LSL ×0.7	USL ×1.2

Notes:

1. USL: Upper specification level
2. LSL: Lower specification level