PRODUCT SPECIFICATION

Model No.: FYLS-505UW3CXX

Features:

- SMD Type
- Size (mm):5.40*5.00*1.65
- Emitting Color: White.
- Lens Color: Yellow Diffused.
- SMT package
- Suitable for all SMT assembly and soldering method
- Pb-free Reflow soldering application
- RoHS Compliant
- MSL:6

Applications:

- Light Strips
- LCD Backlight
- Decorative lighting
- Indicators
- Interior automotive
- Illuminations
- Mobile Phones

CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

NINGBO FORYARD OPTOELECTRONICS CO.,LTD.
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Tel: 0086-574-87933652 87927870
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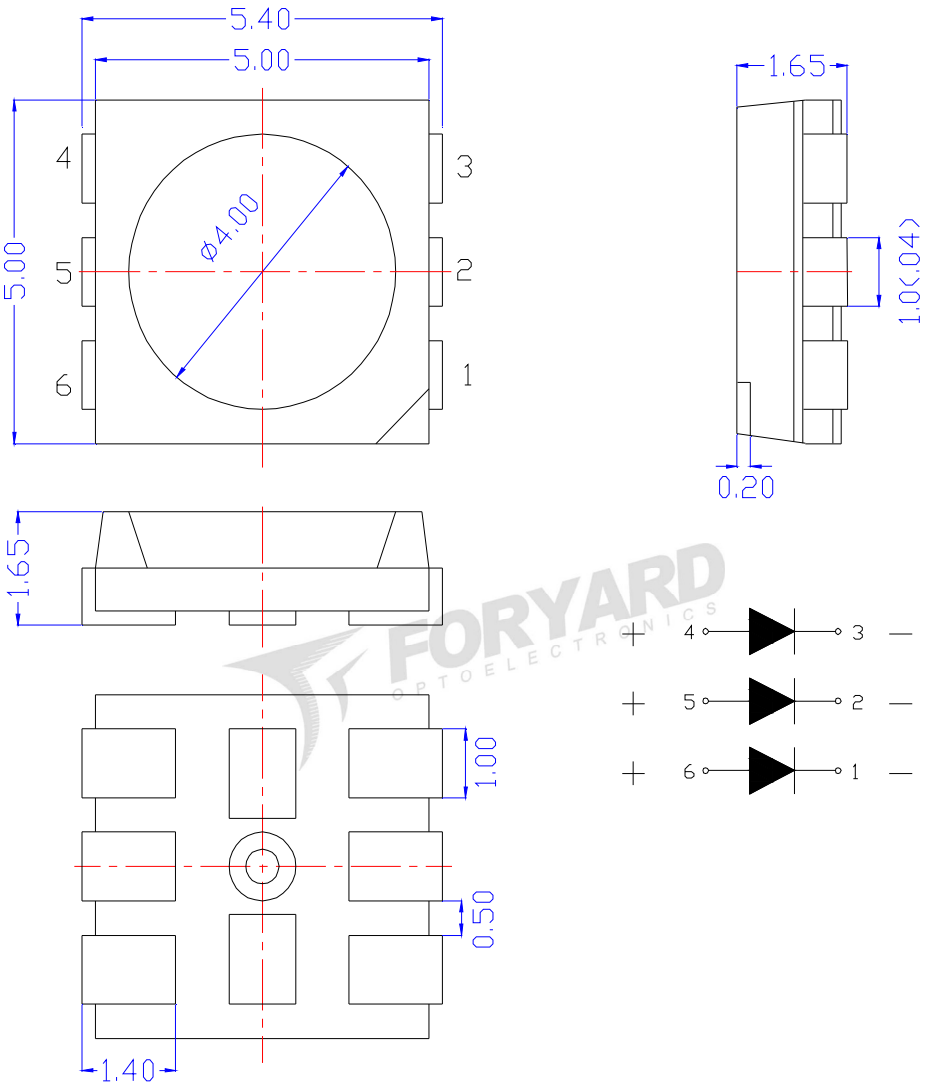
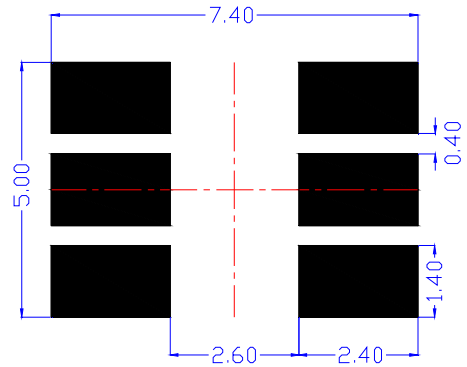
Model No.：FYLS-505UW3CXX

■ Mechanical Dimensions



■ Recommend Soldering pad design(unit=mm)



Notes:

1. Dimension in millimeter, tolerance is ±0.10.

2.Angle:±5°

3.The specifications,characteristics and technical data described in the datasheet are subject to change without prior notice.

4.The drawing is different from the actual one, please refer to the sample.

Model No.: FYLS-505UW3CXX

■ Absolute Maximun Ratings(Ta=25ºC)

Parameter	Symbol	MAX.	Unit
Power Dissipation	PD	360	mW
Peak Forward Current*	IFP	300	mA
Continuous Forward Current	IF	90	mA
Reverse Voltage	VR	5	V
Operating Temperature Range	Topr	-40~ +85	℃
Storage Temperature Range	Tstg	-40~ +85	℃

*1/10 Duty Cycle, 0.1ms Pulse Width

■ Typical Electrical &Optical Charcteristics(Ta=25ºC)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	IF=60mA	2.8	3	3.6	V
Reverse Current	I_R	VR=5V	---	---	10	μA
Chromaticity coordinates	X	IF=60mA	---	0.38	---	---
	Y	IF=60mA	---	0.38	---	---
Color temperature	CCT	IF=60mA	2600	4000	6000	K
Luminous Flux	Φ	IF=60mA	24	---	30	Lm
Color Rendering Index	Ra	IF=60mA	70	---	80	---
Viewing Angle	$2\theta_{1/2}$	IF=60mA	---	120	---	Deg

■ Material

Item	Reflector	Wire	Encapsulate	Chip
Material	PPA	Gold	Silicone	InGaN/GaN

Note:

1.Luminous Intensity is based on the Foryard standards.

2.Pay attention about static for InGaN

■The Luminous Intensity Grade of Products(Unit: Lm) ;Test Condition：IF=60mA,Ta=25℃

Code	B20	B21	B22
Luminous Flux (Lm)	24~26	26~28	28~30

Tolerance of measurement of luminous intensity is ±15%

■Forward Voltage Grade of Products (Unit: V); Test Condition：IF=60mA,Ta=25℃

Code	7	8	9	10
Forward Voltage(V)	2.8~3.0	3.0~3.2	3.2~3.4	3.4~3.6

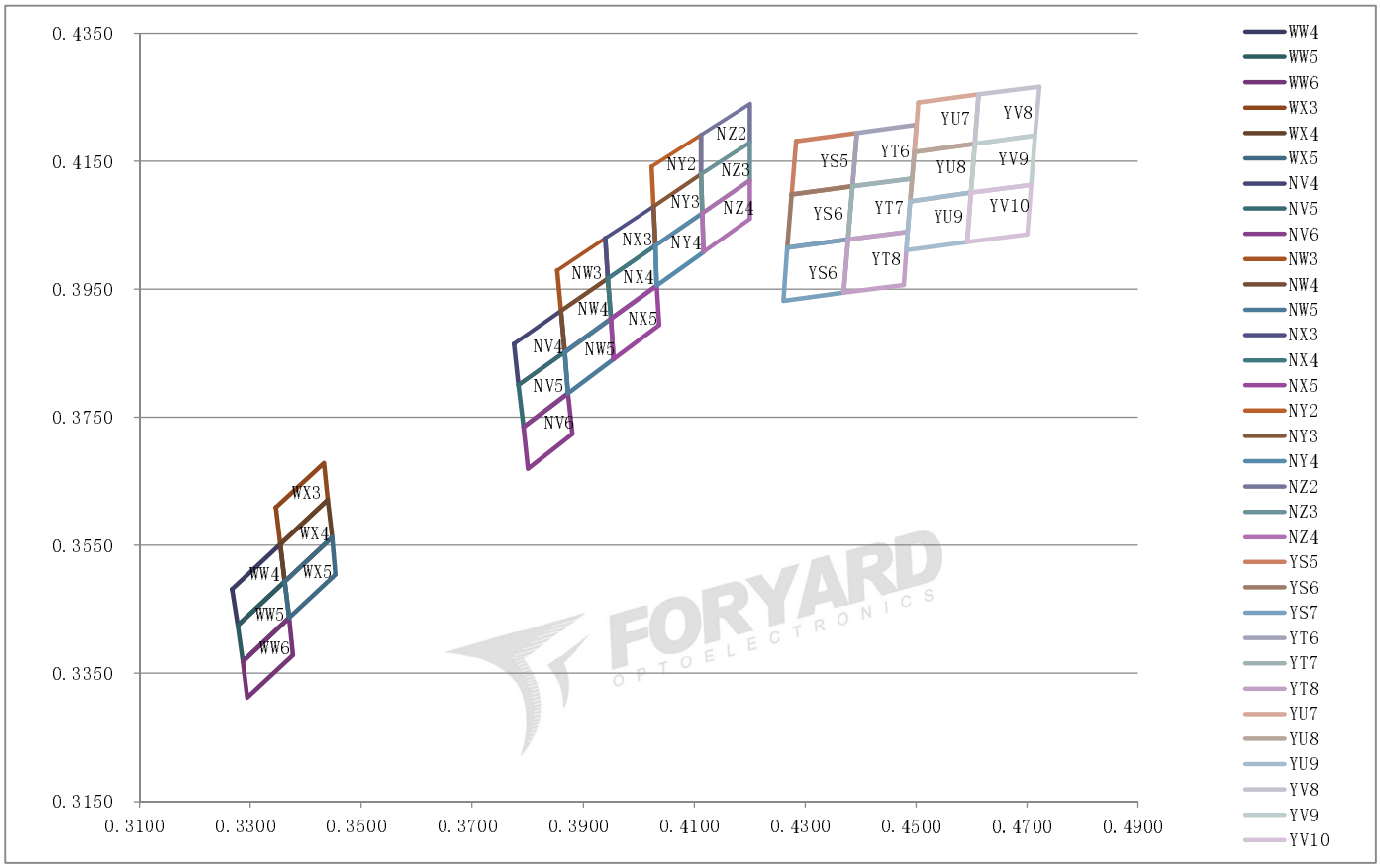
Tolerance of measurement of forward voltage is ±0.1V

Model No.:	Color temperature (CCT) Unit:K			Luminous Flux (Φ) Unit:Lm		
	Min.	Typ.	Max.	Min.	Typ.	Max.
FYLS-5050UW3C50	5000	---	6000	4360	26	30
FYLS-5050UW3C38	3800	---	4200	4360	26	30
FYLS-5050UW3C32	3200	---	3650	4360	26	30
FYLS-5050UW3C28	2800	---	3200	4360	26	30
FYLS-5050UW3C26	2600	---	3000	4360	26	30

Model No.: FYLS-505UW3CXX

■ Chromaticity Coordinate Grade of White Chip-LED Products

Test Condition:@IF=60mA Ta=25℃



Model No.: FYLS-505UW3CXX

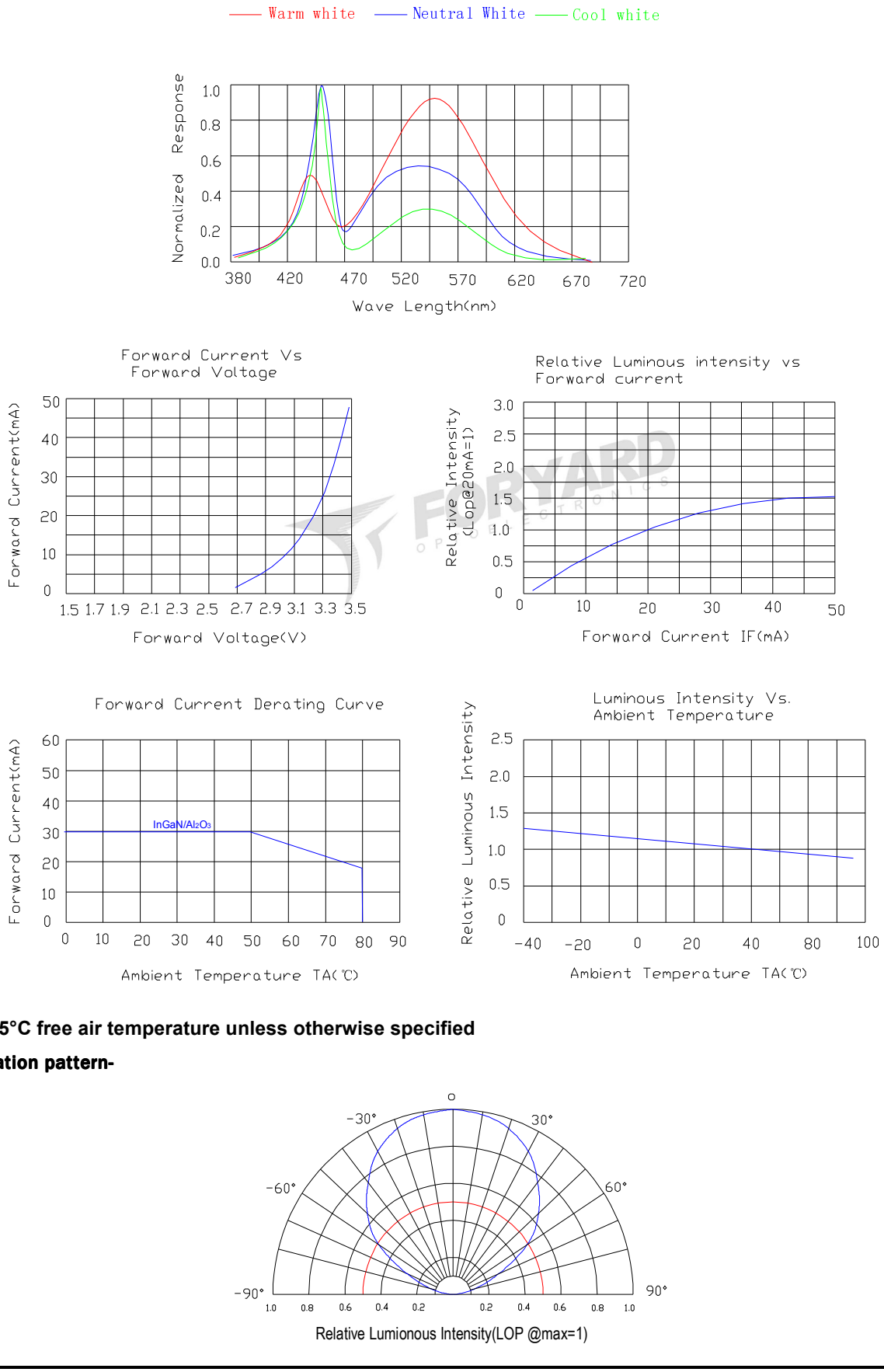
■ Chromaticity Coordinate Grade of White Chip-LED Products

Test Condition:@IF=60mA Ta=25℃

BIN	CIE	Top	Right	Bottom	Left	BIN	CIE	Top	Right	Bottom	Left
5000-6000K											
WW4	X	0.3267	0.3354	0.3362	0.3277	WX3	X	0.3346	0.3433	0.3440	0.3354
	Y	0.3482	0.3552	0.3494	0.3425		Y	0.3609	0.3679	0.3621	0.3552
WW5	X	0.3277	0.3362	0.3370	0.3286	WX4	X	0.3354	0.3440	0.3447	0.3362
	Y	0.3425	0.3494	0.3437	0.3369		Y	0.3552	0.3621	0.3563	0.3494
WW6	X	0.3286	0.3370	0.3377	0.3295	WX5	X	0.3362	0.3447	0.3453	0.3370
	Y	0.3369	0.3437	0.3379	0.3312		Y	0.3494	0.3563	0.3504	0.3437
3800-4200K											
NV4	X	0.3775	0.3860	0.3867	0.3783	NW3	X	0.3853	0.3940	0.3945	0.3860
	Y	0.3865	0.3916	0.3852	0.3800		Y	0.3980	0.4030	0.3967	0.3916
NV5	X	0.3783	0.3867	0.3873	0.3792	NW4	X	0.3860	0.3945	0.3950	0.3867
	Y	0.3800	0.3852	0.3788	0.3735		Y	0.3916	0.3967	0.3904	0.3852
NV6	X	0.3792	0.3873	0.3880	0.3800	NW5	X	0.3867	0.3950	0.3955	0.3873
	Y	0.3735	0.3788	0.3724	0.3670		Y	0.3852	0.3904	0.3841	0.3788
3200-3650K											
NX3	X	0.3940	0.4027	0.4030	0.3945	NY2	X	0.4023	0.4112	0.4113	0.4027
	Y	0.4030	0.4080	0.4018	0.3967		Y	0.4142	0.4191	0.4130	0.4080
NX4	X	0.3945	0.4030	0.4033	0.3950	NY3	X	0.4027	0.4113	0.4115	0.4030
	Y	0.3967	0.4018	0.3956	0.3904		Y	0.4080	0.4130	0.4069	0.4018
NX5	X	0.3950	0.4033	0.4037	0.3955	NY4	X	0.4030	0.4115	0.4117	0.4033
	Y	0.3904	0.3956	0.3894	0.3841		Y	0.4018	0.4069	0.4008	0.3956
NZ2	X	0.4112	0.4200	0.4200	0.4113	NZ4	X	0.4115	0.4200	0.4200	0.4117
	Y	0.4191	0.4240	0.4180	0.4130		Y	0.4069	0.4120	0.4060	0.4008
NZ3	X	0.4113	0.4200	0.4200	0.4115						
	Y	0.4130	0.4180	0.4120	0.4069						
2800-3200K											
YS5	X	0.4284	0.4393	0.4385	0.4276	YT6	X	0.4393	0.4501	0.4493	0.4385
	Y	0.4182	0.4194	0.4111	0.4098		Y	0.4194	0.4207	0.4123	0.4111
YS6	X	0.4276	0.4385	0.4377	0.4268	YT7	X	0.4385	0.4493	0.4485	0.4377
	Y	0.4098	0.4111	0.4028	0.4015		Y	0.4111	0.4123	0.4040	0.4028
YS7	X	0.4268	0.4377	0.4370	0.4261	YT8	X	0.4377	0.4485	0.4478	0.4370
	Y	0.4015	0.4028	0.3945	0.3932		Y	0.4028	0.4040	0.3957	0.3945
YU7	X	0.4504	0.4613	0.4606	0.4497	YU9	X	0.4490	0.4599	0.4592	0.4483
	Y	0.4242	0.4255	0.4178	0.4165		Y	0.4088	0.4101	0.4024	0.4011
YU8	X	0.4497	0.4606	0.4599	0.4490						
	Y	0.4165	0.4178	0.4101	0.4088						
2800-3200K											
YT6	X	0.4393	0.4501	0.4493	0.4385	YU7	X	0.4504	0.4613	0.4606	0.4497
	Y	0.4194	0.4207	0.4123	0.4111		Y	0.4242	0.4255	0.4178	0.4165
YT7	X	0.4385	0.4493	0.4485	0.4377	YU8	X	0.4497	0.4606	0.4599	0.4490
	Y	0.4111	0.4123	0.4040	0.4028		Y	0.4165	0.4178	0.4101	0.4088
YT8	X	0.4377	0.4485	0.4478	0.4370	YU9	X	0.4490	0.4599	0.4592	0.4483
	Y	0.4028	0.4040	0.3957	0.3945		Y	0.4088	0.4101	0.4024	0.4011
YV8	X	0.4613	0.4722	0.4715	0.4606	YV10	X	0.4599	0.4708	0.4701	0.4592
	Y	0.4255	0.4267	0.4190	0.4178		Y	0.4101	0.4113	0.4036	0.4024
YV9	X	0.4606	0.4715	0.4708	0.4599						
	Y	0.4178	0.4190	0.4113	0.4101						

Model No.: FYLS-505UW3CXX

■ Electrical-Optical Characteristics-



NOTE:25°C free air temperature unless otherwise specified

■ Radiation pattern-

Relative Lumionous Intensity(LOP @max=1)

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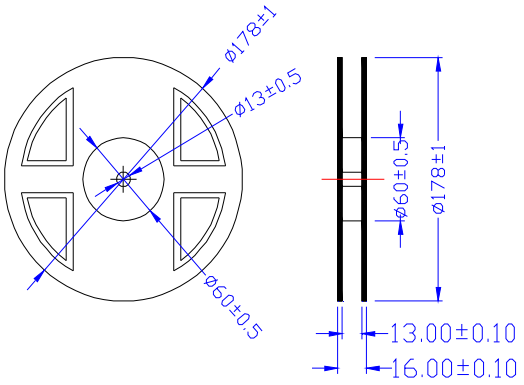
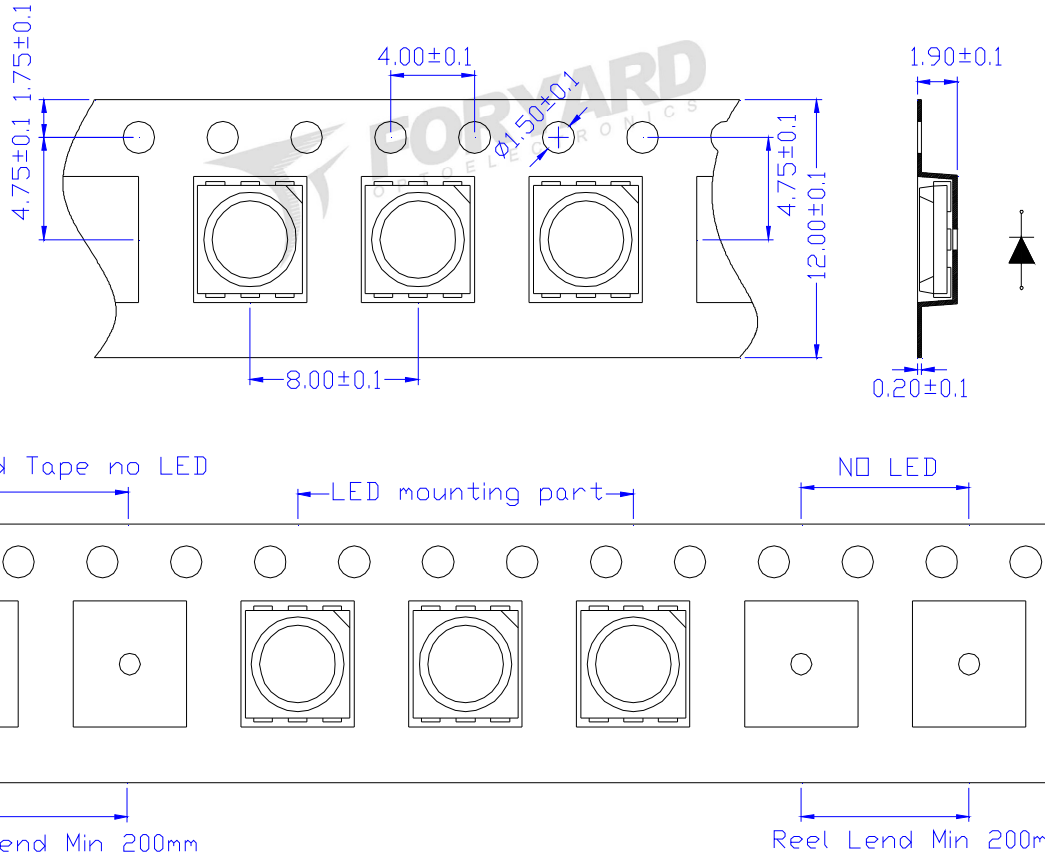
■ **Package-**

1. Reel Dimension



2. Tape Dimension



Notice:

1.Tolerance unless mentioned is ±0.2mm

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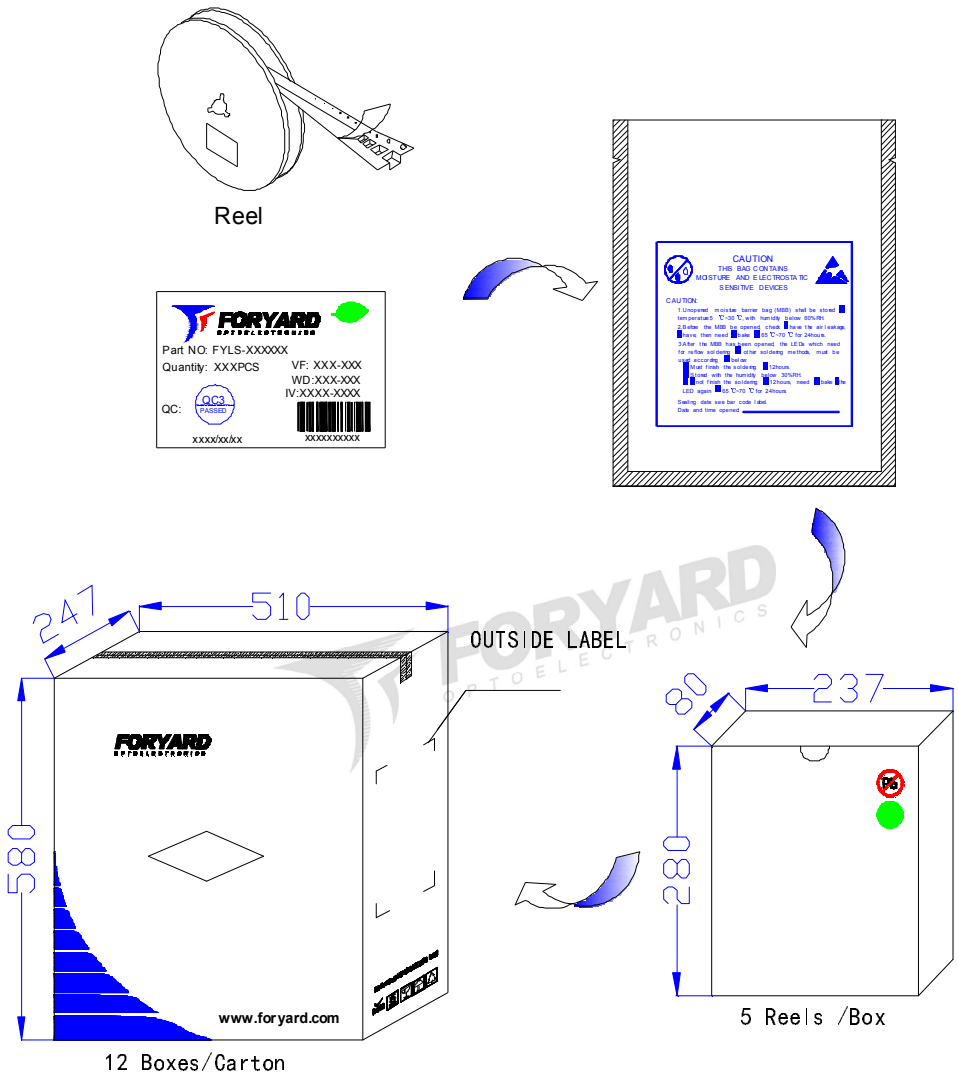
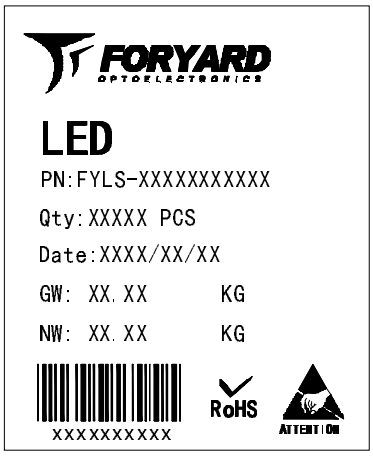
3. Packing Diagram





OUTSIDE LABEL

Notice:

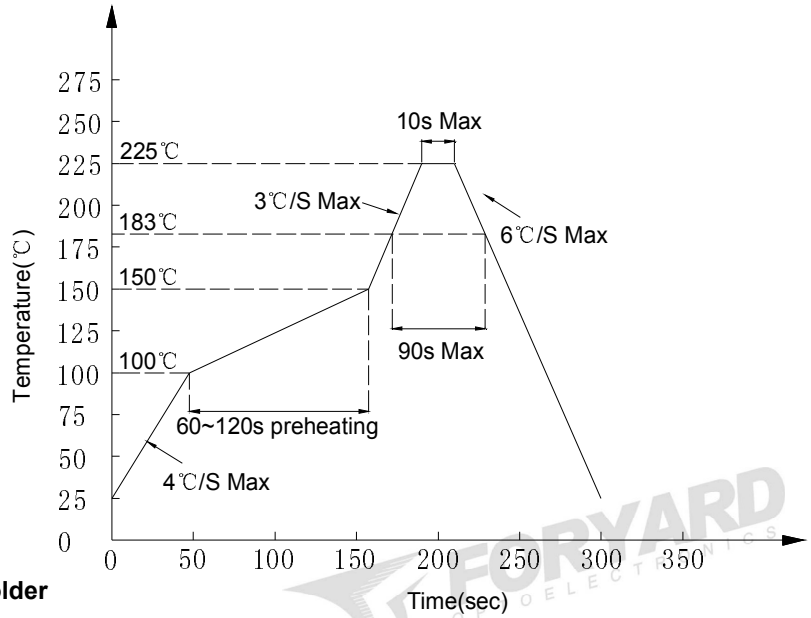
1. Quantity:1000 PCS/Reel
2. The specifications are subject to change without notice. Please contact us for updated information.

Model No.: FYLS-505UW3CXX

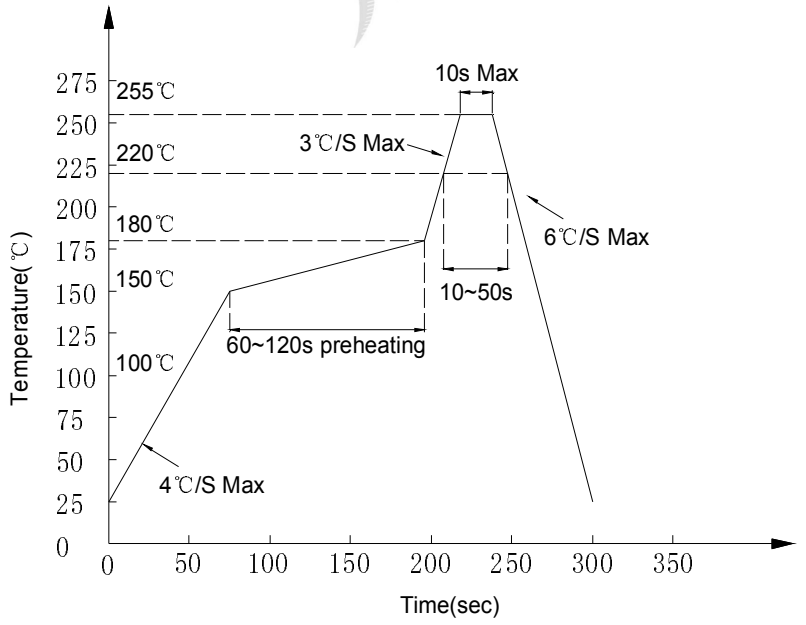
■Soldering Characteristics-

●Reflow Soldering

- **Lead Solder**



- **Lead-free Solder**



Notes:

1.Although the recommended soldering conditions are specified in above table, reflow or hand soldering at the lowest possible temperature is desired for the LEDs.

2.A rapid-rate process is not recommended for cooling the LEDs down from the peak temperature.

3.All temperatures refer to solder Pad.

●Hand Soldering

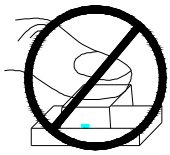
Soldering temperature	300℃ Max.（25W Max.）	One time olny
Soldering time	5 ±1sec	

Model No.: FYLS-505UW3CXX

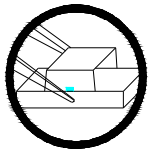
■ Handling of Silicone Resin LEDs-

● **Handling Indications**

When handling the product, do not touch it directly with bare hands as it may contaminate the surface and affect on optica characteristics.In the worst cases,excessive force to the product might result in catastrophic failure due to package damage and/or wire breakage.



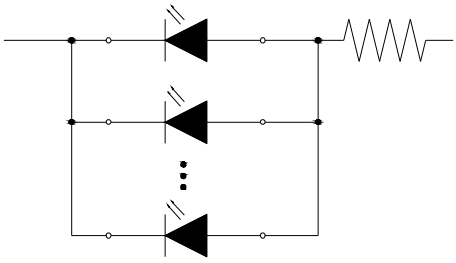
When handling the product with tweezers,LEDs should only be handled from the side and make sure that excessive force is not applied to the resin portion of the pordct. Failure to comply can cause the resin portion of the product to be cut,chipped,delaminated and/or deformed, and wire to be broken, and thus resulting in catastrophic failure.



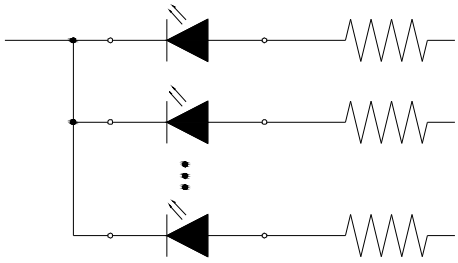
■ Recommended circuit-

- In designing a circuit, the current through each LED must not exceed the absolute maximum rating specified for each LED It is recommended to use Circuit B which regulates the current flowing through each LED. In the meanwhile,when driving LE with a constant voltage in Circuit A,the current through the LEDs may vary due to the variation in forward voltage(VF) of the LEDs. In the worst case, some LED may be subjected to stresses in excess of the absolute maximum rating.

(A)



(B)



- This product should be operated in forward bias. A driving circuit must be designed so that the product is not subjected to either forward or reverse voltage while it is off. In particular, if a reverse voltage is continuously applied to the product; such operation can cause migration resulting in LED damage.

■ Storage-

● Storage Conditions

1.Unopened moisture barrier bag (MBB) shall be stored at temperature below 5℃~30℃, with humidity below 60%RH.

2.Before the MBB be opened, check if have the air leakage, if have, then need to bake at 65℃~70℃ for 24hours.

3.After the MBB has been opened, the LEDs which need for reflow soldering or other soldering methods, must be used according to below:

a: Must finish the soldering in 12hours

b: Stored with the humidity below 30%RH

c: If not finish the soldering in 12hours, need to bake the LED again at 65℃~70℃ for 24hours