PRODUCT SPECIFICATION

Model No.: FYLS-1206GPTB-RM

Features:

- SMD Type
- Size (mm):3.20*1.60*1.95
- Emitting Color: phototransistor.
- Lens Color: Black.
- SMT package
- Suitable for all SMT assembly and soldering method
- Pb-free Reflow soldering application
- RoHS Compliant
- MSL:4

Applications:

- Mouse
- Optoelectronic switch
- Copiers
- Scanners
- Amusement machines
- Surveillance system
- Wireless communication

CUSTOMER APPROVED SIGNATURES	APPROVED BY	SALES BY	PREPARED BY
		Foryard S020 2024.01.23	Foryard E001 2024.01.23

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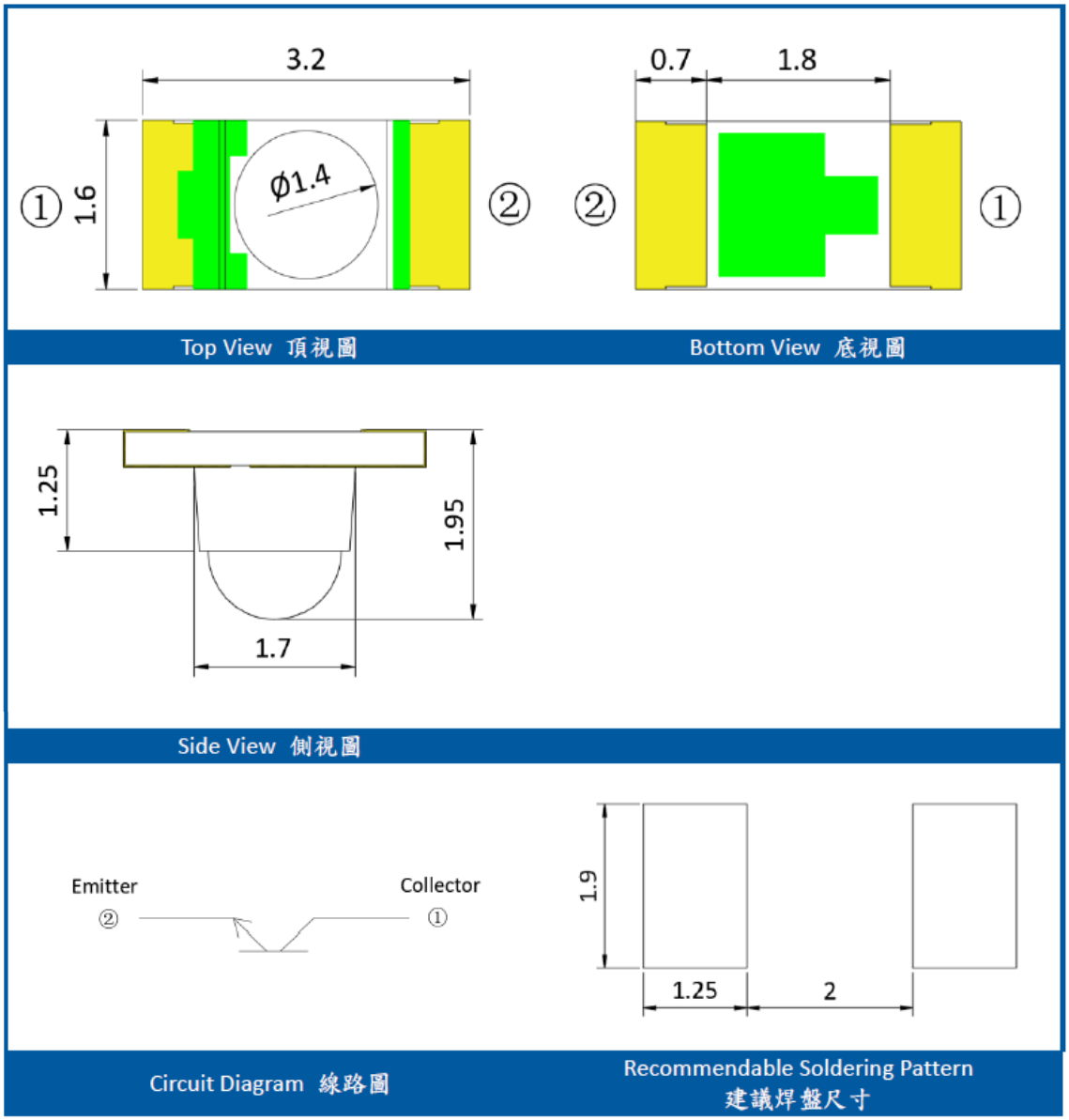
Model No.: FYLS-1206GPTB-RM

■ Mechanical Dimensions



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-1206GPTB-RM

■ Absolute Maximun Ratings(Ta=25ºC)

Parameter	Symbol	MAX.	Unit
Collector Current	I_c	50	mA
Collector-Emitter Voltage	BV_{CEO}	30	V
Emitter-Collector Voltage	BV_{ECO}	5	V
Power Dissipation	P_D	75	mW
Operating Temperature Range	Topr	-25~ +85	℃
Storage Temperature Range	Tstg	-40~ +85	℃
Soldering Temperature	Tsol	Reflow soldering : 260°C， 10s	

*Pulse 1/10 duty and 0.1 msec

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Wavelength of Peak Sensitivity	λp	---	---	940	---	nm
Range of Spectral Bandwidth	$\lambda_{0.5}$	---	850	---	1100	nm
Collector-Emitter Voltage	BV_{CEO}	I_C =100 μ A E_e =0mW/cm ^{2}	30	---	---	V
Emitter-Collector Voltage	BV_{ECO}	I_E =100 μ A E_e =0mW/cm ^{2}	5	---	---	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C =2mA E_e =1mW/cm ^{2}	---	---	0.4	V
Collector Emitter Dark Current	I_{CEO}	V_{CE} =20V E_e =0mW/cm ^{2}	---	---	100	nA
On State Collector Current	$I_{C(ON)}$	V_{CE} =5V E_e =1mW /cm ^{2}	0.5	0.8	---	mA
Rise Time	TR	V_{CE} =5V I_C =1mA RL=100Ω	---	20	---	μs
Fall Time	TF		---	20	---	μs

Note:

1.Luminous Intensity is based on the Foryard standards.

2.Pay attention about static for InGaN

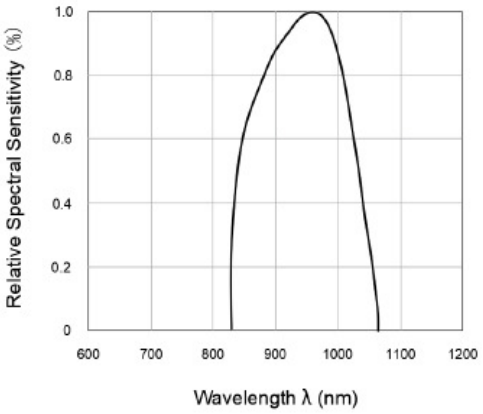
■Bin Range of On State Collector Current (Unit: mA); Test Condition：VCE =5VEe =1mW/cm^2

Code	TI1	TI2	TI3	TI4
On State Collector Current(mA)	0.50~0.70	0.65~0.85	0.80~1.00	0.95~1.20

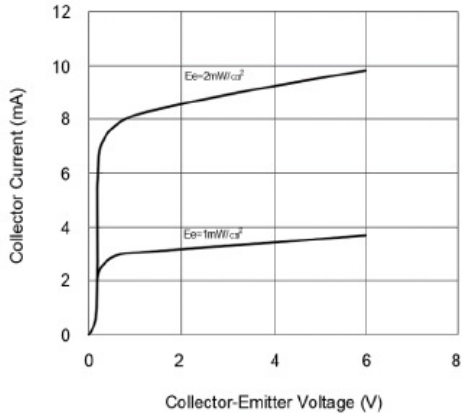
Note: Tolerance of O n State Collector Current : ± 10%

Model No.: FYLS-1206GPTB-RM

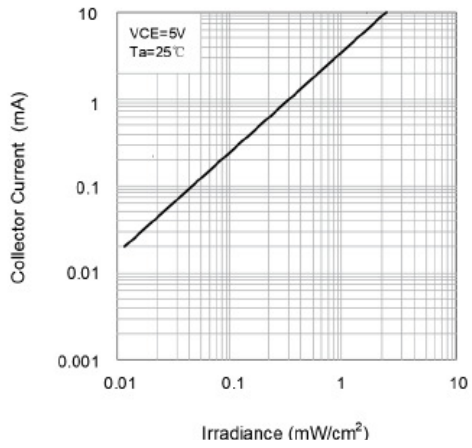
■ **Electrical-Optical Characteristics-**



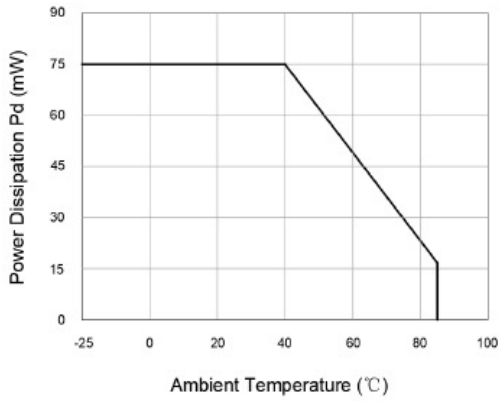
Spectral Sensitivity



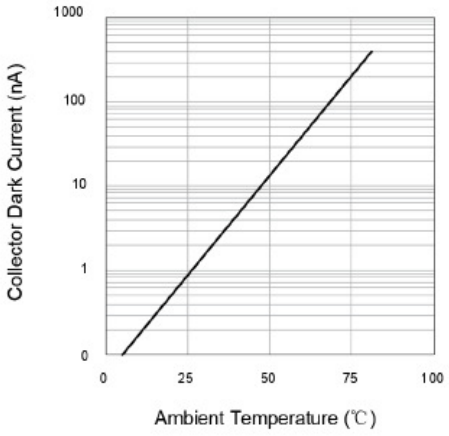
Collector Current V.S. Collector-Emitter Voltage



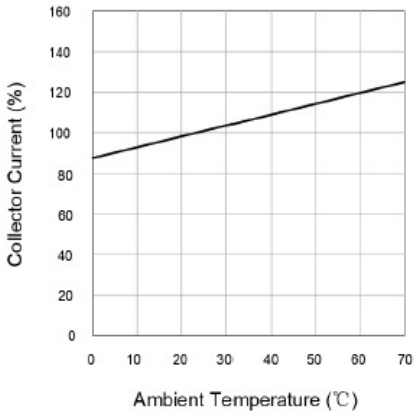
Collector Current V.S. Irradiance



Forward Current Derating Curve



Collector Dark Current V.S. Ambient Temperature



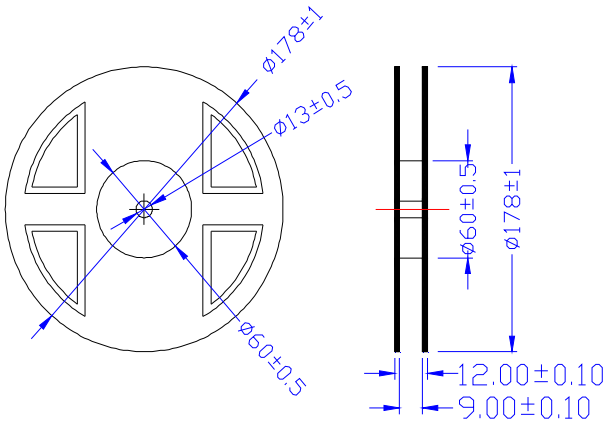
Collector Current V.S. Ambient Temperature

NOTE:25°C free air temperature unless otherwise specified

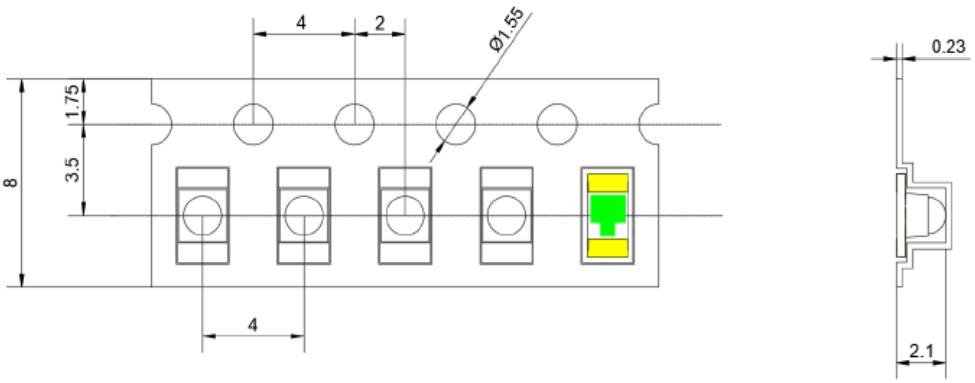
Model No.: FYLS-1206GPTB-RM

■ **Package-**

1. Reel Dimension



2. Tape Dimension

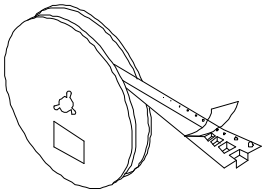


Notice:

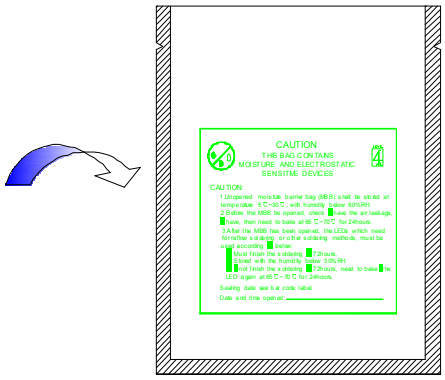
1.Tolerance unless mentioned is ±0.2mm

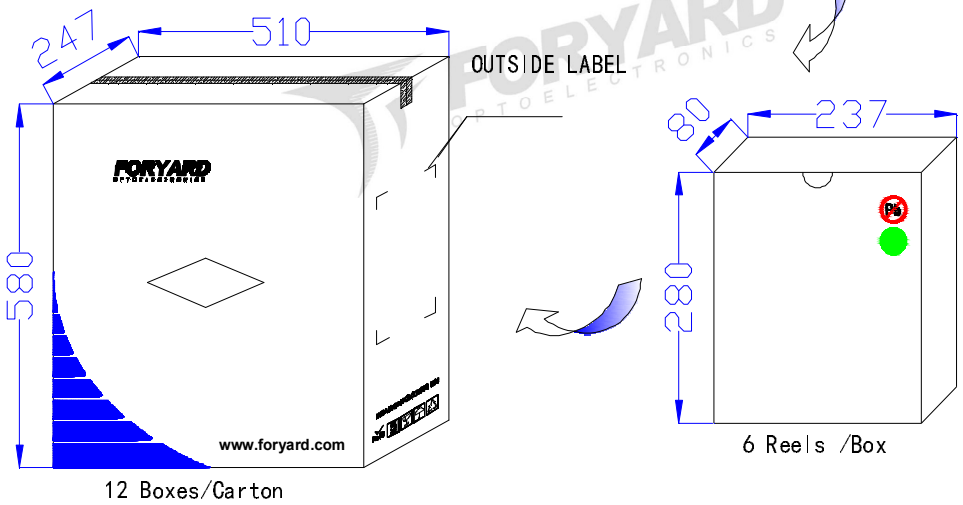
Model No.: FYLS-1206GPTB-RM

3. Packing Diagram



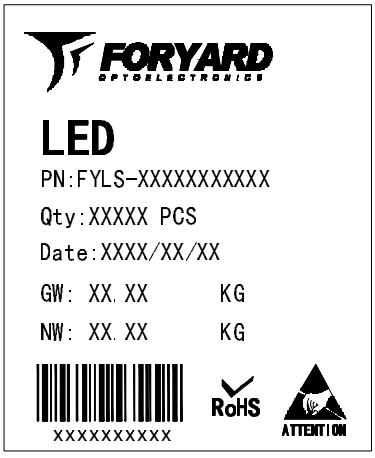
Reel





12 Boxes/Carton

6 Reels /Box



OUTSIDE LABEL

Notice:

1.Quantity:2000 PCS/Reel

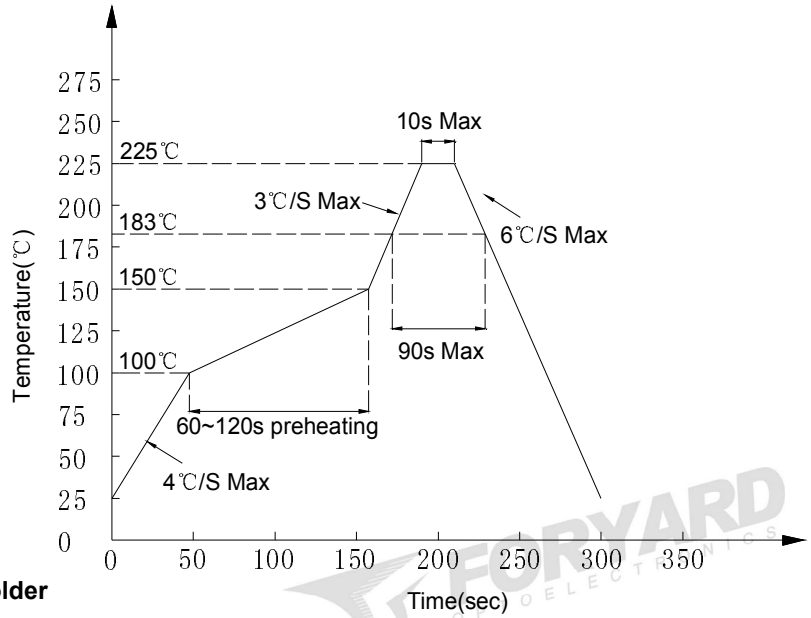
2.The specifications are subject to change without notice. Please contact us for updated information.

Model No.: FYLS-1206GPTB-RM

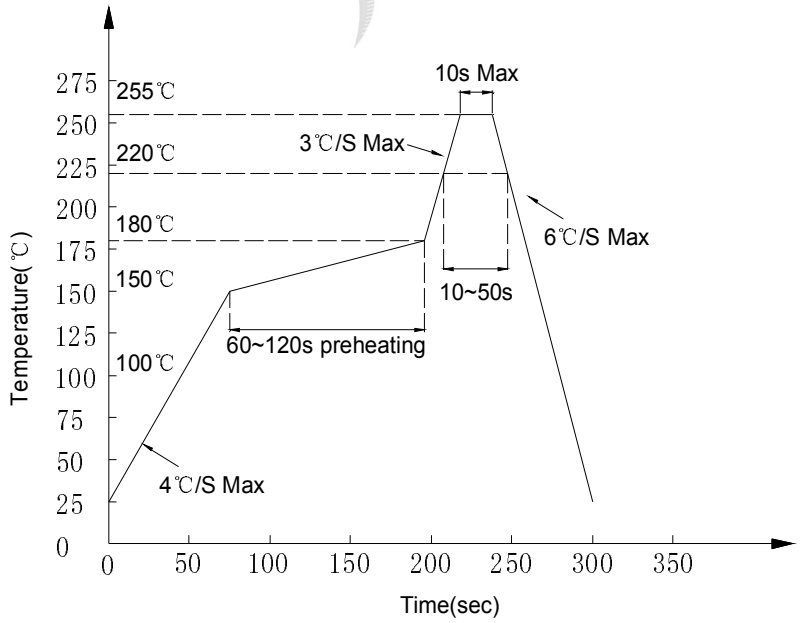
■Soldering Characteristics-

●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

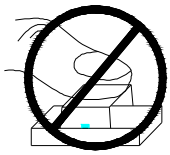
Soldering temperature	300℃ Max.（25W Max.）	One time olny
Soldering time	3 ±1sec	

Model No.: FYLS-1206GPTB-RM

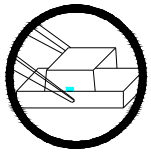
■ Handling of Silicone Resin LEDs-

● 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.



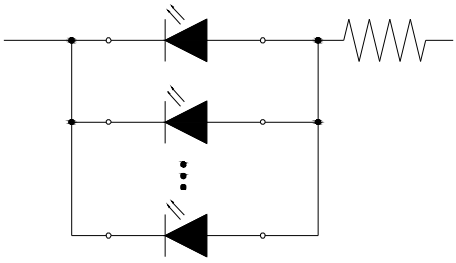
When handling the product with tweezers,LEDs should only be handled from the side and make sure that excessive force is not applied to the resin portion of the pordct. Failure to comply can cause the resin portion of the product to be cut,chipped,delaminated and/or deformed, and wire to be broken, and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



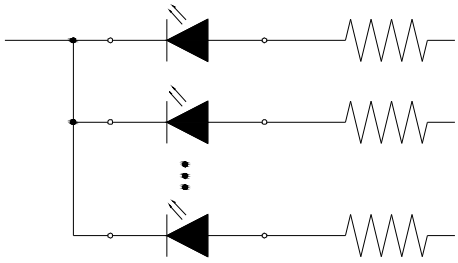
■ Recommended circuit-

- 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 72hours

b: Stored with the humidity below 30%RH

c: If not finish the soldering in 72hours, need to bake the LED again at 65℃~70℃ for 24hours