



Q **QUELIGHTING**
Sustainable Lighting Solution



QLIR04CWBYAH
(White+IR LED)



Product Outline:

This is the high efficiency LED with reflector type. 3030 Dual color is a surface-mount LED which with heat sink to enhance operating performance. With special binning technology, these LEDs are ideal for architecture lighting and special lighting needs.

Features:

- High brightness output @ 150mA
- Package Dimension = 3.2mmX3.0mmX0.65mm
- Color: **White + 850nm** IR LED
- RoHS compliant
- Custom Bin available upon special request

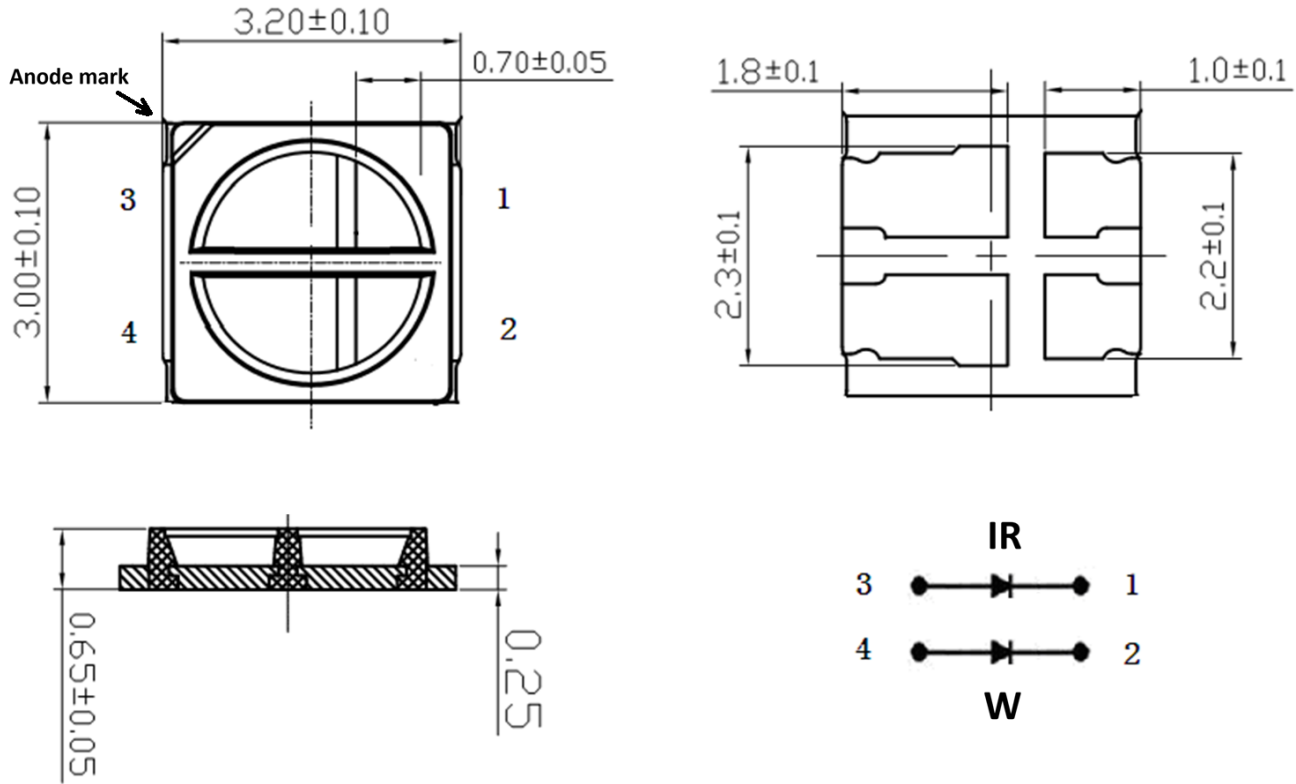
Application:

- Mechanically and spectrally matched to the phototransistor
- Infrared Illumination for cameras
- Sensor technology
- Gesture Recognition
- Surveillance

Compliance and Certification:

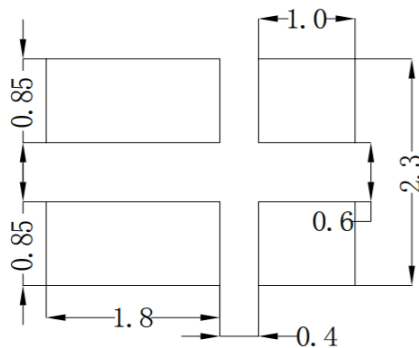


Mechanical Property: (Dimension)



Units: mm

Recommended Solder footprint:



Units: mm



Electrical / Optical Characteristic

(T=25°C)

Product	Color	I _F (mA)	V _F (V)		λ _p (nm) , CCT(K)			I _v (mW/sr), (lm)	
			min.	max	Min.	Typ.	Max.	min	typ.
QLIR04CWBYAH	Infrared	150	1.4	2.0	840nm		860nm		40mW/sr
	White	150	2.8	3.4	6000K		6500K		60lm

- (1) The Forward Voltage tolerance is ±0.1V
- (2) The λ_D tolerance is ±1nm
- (3) The I_v tolerance is ± 7%

Absolute Maximum Rating

(T=25°C)

Part #	P _d (mW)	I _F (mA)	I _{FP} (mA)*	V _R (V)	T _{OP} (°C)	T _{ST} (°C)	T _{SOL} (°C)**
Infrared	320	150	180	5	-40 – 85	-40 - 100	260
White	480	150	180	5	-40 – 85	-40 - 100	260

*Duty 1/10 @ 10Khz

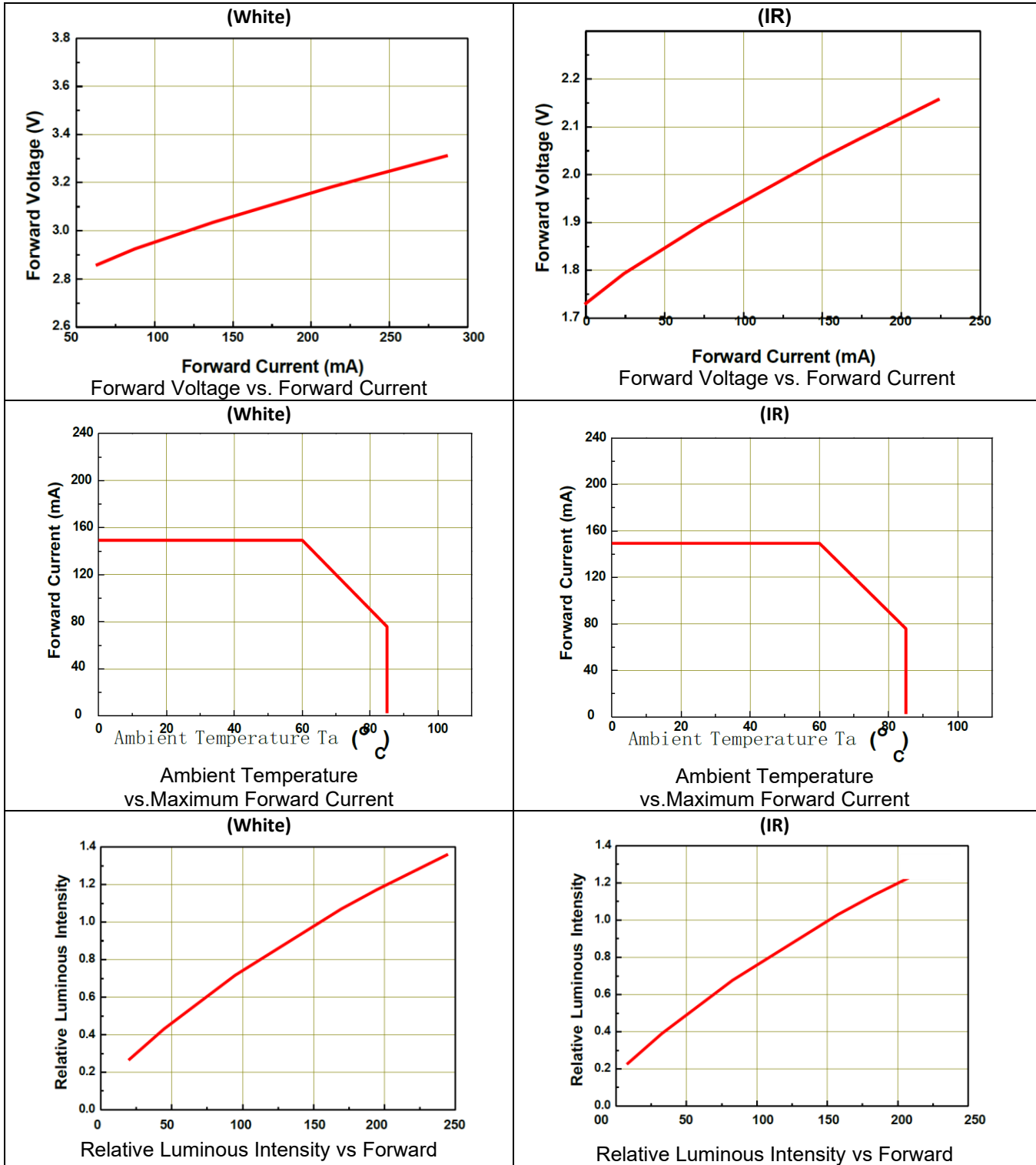
** Junction Temperature

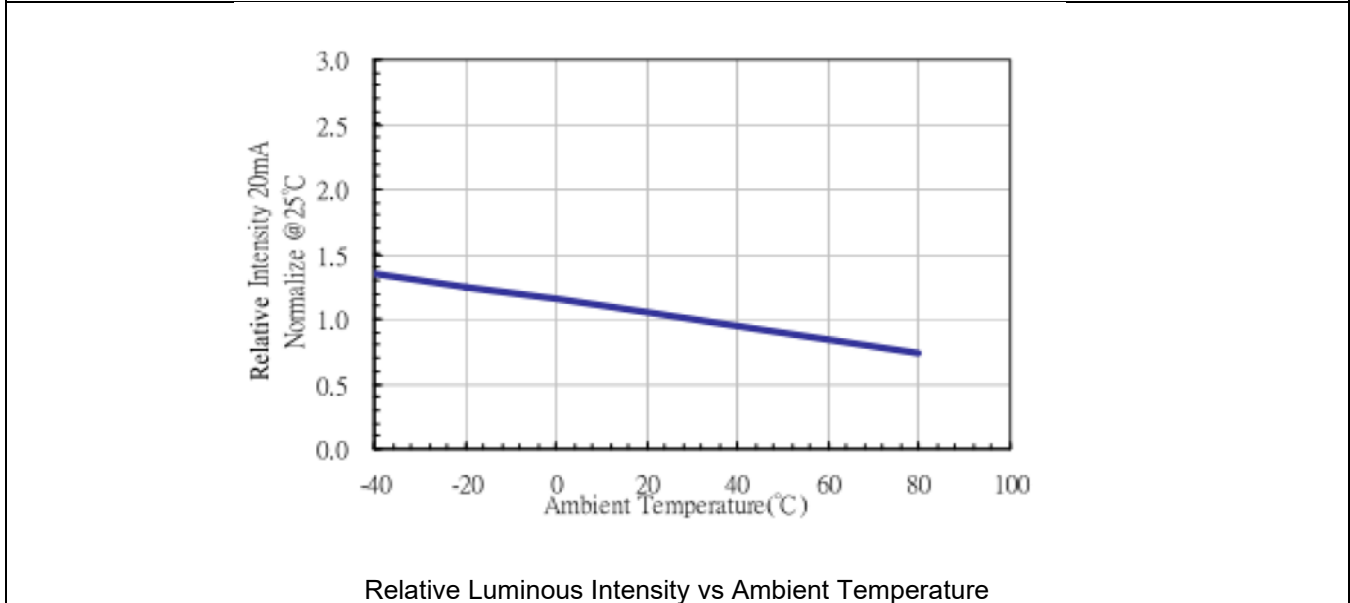
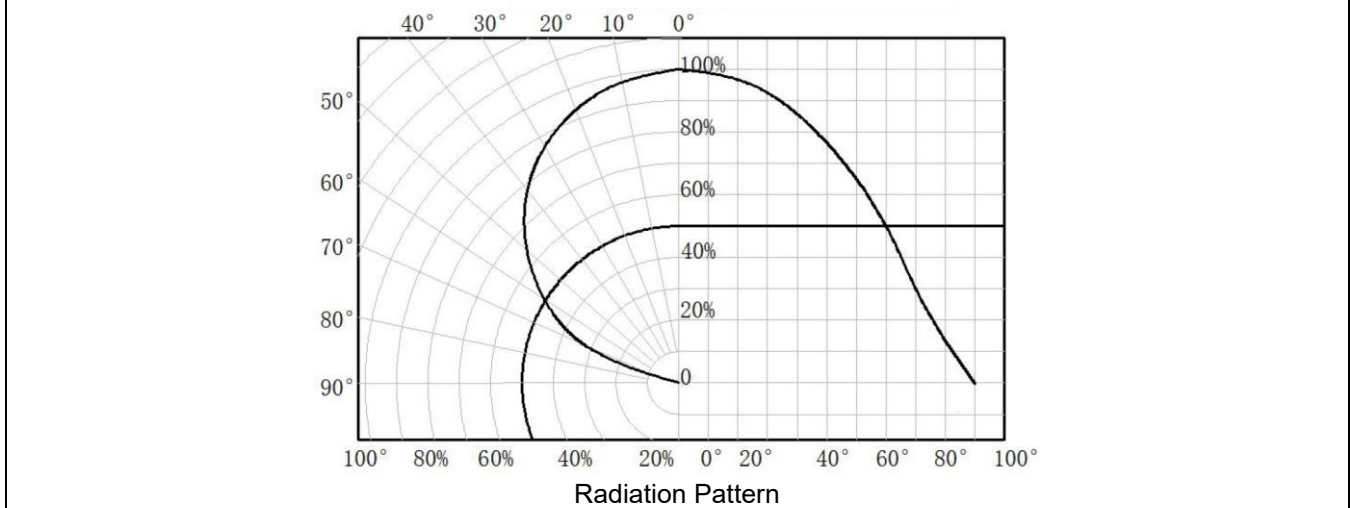
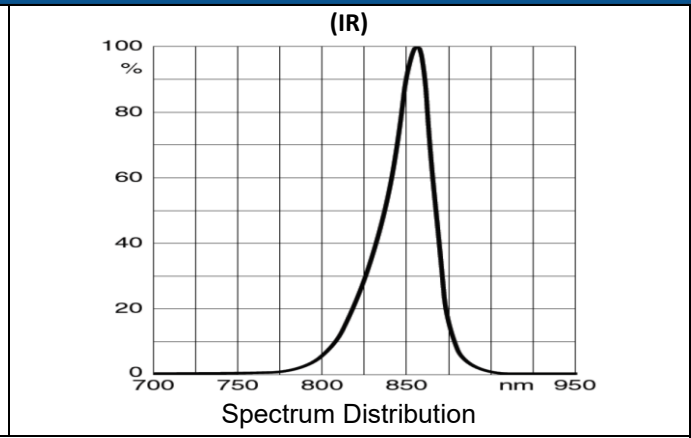
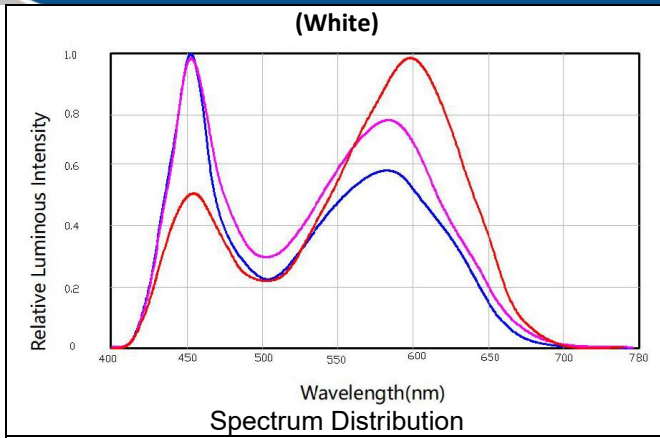
*** IR Reflow for no more than 10 sec @ 260 °C

**** Thermal resistance is calculated from junction to solder



Characteristic Curves





■ Reliability test:

No	Item	Condition	Time/Cycle	Sample size
1	Steady State Operating Life of Room Temperature	25°C Operating	1000 Hrs	20 pcs
2	Steady State Operating Life of Low Temperature -40°C	-40°C Operating	1000 Hrs	20 pcs
3	Steady State Operating Life of Low Temperature 60°C	60°C Operating	1000 Hrs	20 pcs
4	Steady State Operating Life of Low Temperature 85°C	85°C Operating	1000 Hrs	20 pcs
5	Low temperature storage -40°C	-40°C Storage	1000 Hrs	20 pcs
6	High temperature storage 100°C	100°C Storage	1000 Hrs	20 pcs
7	Steady State Operating Life of High Humidity Heat 60°C/90%	60°C/90% Operating	1000 Hrs	20 pcs
8	Steady State Pulse Operating Life Condition	25°C/10Hz duty=1/10 Operating	200 Cycle	20 pcs
9	Resistance to soldering heat on PCB (JEDEC MSL3)	pre-store@60°C, 60%RH for 52hrs Tslid max.=260 10sec	3 Times	20 pcs
10	Heat Cycle Test (JEDEC MRC)	25°C~65°C~-10°C, 90%RH, 24hr/1cycle	10 Cycle	20 pcs
11	Thermal shock	-40°C/ 20min~ 5min~100°C /20min	200 Cycle	20 pcs

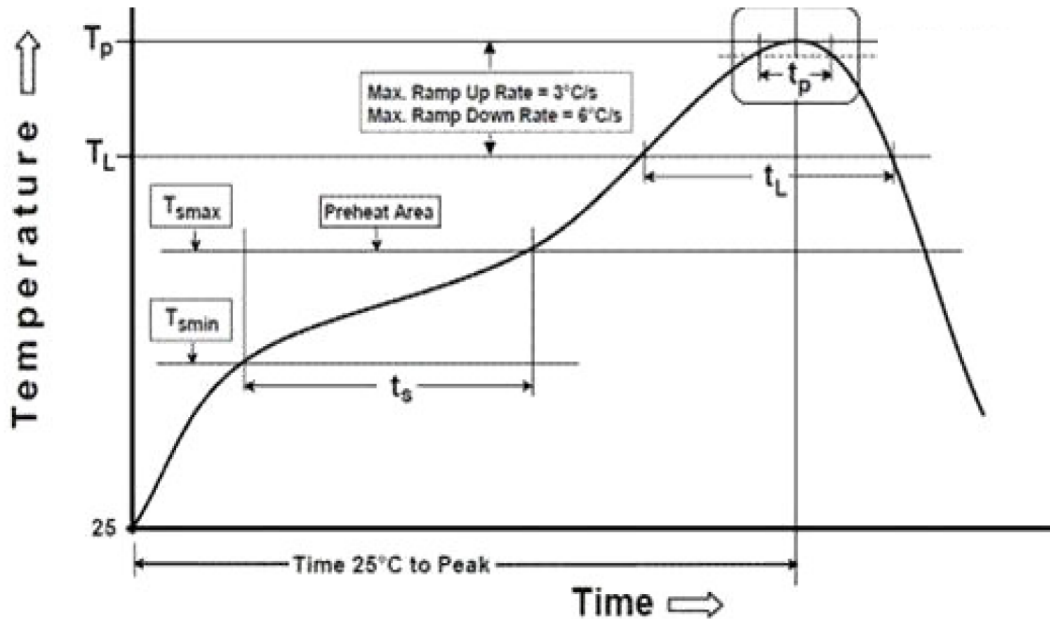
■ Judgment Criteria:

Item	Symbol	Test Condition	Judgment Criteria
Forward Voltage	Vf	150 mA	$\Delta Vf < 10\%$
Luminous Flux	Iv	150 mA	$\Delta Iv < 30\%$



■ **Solder Profile:**

-The recommended reflow soldering profile is as follows (temperatures indicated are as measured on the surface of the LED resin):



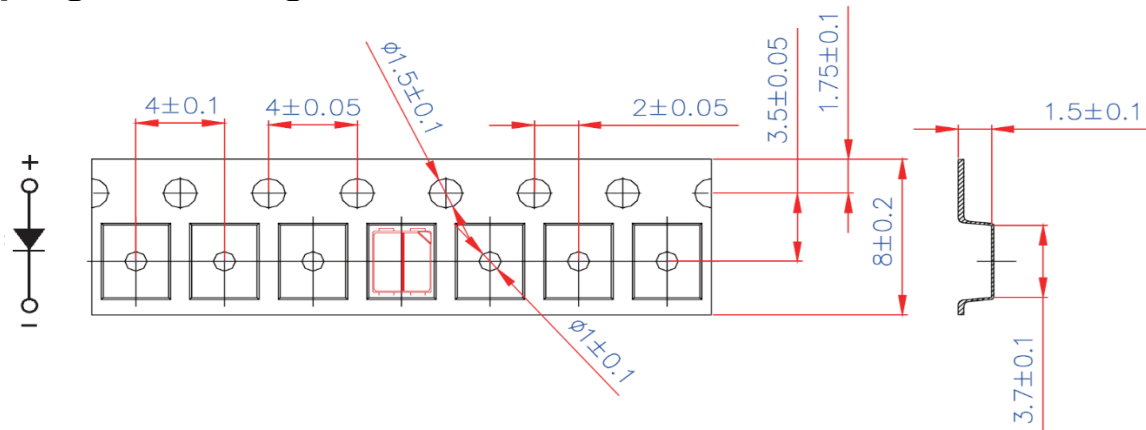
Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Temperature Min(T_{smin})	100°C	150°C
Temperature Max(T_{smax})	150°C	200°C
Time(t_a) from (T_{smin} to T_{smax})	60-120 seconds	60-120 seconds
Ramp-up rate(T_L to T_p)	3°C/second max.	3°C/second max.
Liquidous Temperature(T_L)	183°C	217°C
Time(t_L) maintained above T_L	60-150 seconds	60-150 seconds
Peak package body temperature(T_p)	235°C	260°C
Time within 5°C of Actual Peak temperature (t_p)	20seconds*	30 seconds*
Ramp-down rate(T_p to T_L)	6°C/second max.	6°C/second max.
Time 25°C to peak temperature	6 minutes max.	8 minutes max.

* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

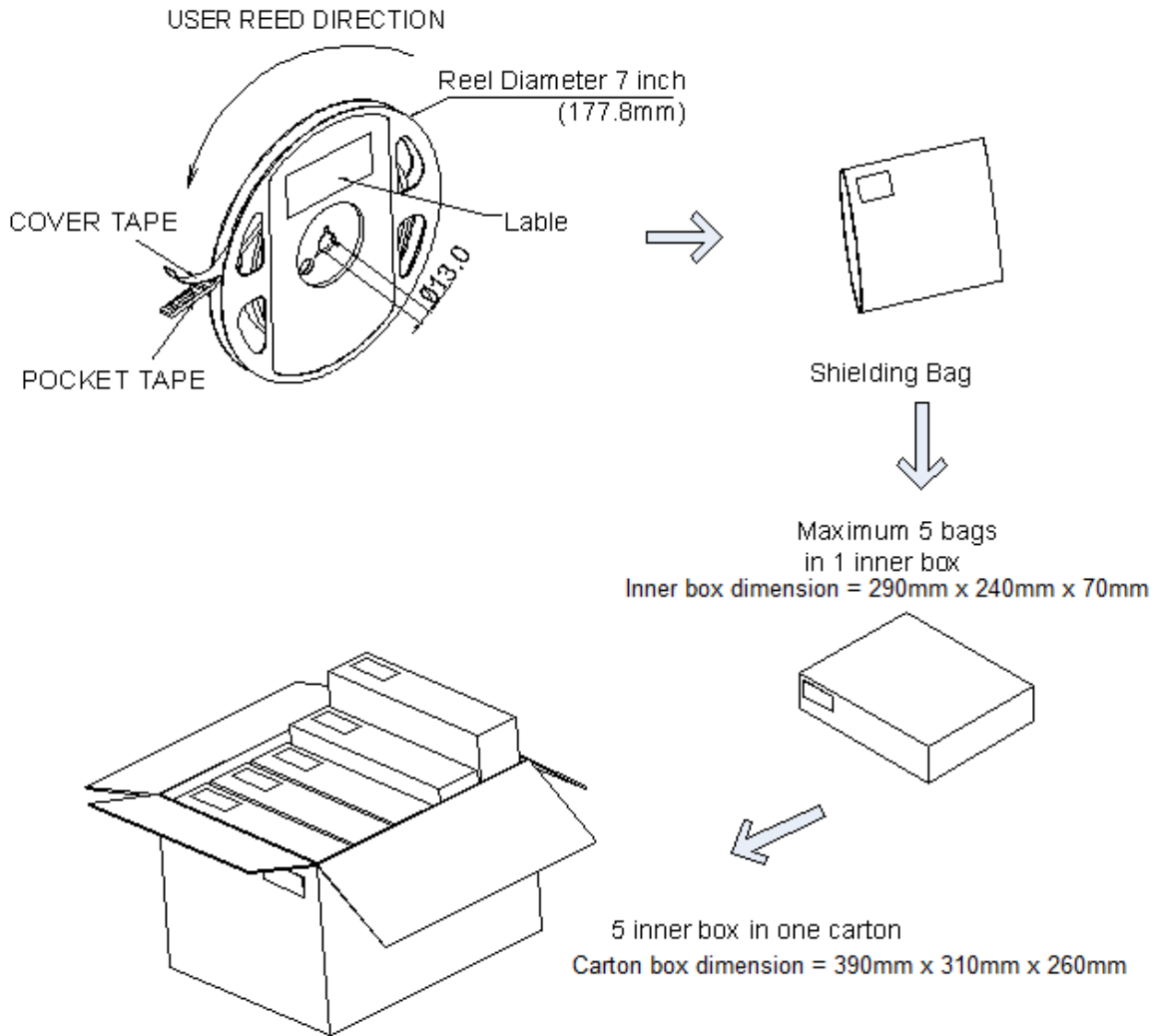
-The recommended reflow soldering profile is as follows (temperatures indicated are as measured on the surface of the LED resin):



Taping & Packing:





Unit : mm





Labeling


 Quantity: XXXX




 P/N: XXXXXX




 Lot number: XXXXX

Iv Bin: XX

Color Bin: XX

Vf Bin: XX

Date Code: XXXX

Ordering Information:

Part #	Multiple Quantities	Quantity per Reel
QLIR04CWBYAH		4000 pcs



Revision History:

Revision Date:	Changes:	Version #:
01-01-2026	Initial release	1.0

