QUELIGHTING

Sustainable Lighting Solution

QLSP13095RH

(0603 0.95mm 35D Red LED)

Product Outline:

This is the much smaller than lead frame type components, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.

Features:

- Compatible with automatic placement equipment.
- Color: Red
- RoHS compliant
- Compatible with infrared and vapor phase reflow solder process.
- Custom Bin available upon special request
- View angel typ. **35˚**
- **0.95mm** Height

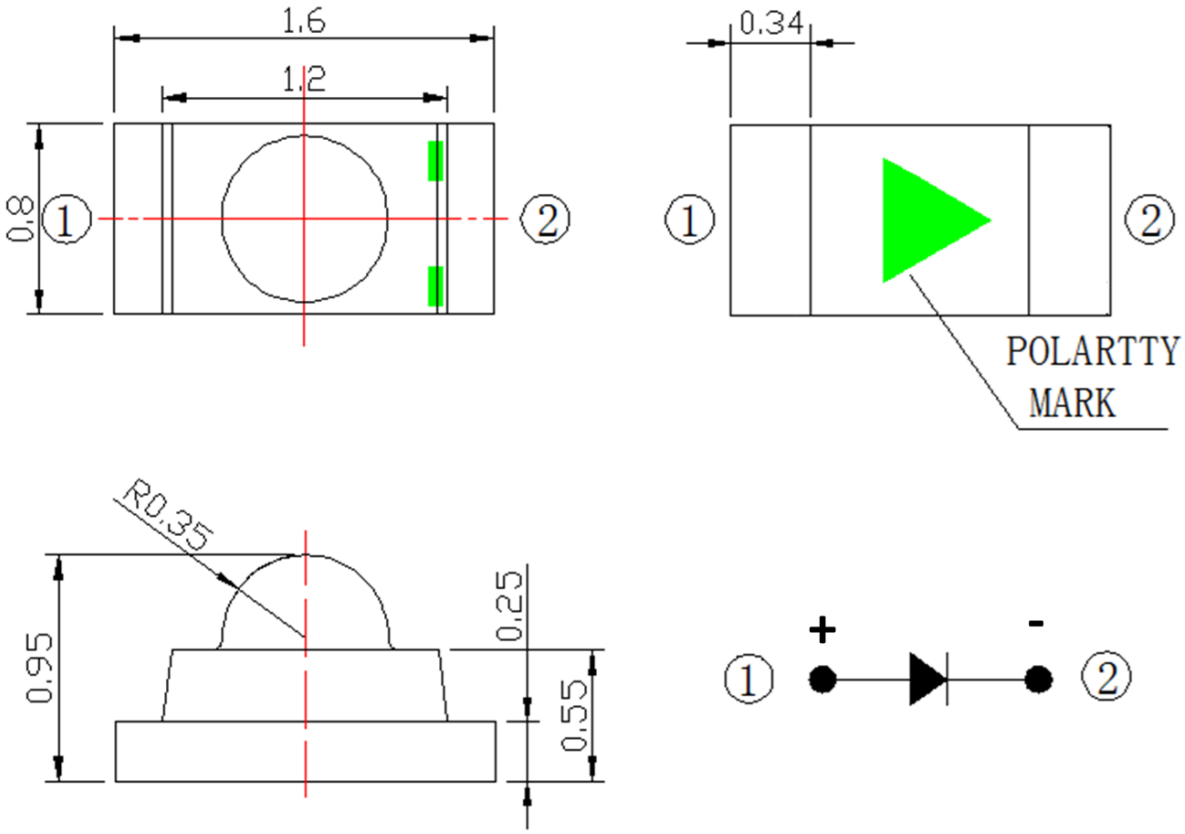
Application:

- Backlighting in dashboard and switch.
- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- General use.

Compliance and Certification:

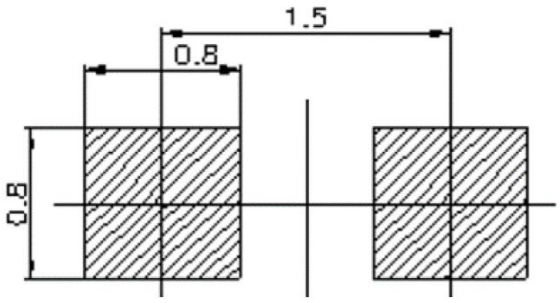
Mechanical Property:

(Dimension)



* All dimensions are in millimeters,
* Tolerances are ± 0.10mm.

Recommended Solder footprint:



* All dimensions are in millimeters.
* Reflow soldering must not be performed more than twice.

Characteristics

■ Absolute Maximum Ratings

(Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	5	V
DC Forward Current	If	25	mA
Pulse Forward Current (Duty 1/10 @1KHz)	I_{FP}	60	mA
Total Power Dissipation	Pd	55	mW
Storage Temperature	Tstg	-40 ~85	℃
Operation Temperature	Topr	-40 ~ 85	℃
Soldering Temperature	Tsol	260 < 10 sec	℃

(1) Proper current rating must be observed to maintain junction temperature below maximum at all time

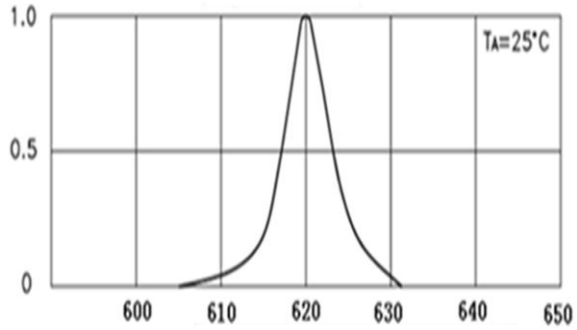
■ Electrical / Optical Characteristic

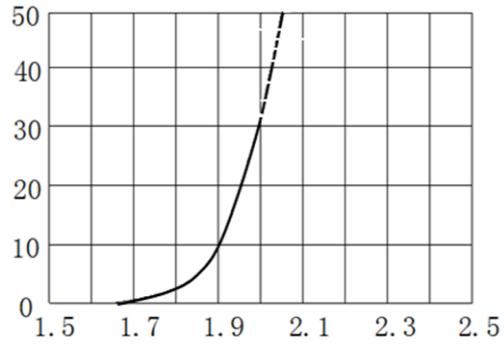
(Ta=25 oC)

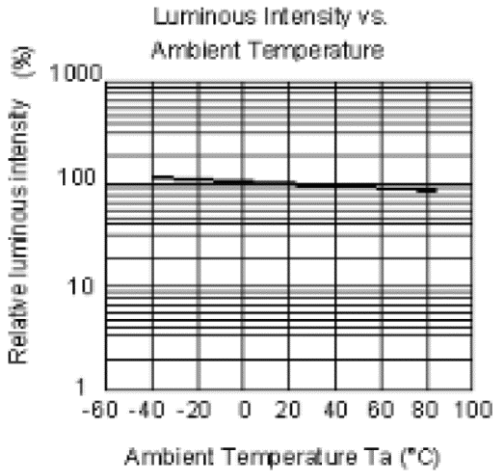
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	200		400	mcd	I_F=20mA
Peak Wavelength	λ p		624		nm	
Dominant Wavelength	λ d	620		625	nm	
Forward Voltage	Vf	1.8		2.4	V	
View Angle	θ		35		deg	

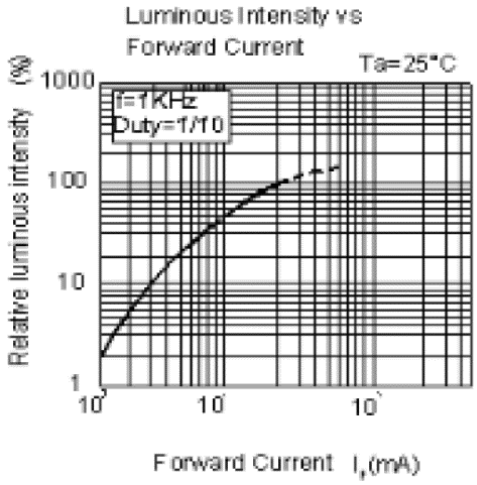
(1). Tolerance of Luminous Intensity: ±11%
(2). Tolerance of Dominant Wavelength ±1nm
(3). Tolerance of measurement: VF=+/- 0.1V

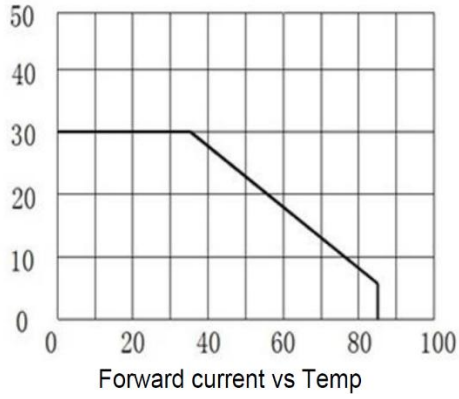
Characteristic Curves

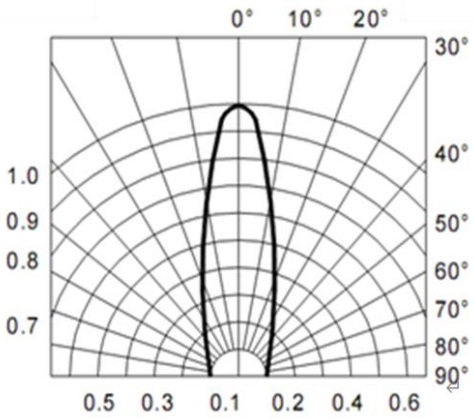












■ Reliability test:

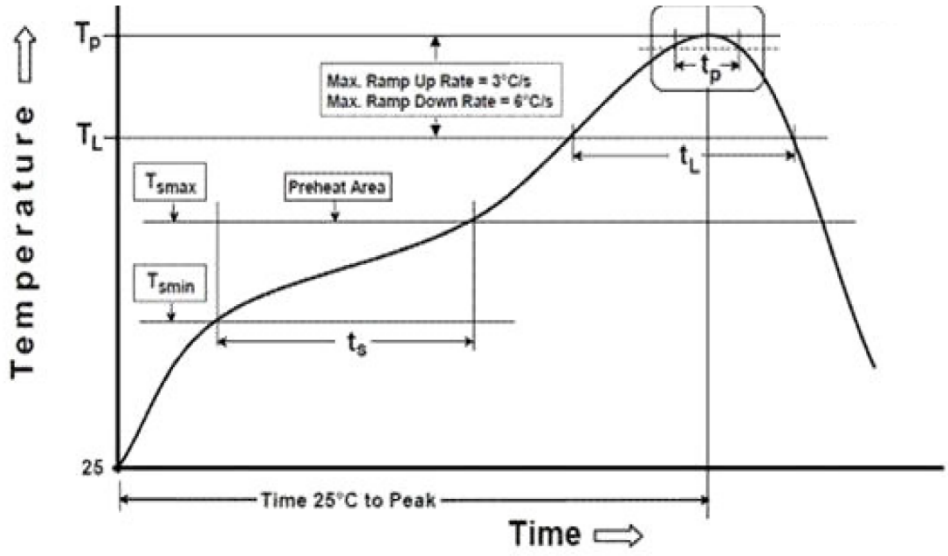
No	Item	Condition	Time/Cycle	Sample size
1	Steady State Operating Life of Room Temperature	25℃ Operating	1000 Hrs	20 pcs
2	Steady State Operating Life of Low Temperature -40℃	-40℃ Operating	1000 Hrs	20 pcs
3	Steady State Operating Life of Low Temperature 60℃	60℃ Operating	1000 Hrs	20 pcs
4	Steady State Operating Life of Low Temperature 85℃	85℃ Operating	1000 Hrs	20 pcs
5	Low temperature storage -40℃	-40℃ Storage	1000 Hrs	20 pcs
6	High temperature storage 100℃	100℃ Storage	1000 Hrs	20 pcs
7	Steady State Operating Life of High Humidity Heat 60℃90%	60°C/90% Operating	1000 Hrs	20 pcs
8	Steady State Pulse Operating Life Condition	25℃10Hz duty=1/10 Operating	200 Cycle	20 pcs
9	Resistance to soldering heat on PCB (JEDEC MSL3)	pre-store@60℃, 60%RH for 52hrs Tsld max.=260 10sec	3 Times	20 pcs
10	Heat Cycle Test (JEDEC MRC)	25℃~65℃~-10℃, 90%RH, 24hr/1cycle	10 Cycle	20 pcs
11	Thermal shock	-40℃/ 20minr~ 5minr~100℃ /20min	300 Cycle	20 pcs

■ Judgment Criteria:

Item	Symbol	Test Condition	Judgment Criteria
Forward Voltage	Vf	R：IF=20 mA	△Vf< 10%
Luminous Flux	Iv		△Iv< 30%

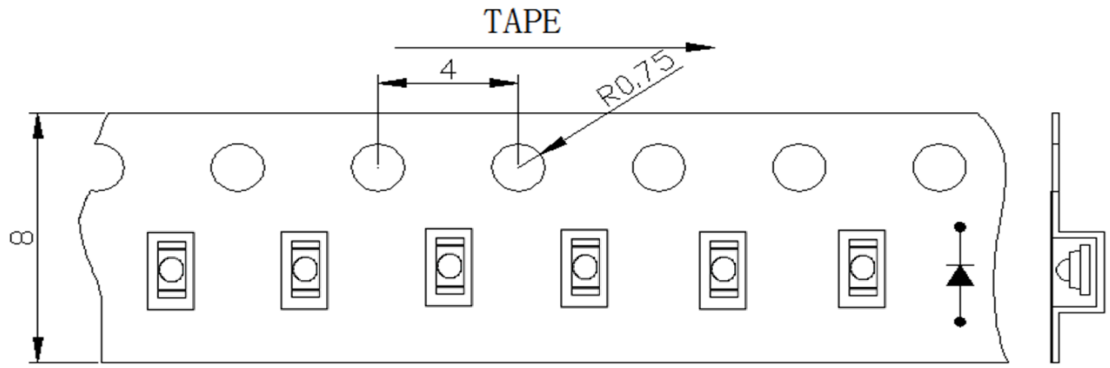
Solder Profile:

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

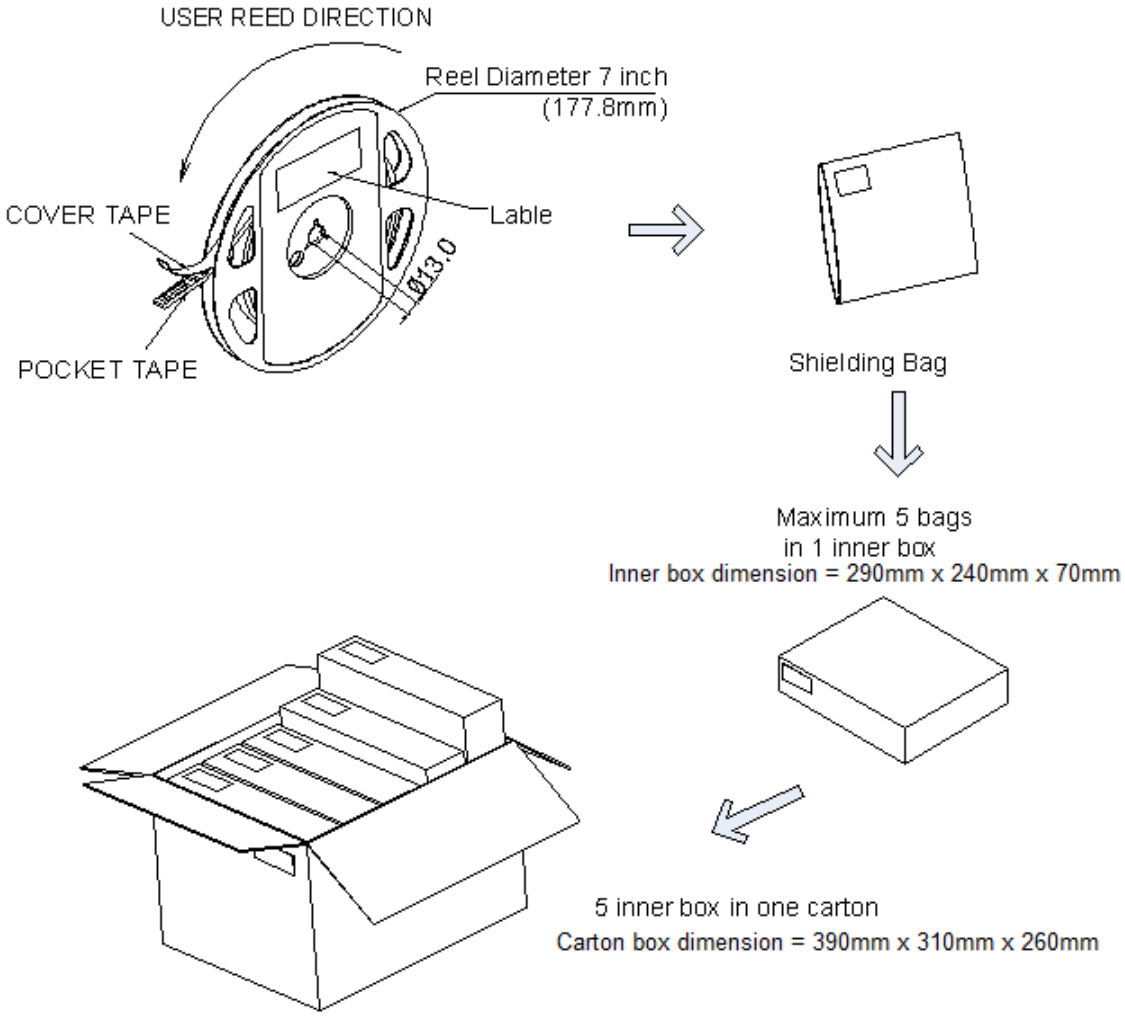


Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Temperature Min(T_{smin})	100℃	150℃
Temperature Max(T_{smax})	150℃	200℃
Time(t_a) from (T_{smin} to T_{smax})	60-120 seconds	60-120 seconds
Ramp-up rate(T_L to T_P)	3℃/second max.	3℃/second max.
Liquidous Temperature(T_L)	183℃	217℃
Time(t_L) maintained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

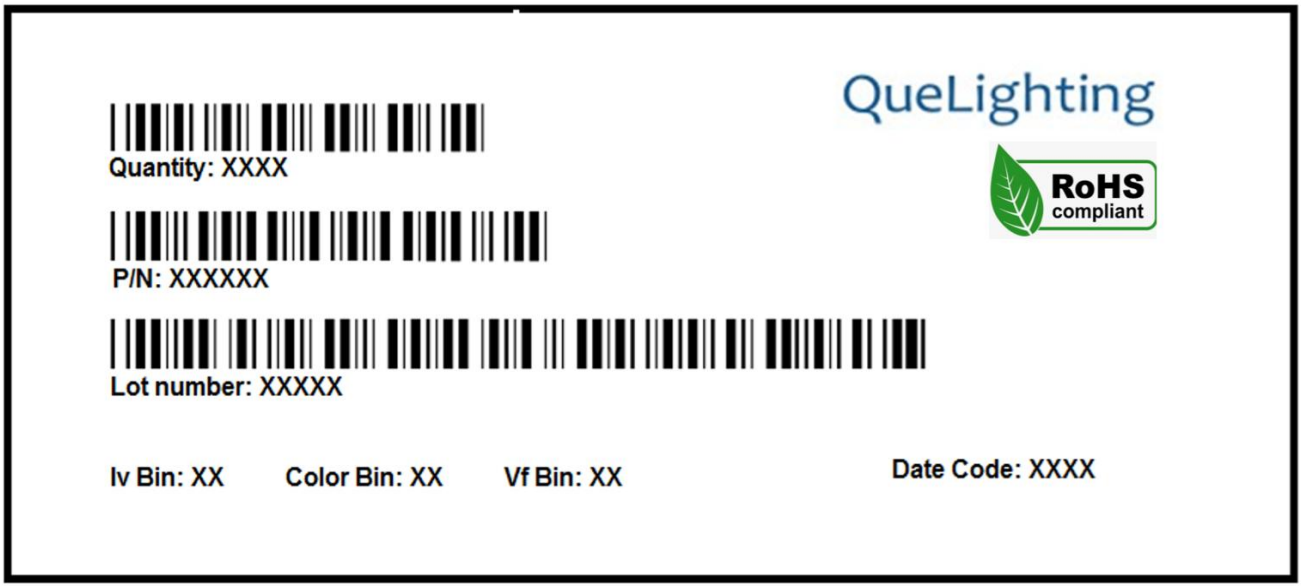
Taping & Packing:



Unit : mm



Labeling



Ordering Information:

Part #	Multiple Quantities	Quantity per Reel
QLSP13095RH		3000 pcs

Revision History:

Revision Date:	Changes:	Version #:
02-10-2026	Initial release	1.0