QueLighting

QLSP27RD_B
PLCC 2
30 degree
(black housing)

Product Outline:

This high output reflector type 3528 LEDs are available in Red color. This special package is ideal for customer's application in traffic signal and sign boards. With special binning technology, Quelighting is able to provide special binning for customer's needs

Features:

- High brightness output @ 50mA
- Package Dimension = 3.5mmX2.8mmX3.5mm
- PLCC-2 30 degree viewing angle
- Black Housing
- RoHS compliant
- Custom Bin available upon special request

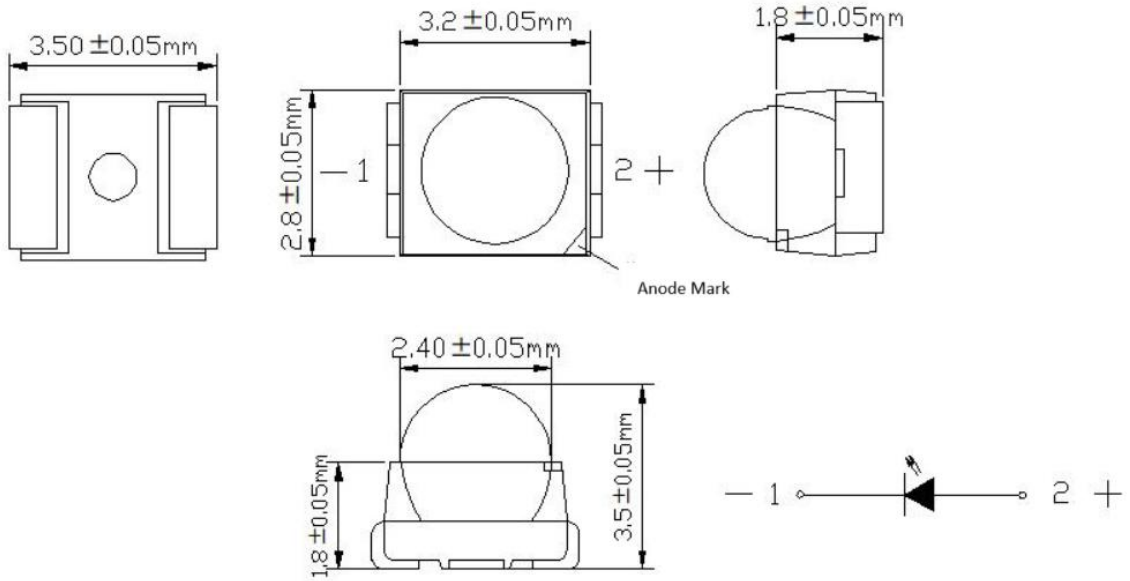
Application:

- Sign board backlighting
- Emergency vehicle lighting
- Traffic signal lighting

Compliance and Certification:

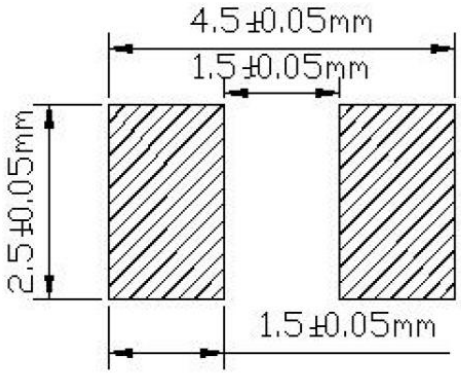
Mechanical Property:

(Dimension)



Units: mm

Back side layout for Solder footprint purpose:



Units: mm

Electrical / Optical Characteristic

(T=25 °C)

Product	Color	I_F(mA)	V_F(V)		λD (nm)			Iv(mcd)	
			Typ.	max	Min.	Typ.	Max.	min	typ.
QLSP27RD_B	Red	50	2.0	2.6	620	-	630	9000	13000

(1) The Forward Voltage tolerance is ±0.1V
(2) The λD tolerance is ±1nm
(3) The Iv 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)**	ESD HBM (V)
QLSP27RD_B	100	50	80	5	-40 – 85	-40 - 100	260	3000

*Duty 1/10 @ 10Khz
** Junction Temperature
*** IR Reflow for no more than 10 sec @ 260 °C
**** Thermal resistance is calculated from junction to solder

Forward Voltage (V_F) Bin:

VF rank @ 50mA			
Code name	Min.	Max.	Unit
RS	2.0	2.2	V
TU	2.2	2.4	
VW	2.4	2.6	

The forward voltage tolerance is ± 0.1V

Luminous Intensity Bin:

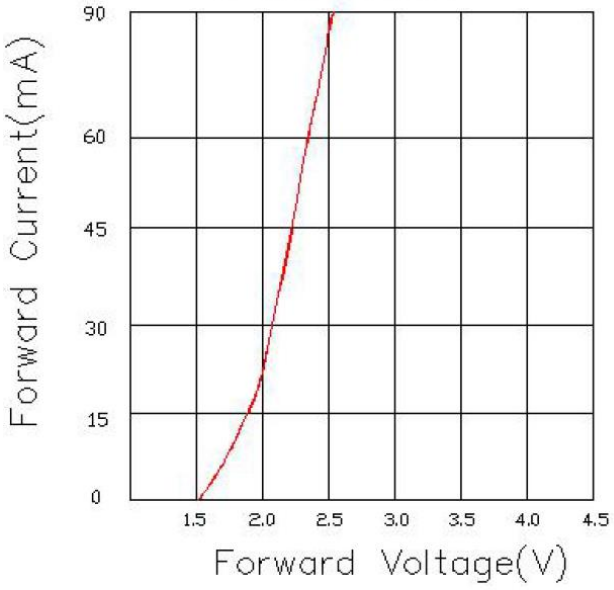
Iv rank @ 50mA			
Code name	**Min.**	**Max.**	**Unit**
X913	9000	13000	mcd
X1318	13000	18000	

luminous intensity tolerance is ± 7%

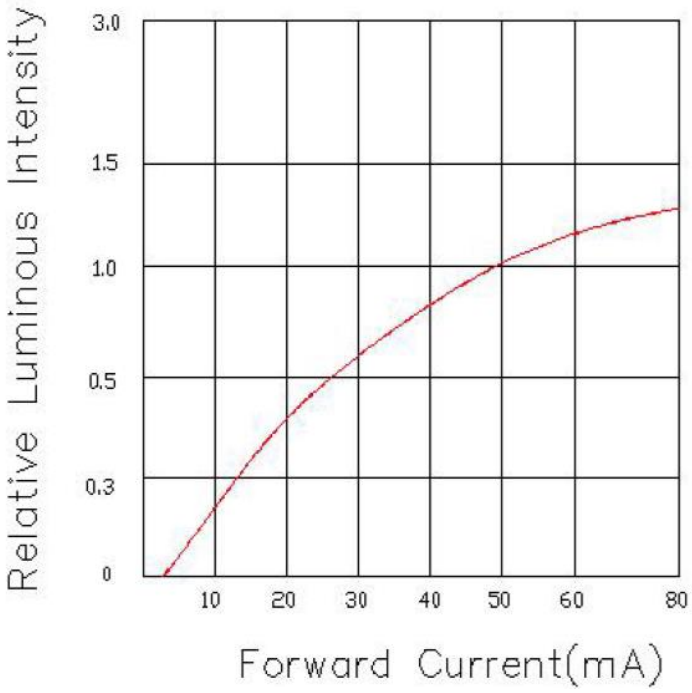
Dominant Wavelength Bin:

λD @ IF=50mA			
Code name	**Min.**	**Max.**	**Unit**
A8	620	625	nm
A9	625	630	

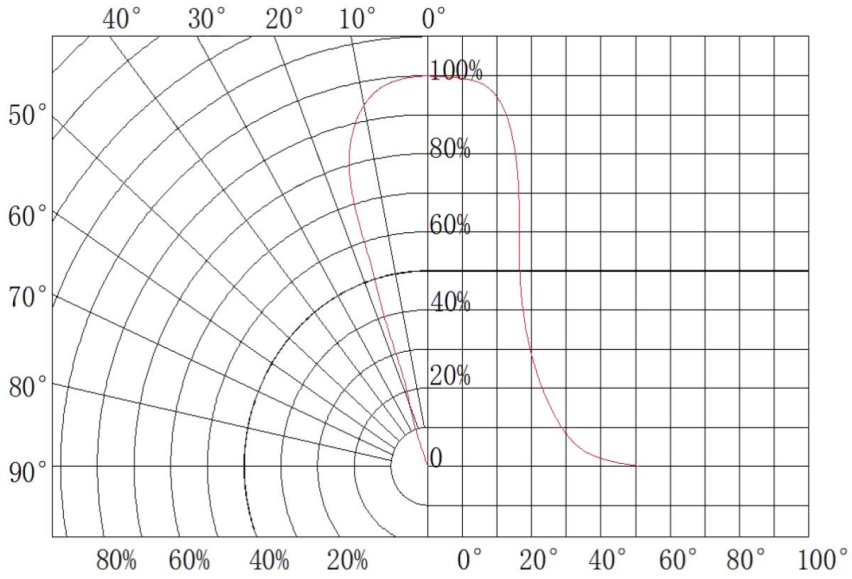
Characteristic Curves



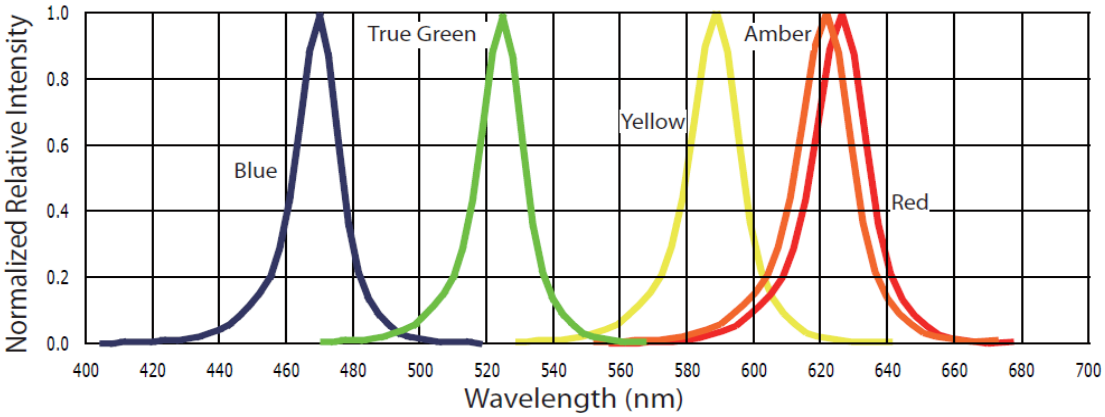
Forward Voltage vs. Forward Current



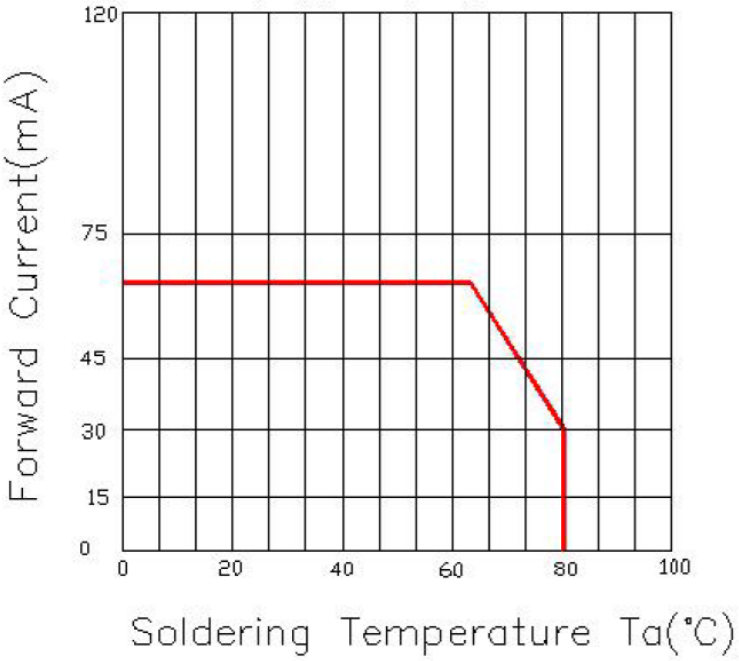
Forward current vs. Relative luminous intensity



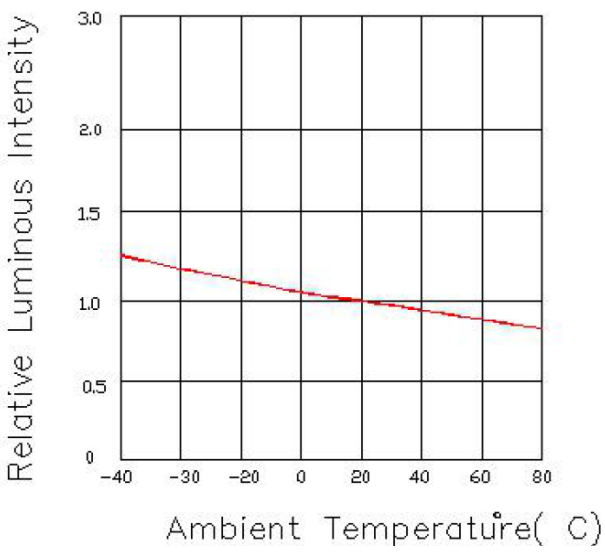
Radiation Pattern



Spectrum Distribution



Relative Forward Voltage vs Ambient Temperature



Relative Luminous Intensity vs Ambient Temperature

Solder Profile:

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

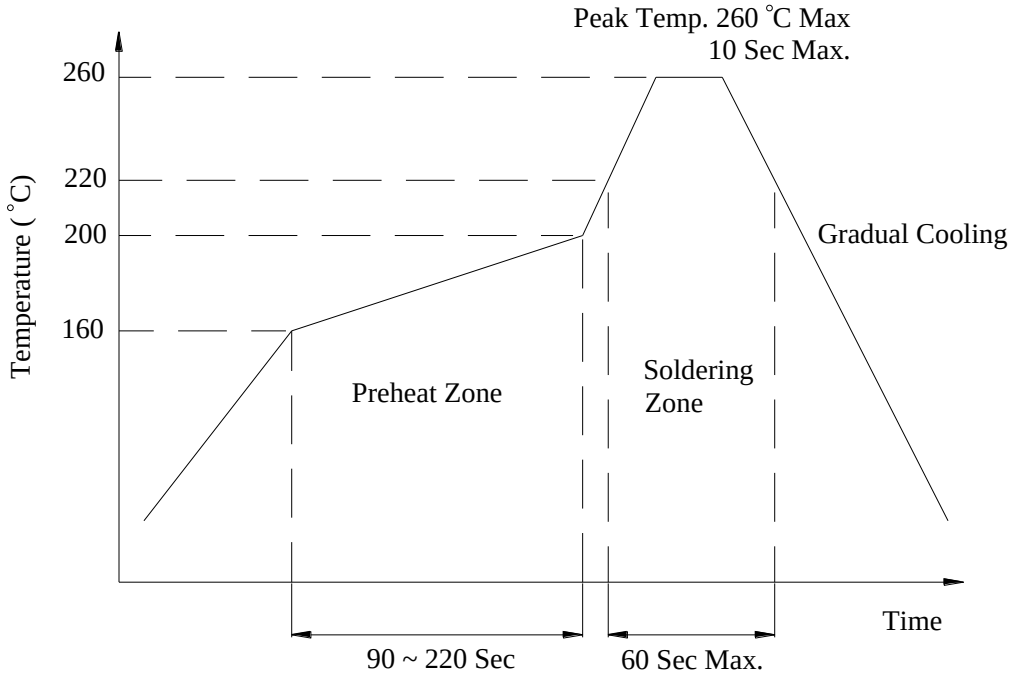
- When soldering LEDs,
- Do not solder/reflow the same LED over two times.
- Recommend soldering conditions:

  Hand soldering: 300 ℃ max , 3 sec. max.

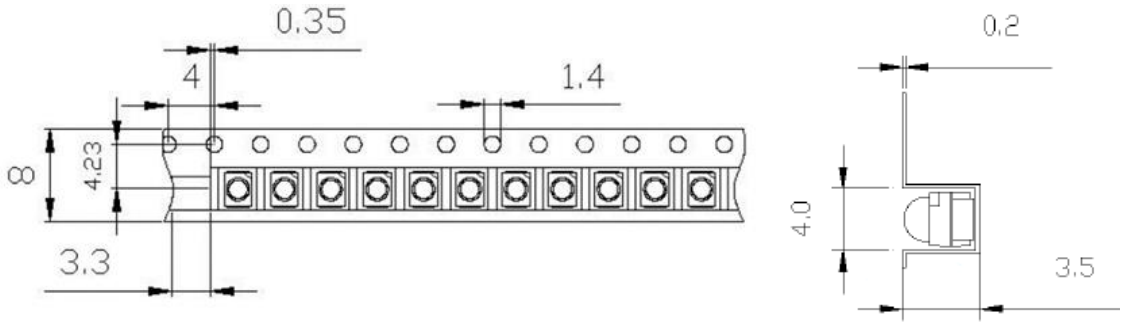
  Reflow soldering: Pre-heat 150 max , 180 sec. max. ℃

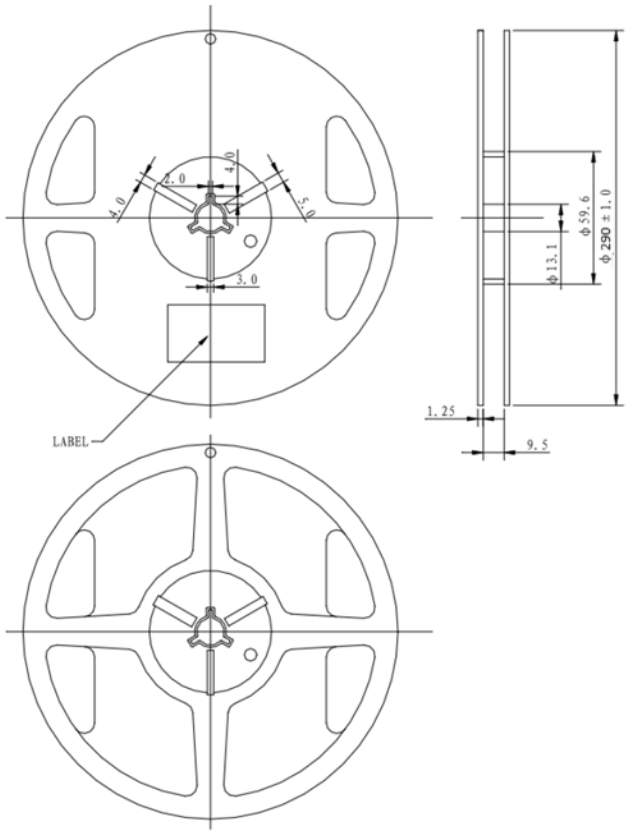
  Peak 260 ma ℃ x , 5 sec. max.

- Reflow temperature profile as below: (lead-free solder)

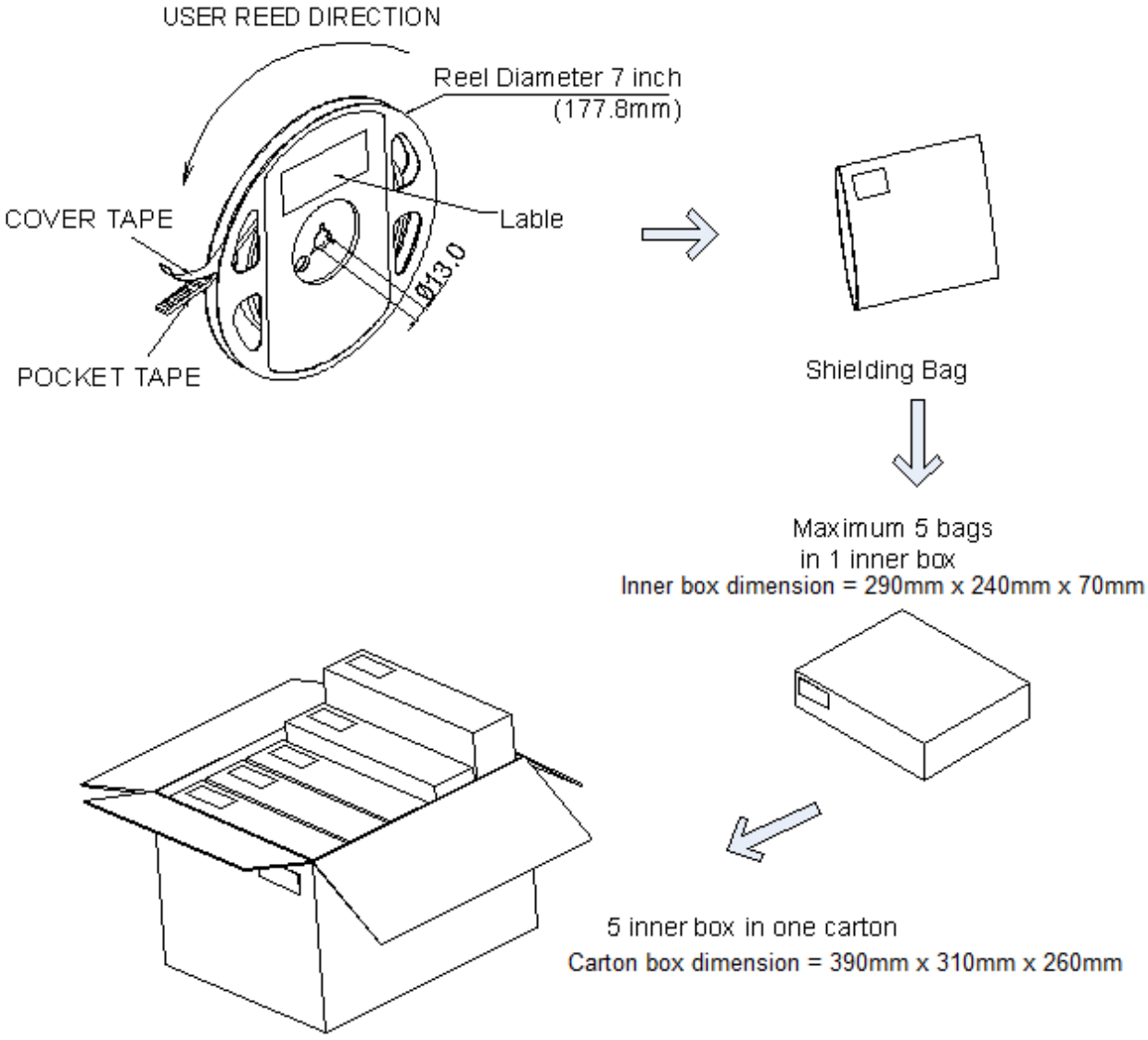


Taping & Packing:

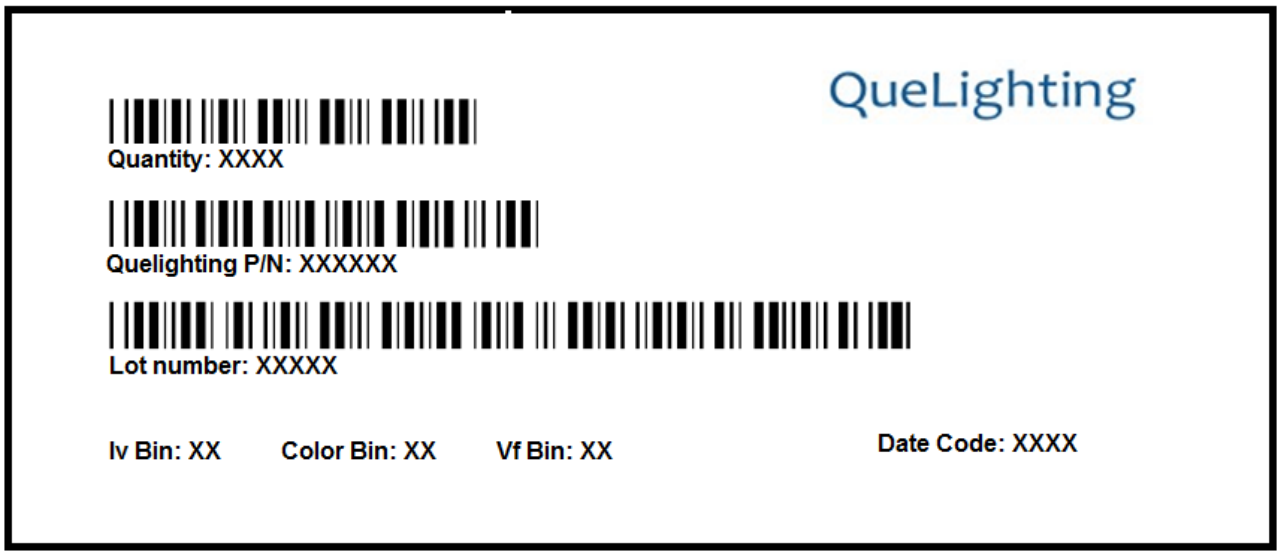




Unit : mm


USER REED DIRECTION
Reel Diameter 7 inch
(177.8mm)
COVER TAPE
Lable
ø13.0
POCKET TAPE
Shielding Bag
Maximum 5 bags
in 1 inner box
Inner box dimension = 290mm x 240mm x 70mm
5 inner box in one carton
Carton box dimension = 390mm x 310mm x 260mm

Labeling



Ordering Information:

Part #	Multiple Quantities	Quantity per Reel
QLSP27RD_B		2000 pcs

Revision History:

Revision Date:	Changes:	Version #:
11-01-2024	Initial release	1.0