

**QTLP630C-2 HER**  
**QTLP630C-4 Green**  
**QTLP630C-B Blue**

**QTLP630C-3 Yellow**  
**QTLP630C-7 AlGaAs Red**

## Surface Mount LED Lamp, Standard Bright 0805

### Features

- Small footprint – 2.0(L) X 1.25(W) X 1.1(H) mm
- Wide viewing angle of 140°
- Water clear optics
- Moisture-proof packaging
- Available in 0.315" (8mm) width tape on 7" (178mm) diameter reel; 2,000 units per reel

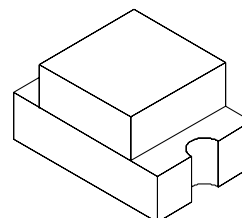
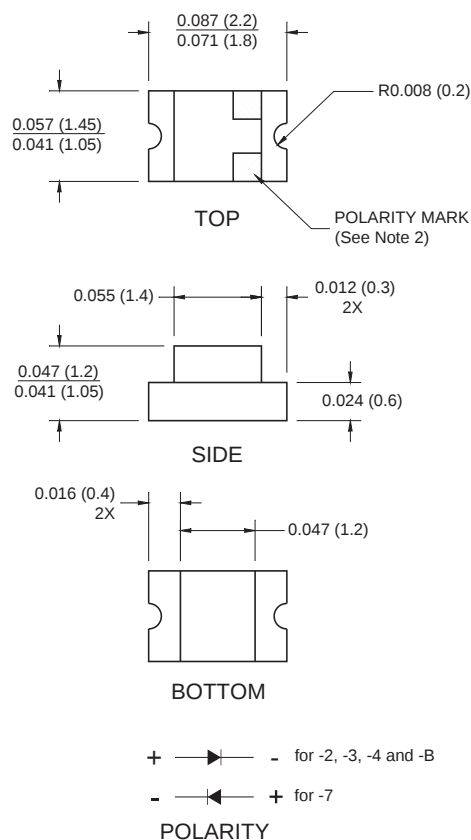
### Applications

- Keypad backlighting
- Push-button backlighting
- LCD backlighting

### Description

These surface mount chip LEDs are designed to fit industry standard footprint. Low profile and wide viewing angle make these LEDs ideal choices for backlighting applications and panel illumination.

### Package Dimensions



#### NOTE:

1. Dimensions for all drawings are in inches (mm).
2. Cathode for -2, -3, -4 and B. Anode for -7.

# **Absolute Maximum Ratings** ( $T_A = 25^{\circ}\text{C}$ unless otherwise specified)

| Parameter                                                            | Symbol    | QTLP630C      |     |     |     |     | Unit               |
|----------------------------------------------------------------------|-----------|---------------|-----|-----|-----|-----|--------------------|
|                                                                      |           | -2            | -3  | -4  | -7  | -B  |                    |
| Continuous Forward Current                                           | $I_F$     | 30            | 30  | 30  | 30  | 30  | mA                 |
| Peak Forward Current<br>( $f = 1.0\text{ KHz}$ , Duty Factor = 1/10) | $I_{FM}$  | 160           | 160 | 160 | 180 | 100 | mA                 |
| Reverse Voltage ( $I_R = 10\text{ }\mu\text{A}$ )                    | $V_R$     | 5             | 5   | 5   | 5   | 5   | V                  |
| Power Dissipation                                                    | $P_D$     | 84            | 84  | 84  | 72  | 135 | mW                 |
| Operating Temperature                                                | $T_{OPR}$ | -40 to +85    |     |     |     |     | $^{\circ}\text{C}$ |
| Storage Temperature                                                  | $T_{STG}$ | -40 to +90    |     |     |     |     | $^{\circ}\text{C}$ |
| Lead Soldering Time                                                  | $T_{SOL}$ | 260 for 5 sec |     |     |     |     | $^{\circ}\text{C}$ |

## **Electrical/Optical Characteristics** ( $T_A = 25^{\circ}\text{C}$ )

| Parameter                     | Symbol                         | QTLP630C |     |     |     |     | Condition             |
|-------------------------------|--------------------------------|----------|-----|-----|-----|-----|-----------------------|
|                               |                                | -2       | -3  | -4  | -7  | -B  |                       |
| Luminous Intensity (mcd)      |                                |          |     |     |     |     |                       |
| Minimum                       | I <sub>V</sub>                 | 5        | 5   | 6   | 10  | 15  | I <sub>F</sub> = 20mA |
| Typical                       |                                | 10       | 10  | 10  | 20  | 20  |                       |
| Forward Voltage (V)           |                                |          |     |     |     |     |                       |
| Maximum                       | V <sub>F</sub>                 | 2.8      | 2.8 | 2.8 | 2.4 | 4.5 | I <sub>F</sub> = 20mA |
| Typical                       |                                | 2.0      | 2.0 | 2.1 | 1.9 | 3.8 |                       |
| Wavelength (nm)               |                                |          |     |     |     |     |                       |
| Peak                          | λ <sub>P</sub>                 | 635      | 585 | 565 | 660 | 430 | I <sub>F</sub> = 20mA |
| Dominant                      | λ <sub>D</sub>                 | 630      | 590 | 570 | 645 | 465 |                       |
| Spectral Line Half Width (nm) | Δ <sub>λ</sub>                 | 45       | 35  | 30  | 20  | 65  | I <sub>F</sub> = 20mA |
| Viewing Angle (°)             | 2Θ <sup>1</sup> / <sub>2</sub> | 140      | 140 | 140 | 140 | 140 | I <sub>F</sub> = 20mA |

## Typical Performance Curves

Fig. 1 Forward Current vs. Forward Voltage

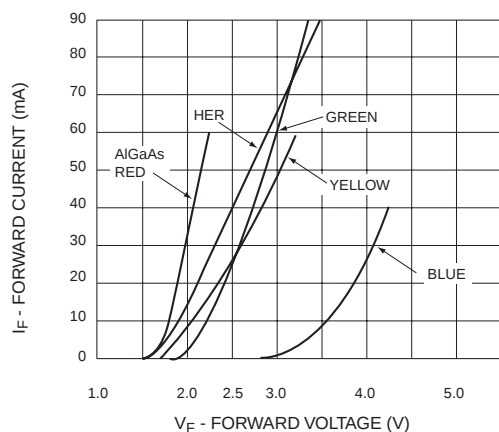


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

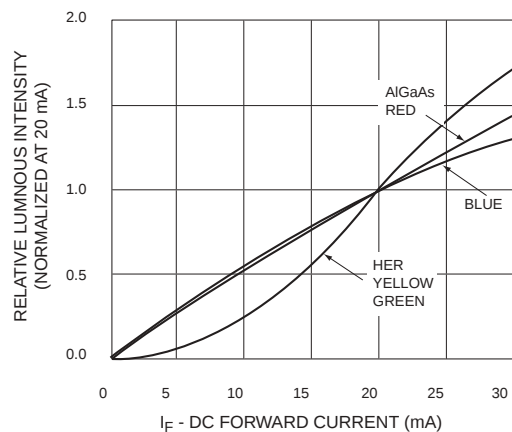


Fig. 3 Relative Intensity vs. Peak Wavelength

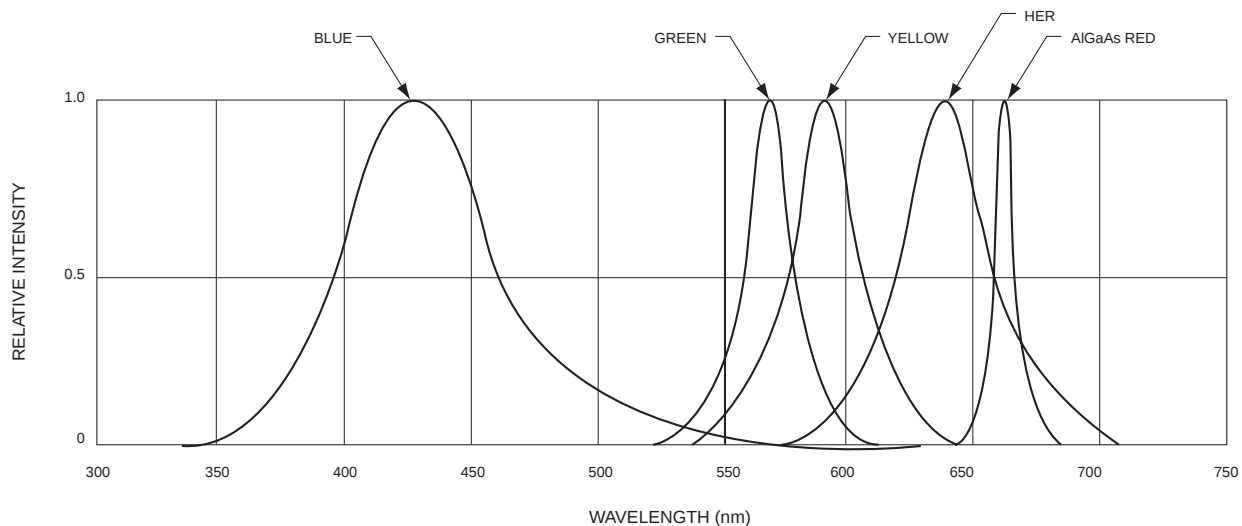


Fig.4 Radiation Diagram

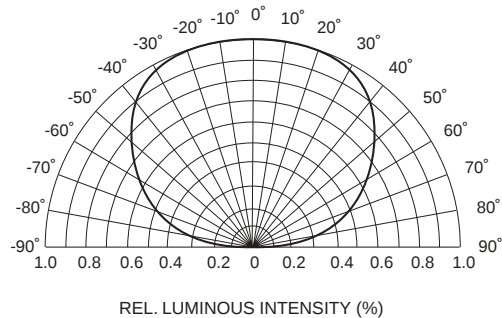
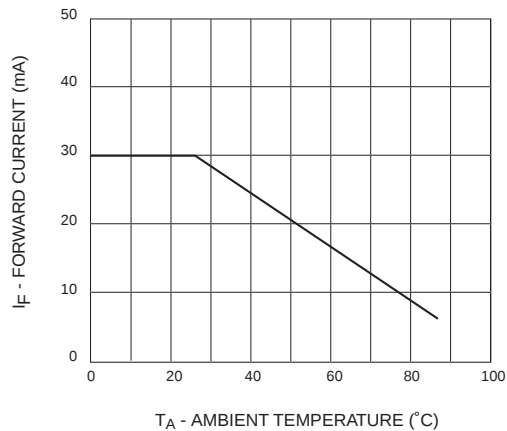
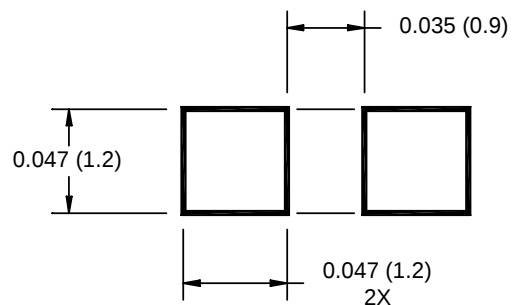


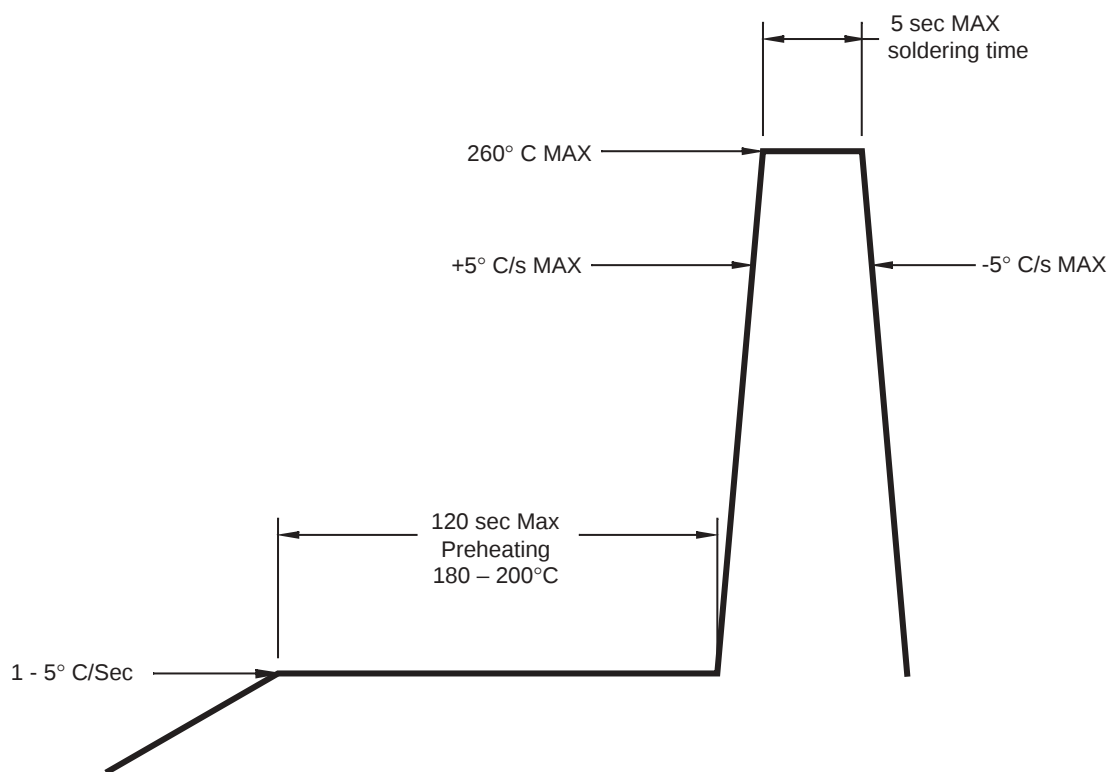
Fig.5 Maximum Forward Current vs. Ambient Temperature



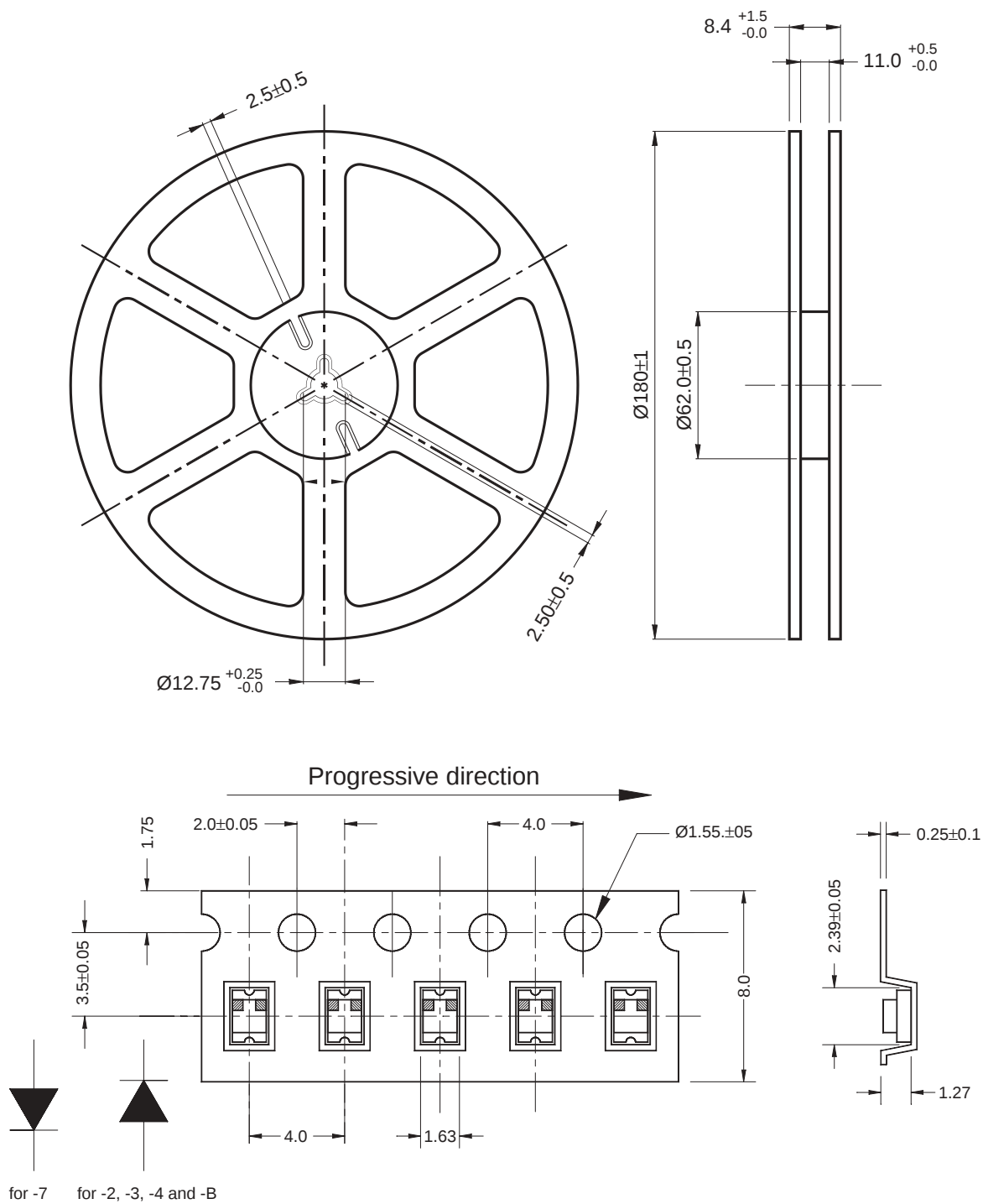
## Recommended Printed Circuit Board Pattern



## Recommended IR Reflow Soldering Profile



# Tape and Reel Dimensions



Dimensional tolerance is  $\pm 0.1\text{mm}$  unless otherwise specified  
Angle:  $\pm 0.5$   
Unit: mm

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