

**QTLP600C-2 HER**

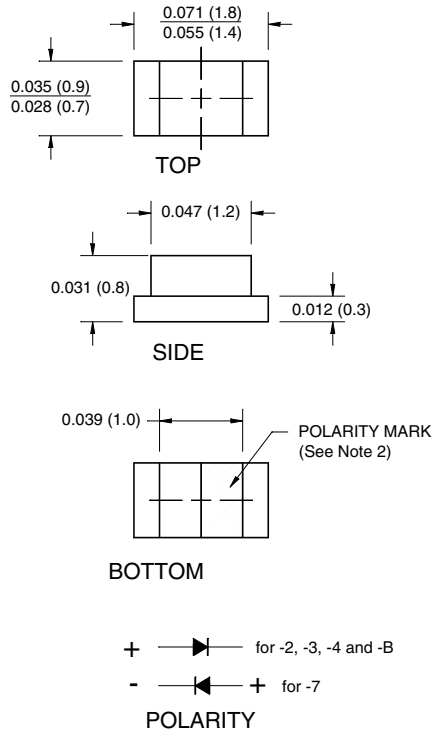
**QTLP600C-3 Yellow**

**QTLP600C-4 Green**

**QTLP600C-7 AlGaAs Red**

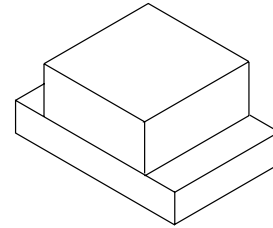
**QTLP600C-B Blue**

**PACKAGE DIMENSIONS**



**NOTE:**

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



**APPLICATIONS**

- Keypad backlighting
- Push-button backlighting
- LCD backlighting

**DESCRIPTION**

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

**FEATURES**

- Miniature footprint - 1.6(L) X 0.8(W) X 0.8(H) mm
- Wide viewing angle of 100°
- Water clear optics
- Moisture-proof packaging
- Available in 0.315" (8mm) width tape on 7" (178mm) diameter reel; 2,000 units per reel

# SURFACE MOUNT LED LAMP

## STANDARD BRIGHT 0603 (0.8 mm Height)

### QTLP600C

**QTLP600C-2** HER

**QTLP600C-3** Yellow

**QTLP600C-4** Green

**QTLP600C-7** AlGaAs Red

**QTLP600C-B** Blue

**ABSOLUTE MAXIMUM RATINGS** ( $T_A = 25^\circ\text{C}$  Unless otherwise specified)

| Parameter  | Symbol    | QTLP600C      |     |     |     |     | Units            |
|--|-----------|---------------|-----|-----|-----|-----|------------------|
|  |           | -2            | -3  | -4  | -7  | -B  |                  |
| Continuous Forward Current                                   | $I_F$     | 30            | 30  | 30  | 30  | 30  | mA               |
| Peak Forward Current<br>( $f = 1.0$ KHz, Duty Factor = 1/10) | $I_{FM}$  | 160           | 160 | 160 | 180 | 100 | mA               |
| Reverse Voltage ( $I_R = 10 \mu\text{A}$ )                   | $V_R$     | 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** ( $T_A = 25^\circ\text{C}$ )

| Part Number                   | Symbol          | QTLP600C |     |     |     |     | Condition           |
|-------------------------------|-----------------|----------|-----|-----|-----|-----|---------------------|
|                               |                 | -2       | -3  | -4  | -7  | -B  |                     |
| Luminous Intensity (mcd)      | $I_V$           | 5        | 5   | 9   | 10  | 15  | $I_F = 20\text{mA}$ |
| Minimum                       |                 | 9        | 9   | 18  | 20  | 20  |                     |
| Forward Voltage (V)           | $V_F$           | 2.8      | 2.8 | 2.8 | 2.4 | 4.5 | $I_F = 20\text{mA}$ |
| Maximum                       |                 | 2.0      | 2.0 | 2.1 | 1.9 | 3.8 |                     |
| Wavelength (nm)               | $\lambda_P$     | 635      | 585 | 565 | 660 | 430 | $I_F = 20\text{mA}$ |
| Peak                          |                 | 630      | 590 | 570 | 645 | 465 |                     |
| Dominant                      | $\lambda_D$     | 45       | 35  | 30  | 20  | 65  | $I_F = 20\text{mA}$ |
| Spectral Line Half Width (nm) | $\Delta\lambda$ | 100      | 100 | 100 | 100 | 100 | $I_F = 20\text{mA}$ |
| Viewing Angle ( $^\circ$ )    | $2\theta_{1/2}$ |          |     |     |     |     |                     |

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### TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

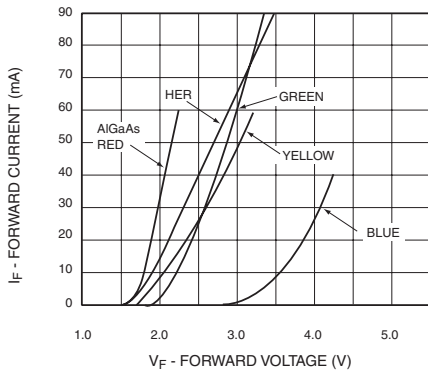


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

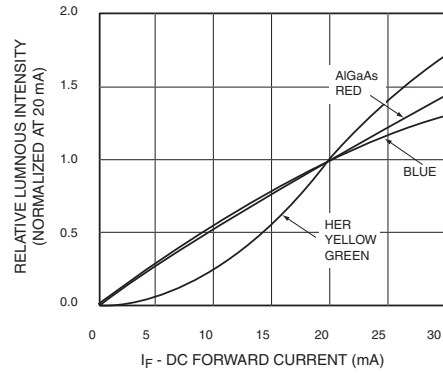


Fig. 3 Relative Intensity vs. Peak Wavelength

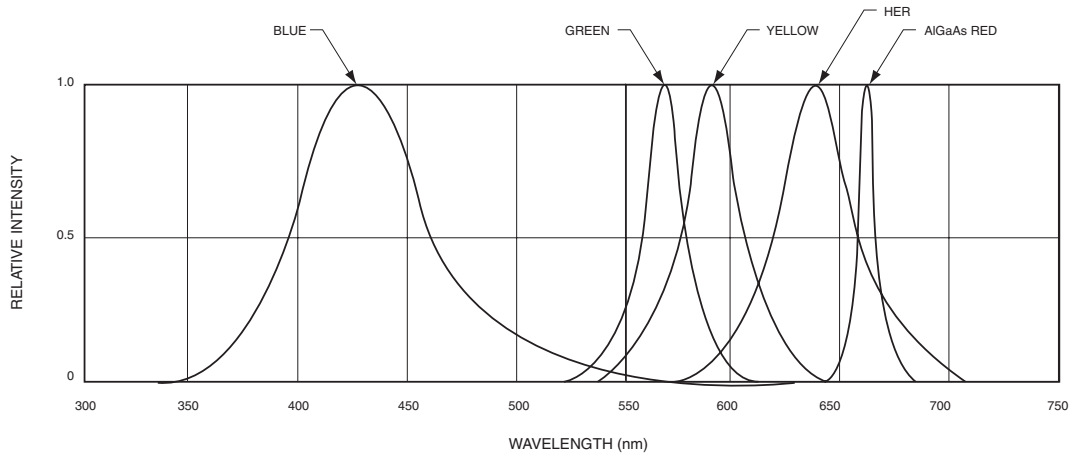


Fig. 4 Radiation Diagram

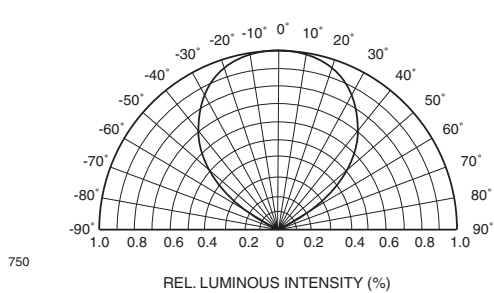
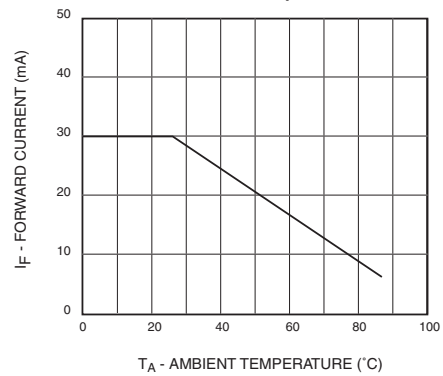


Fig. 5 Maximum Forward Current vs. Ambient Temperature



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STANDARD BRIGHT 0603 (0.8 mm Height)  
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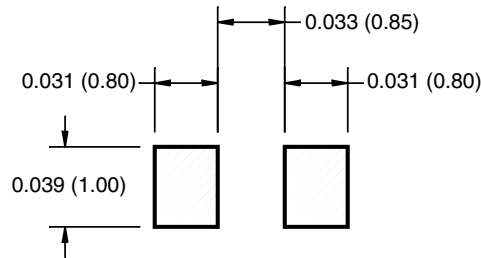
**QTLP600C-3** Yellow

**QTLP600C-4** Green

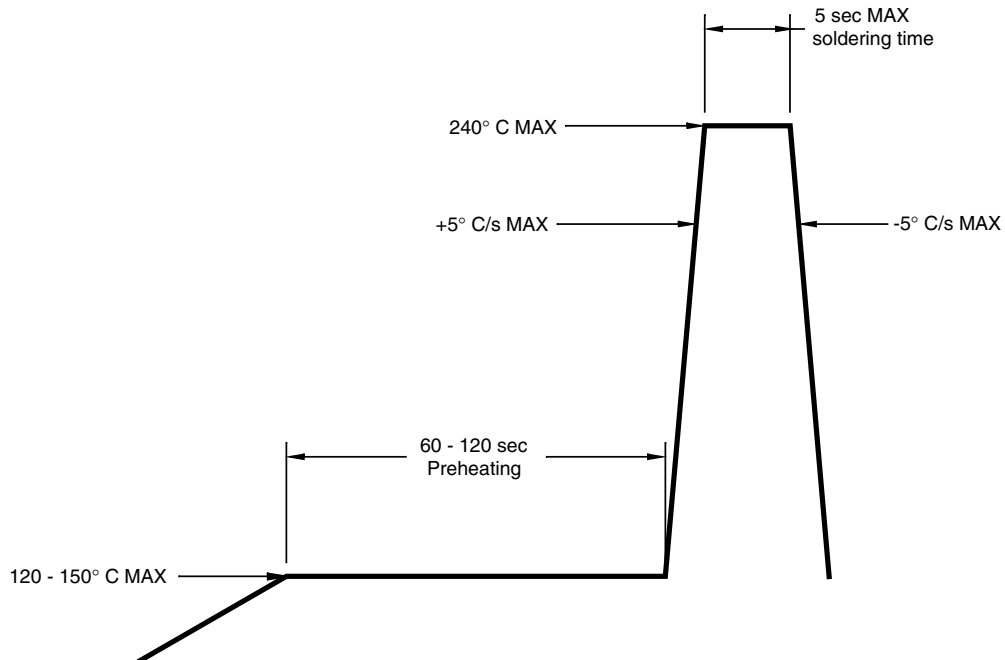
**QTLP600C-7** AlGaAs Red

**QTLP600C-B** Blue

**RECOMMENDED PRINTED CIRCUIT BOARD PATTERN**



**RECOMMENDED IR REFLOW SOLDERING PROFILE**



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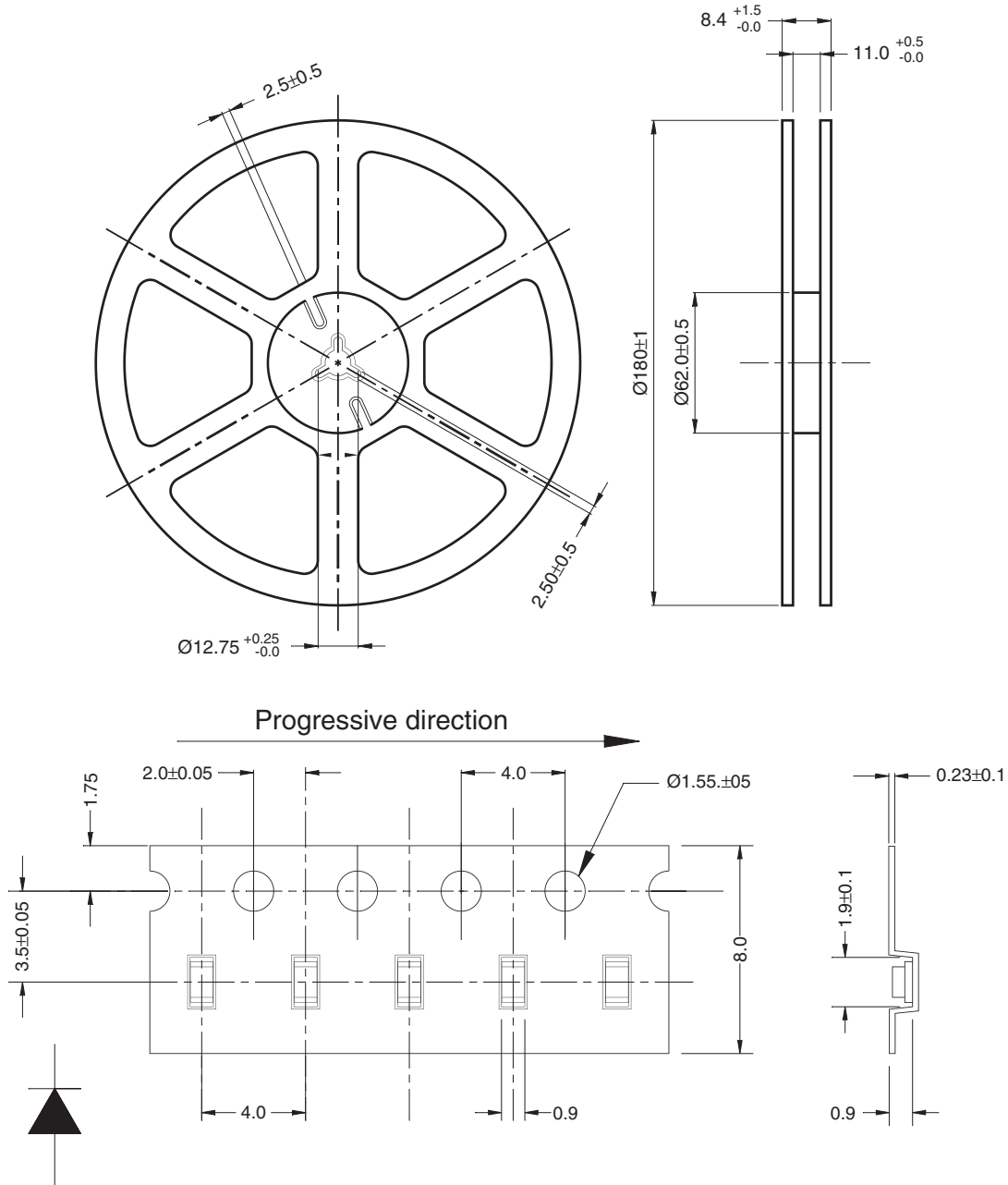
QTLP600C-3 Yellow

QTLP600C-4 Green

QTLP600C-7 AlGaAs Red

QTLP600C-B Blue

**TAPE AND REEL DIMENSIONS**



for -2, -3, -4, -B and -7 Dimensional tolerance is  $\pm 0.1$ mm unless otherwise specified

Polarity

Angle:  $\pm 0.5$

Unit: mm

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