

**QTLP601C-2 HER**

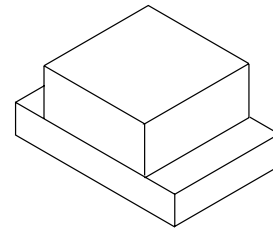
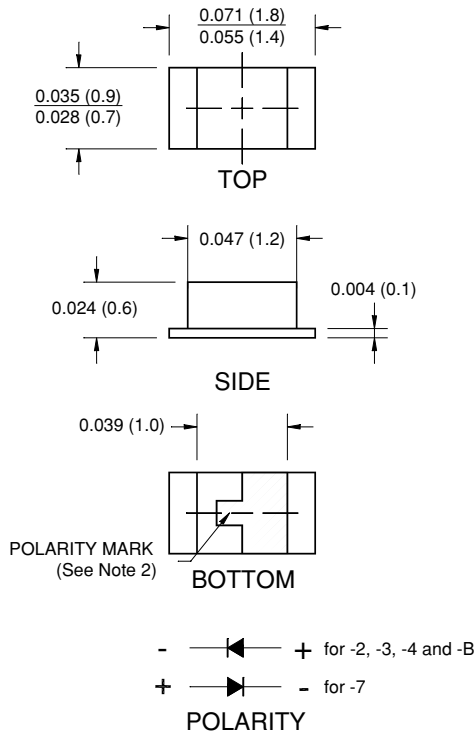
**QTLP601C-3 Yellow**

**QTLP601C-4 Green**

**QTLP601C-7 AlGaAs Red**

**QTLP601C-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 0.6(H) mm
- Wide viewing angle of 120°
- 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 (0.6 mm Height)

**QTLP601C-2** HER

**QTLP601C-3** Yellow

**QTLP601C-4** Green

**QTLP601C-7** AlGaAs Red

**QTLP601C-B** Blue

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

Parameter	Symbol	QTLP601C					Units
		-2	-3	-4	-7	-B	
Continuous Forward Current	$I_F$	30	30	30	30	30	mA
Peak Forward Current ( $f = 1.0$ 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	QTLP601C					Condition
		-2	-3	-4	-7	-B	
Luminous Intensity (mcd)	$I_V$	4	3	7	8	15	$I_F = 20\text{mA}$
Minimum							
Typical		6	5	15	15	20	
Forward Voltage (V)	$V_F$	2.8	2.8	2.8	2.4	4.5	$I_F = 20\text{mA}$
Maximum							
Typical		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							
Dominant	$\lambda_D$	630	590	570	645	465	
Spectral Line Half Width (nm)	$\Delta\lambda$	45	35	30	20	65	$I_F = 20\text{mA}$
Viewing Angle ( $^\circ$ )	$2\Theta_{1/2}$	120	120	120	120	120	$I_F = 20\text{mA}$

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**TYPICAL PERFORMANCE CURVES**

Fig. 1 Forward Current vs. Forward Voltage

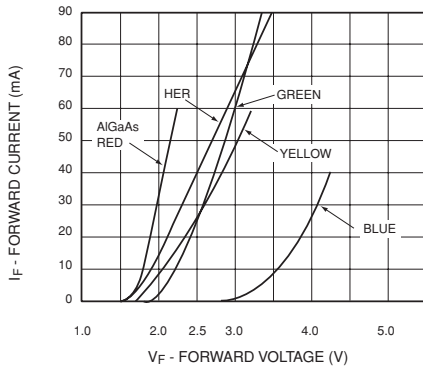


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

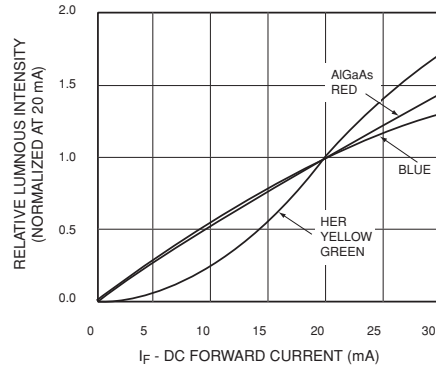


Fig. 3 Relative Intensity vs. Peak Wavelength

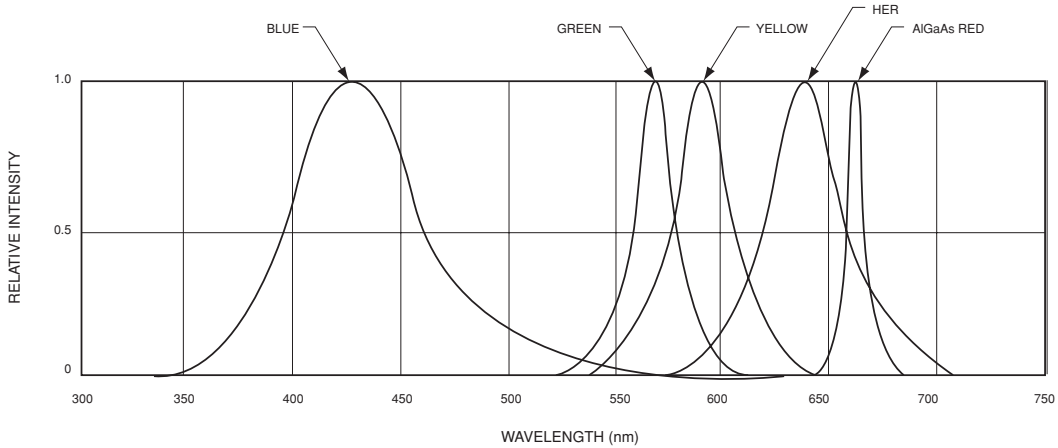


Fig.4 Radiation Diagram

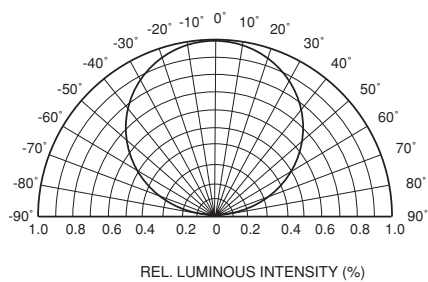
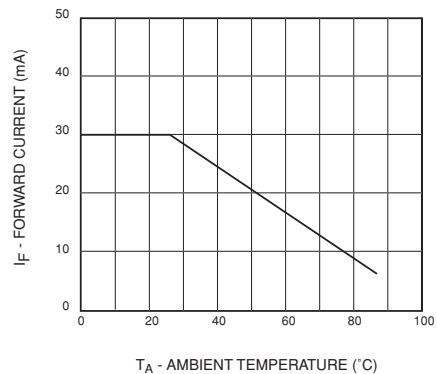


Fig.5 Maximum Forward Current vs. Ambient Temperature



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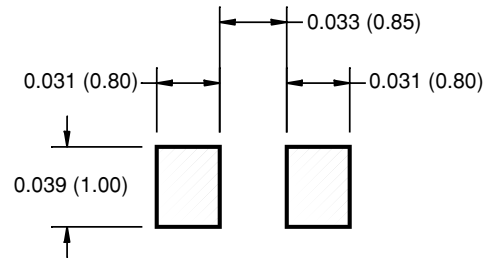
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QTLP601C-4 Green

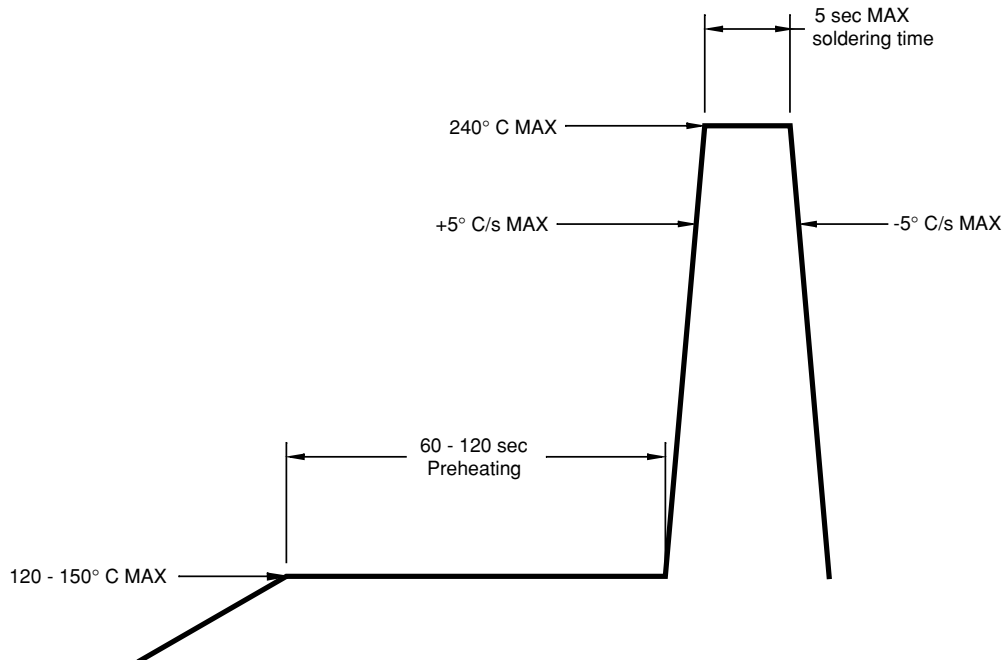
QTLP601C-7 AlGaAs Red

QTLP601C-B Blue

## RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



## RECOMMENDED IR REFLOW SOLDERING PROFILE



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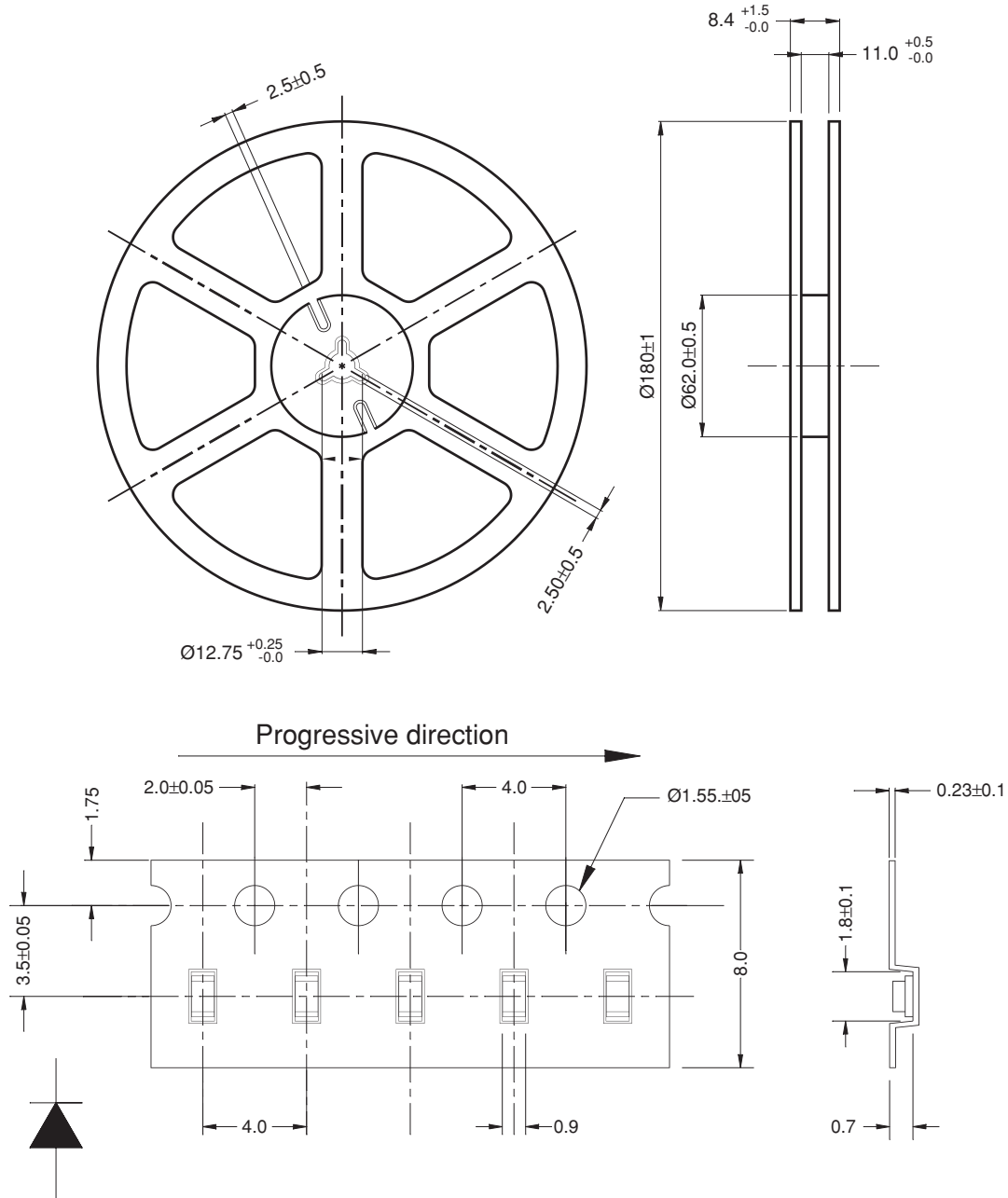
QTLP601C-3 Yellow

QTLP601C-4 Green

QTLP601C-7 AlGaAs Red

QTLP601C-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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