

QTLP610C-2 HER

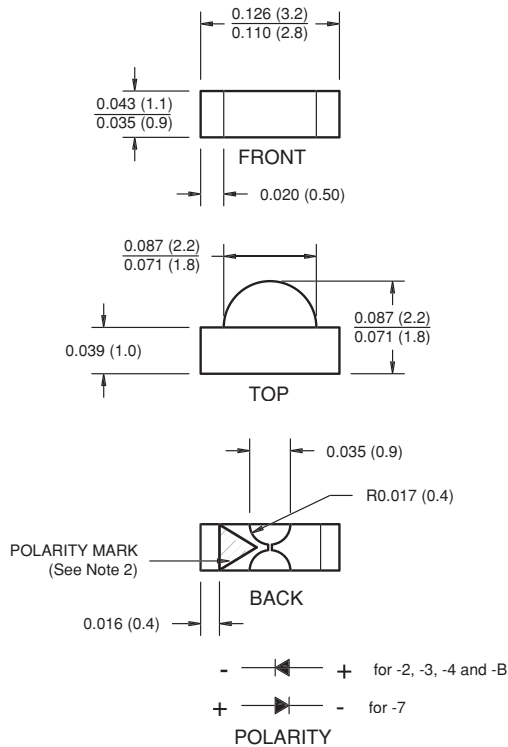
QTLP610C-3 Yellow

QTLP610C-4 Green

QTLP610C-7 AlGaAs Red

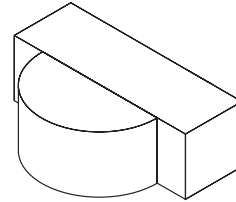
QTLP610C-B Blue

## PACKAGE DIMENSIONS



### NOTE:

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



## APPLICATIONS

- LCD edge-lighting
- Edge card edge-lighting

## DESCRIPTION

These right angle surface mount chip LEDs emit light in the lateral direction. Small size and wide viewing angle make these LEDs ideal choices for status indication in consumer electronics, industrial control and other applications.

## FEATURES

- Small footprint - 3.0(L) X 2.0(W) X 1.0(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 RIGHT ANGLE

**QTLP610C-2** HER

**QTLP610C-3** Yellow

**QTLP610C-4** Green

**QTLP610C-7** AlGaAs Red

**QTLP610C-B** Blue

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

Parameter	Symbol	QTLP610C					Units
		-2	-3	-4	-7	-B	
Continuous Forward Current	$I_F$	30	30	30	30	30	mA
Peak Forward Current ( $f = 1.0 \text{ KHz}$ , 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	QTLP610C					Condition
		-2	-3	-4	-7	-B	
Luminous Intensity (mcd)	$I_V$	3	3	5	10	15	$I_F = 20\text{mA}$
Minimum		7	7	10	20	25	
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	$\lambda_D$	630	590	570	645	465	$I_F = 20\text{mA}$
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

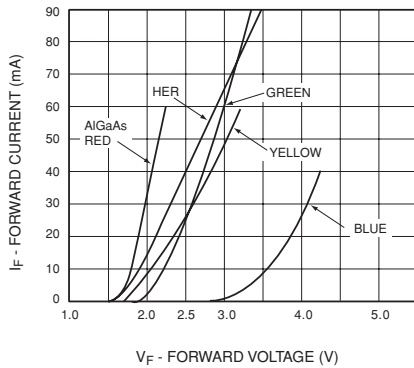


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

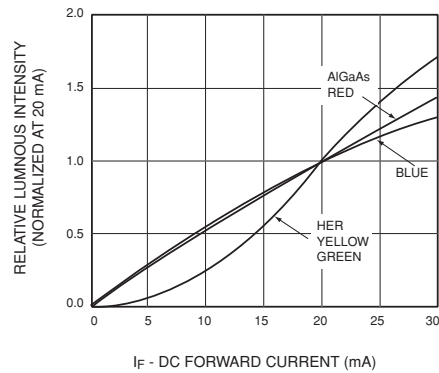


Fig. 3 Relative Intensity vs. Peak Wavelength

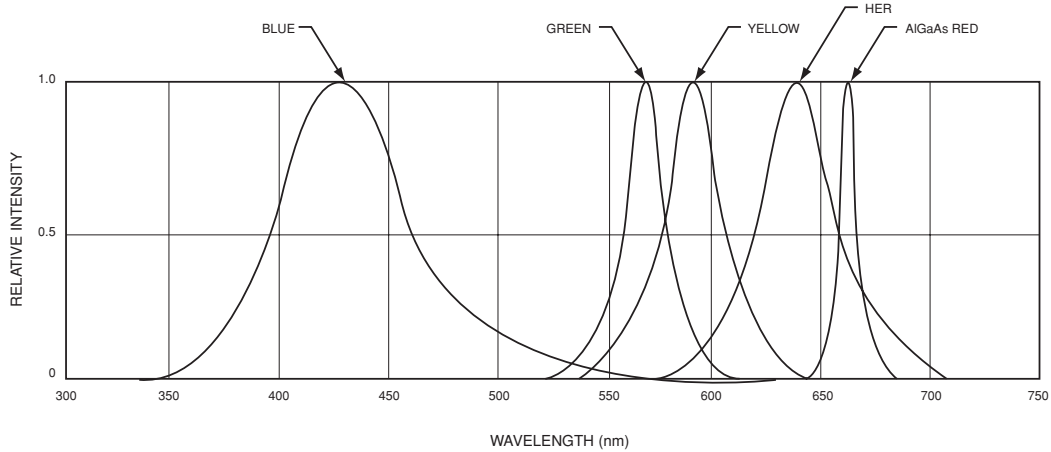


Fig. 4 Radiation Diagram

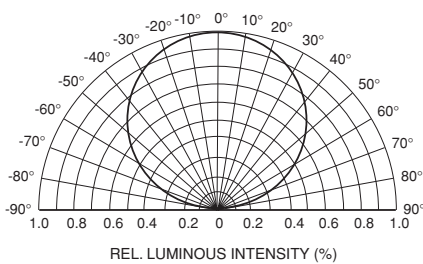
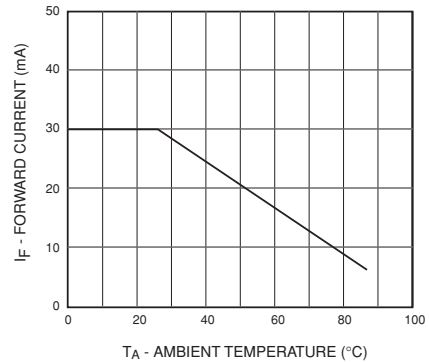


Fig. 5 Maximum Forward Current vs. Ambient Temperature



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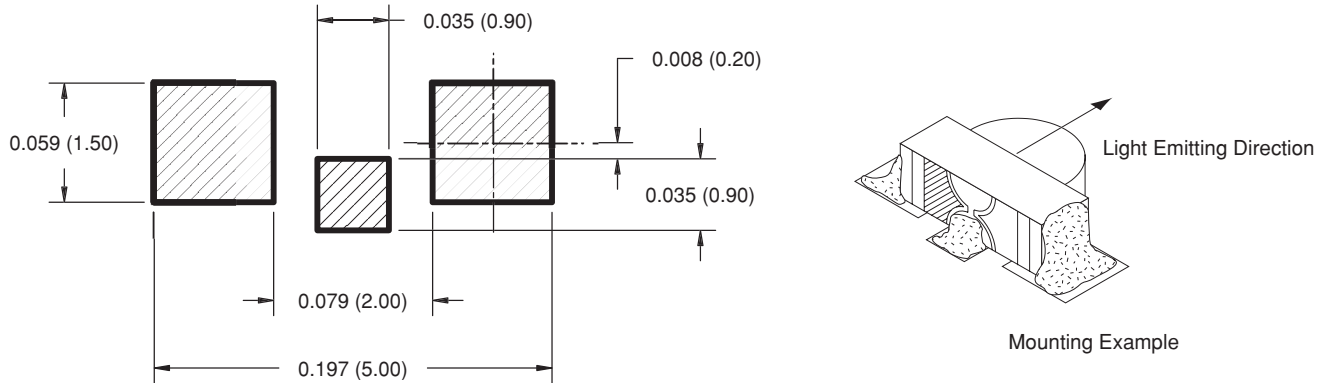
**QTLP610C-3** Yellow

**QTLP610C-4** Green

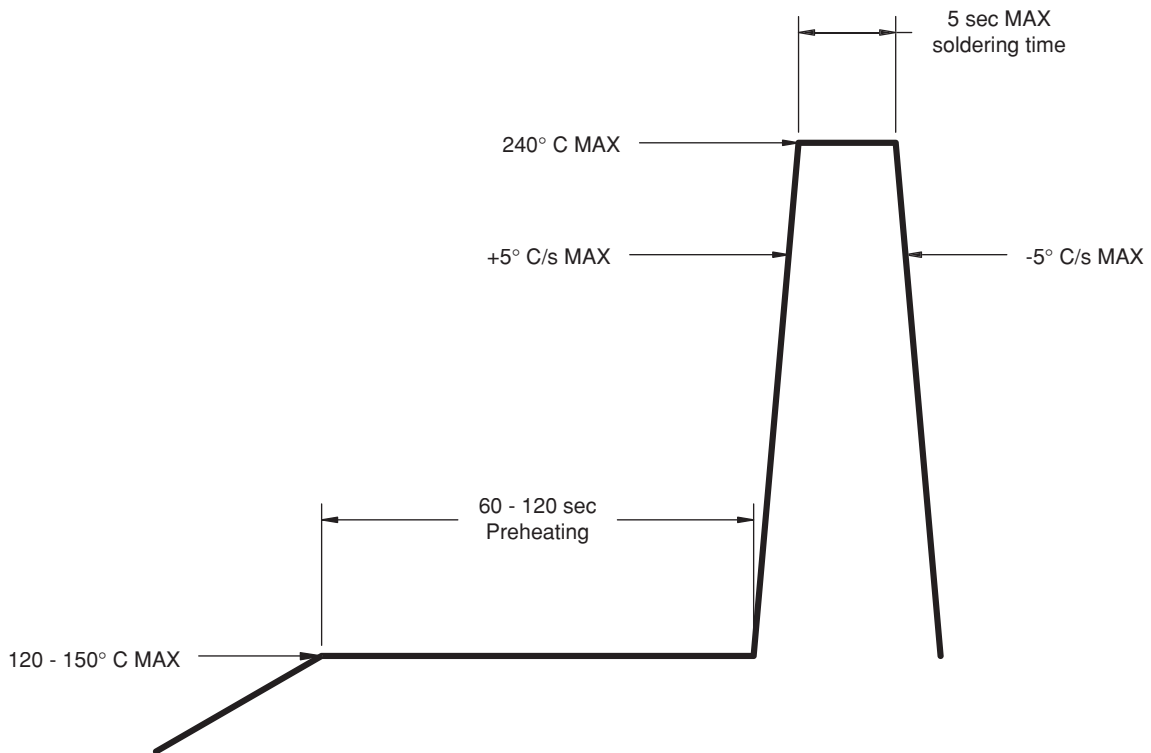
**QTLP610C-7** AlGaAs Red

**QTLP610C-B** Blue

**RECOMMENDED PRINTED CIRCUIT BOARD PATTERN**



**RECOMMENDED IR REFLOW SOLDERING PROFILE**



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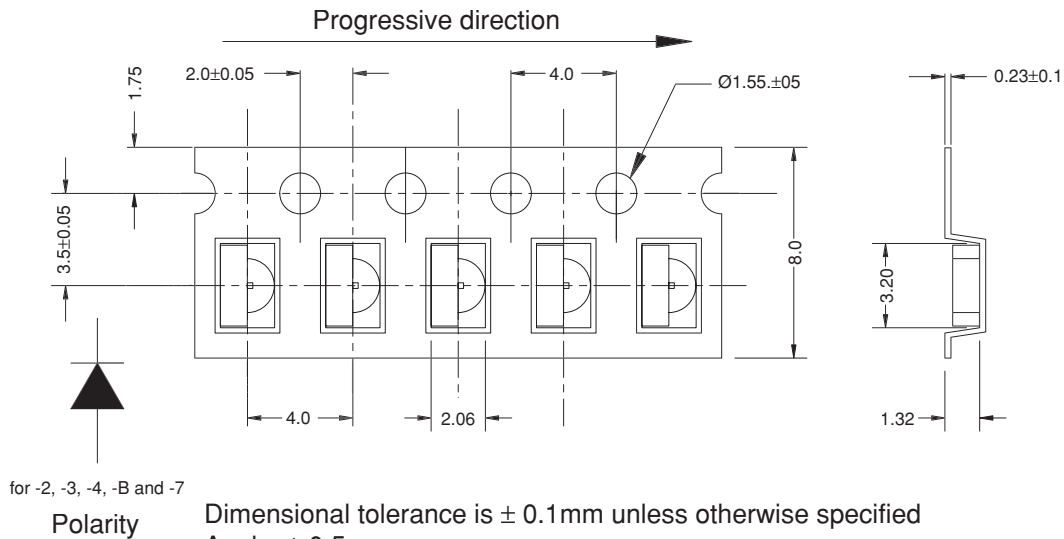
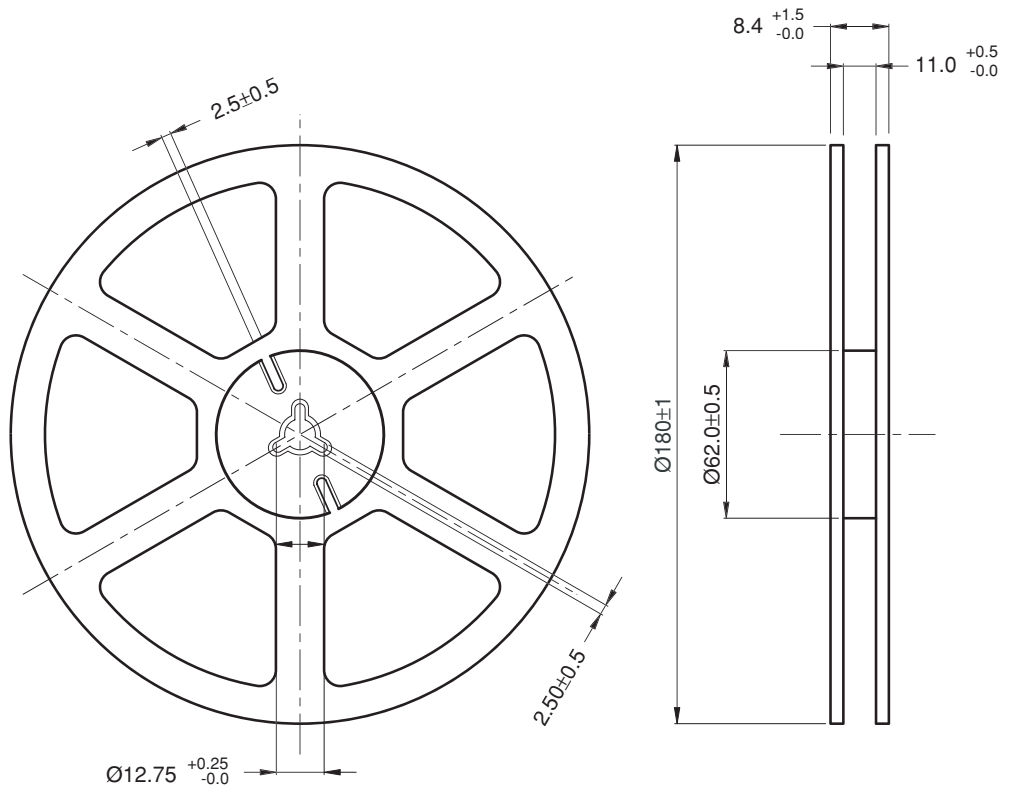
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**TAPE AND REEL DIMENSIONS**



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

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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.