



**THE DATASHEET OF  
QTLP630CBTR**



**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

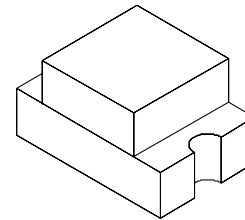
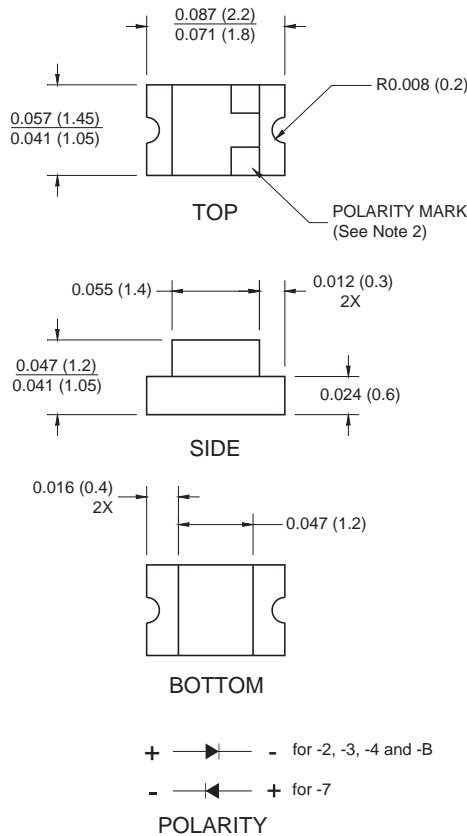
**Applications**

- 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)

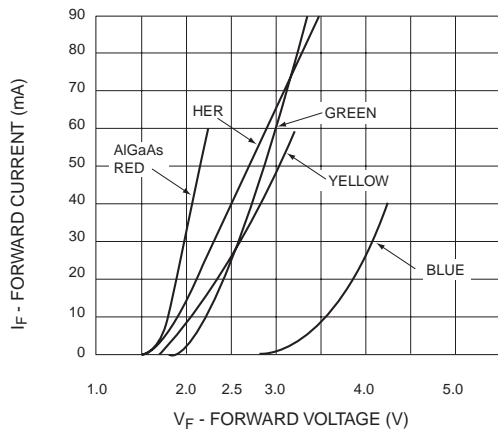
Parameter	Symbol	QTL P630C					Unit
		-2	-3	-4	-7	-B	
Continuous Forward Current	$I_F$	30	30	30	30	30	mA
Peak Forward Current ( $f = 1.0 \text{ KHz}$ , Duty Factor = 1/10)	$I_{FM}$	160	160	160	180	100	mA
Reverse Voltage ( $I_R = 10 \mu\text{A}$ )	$V_R$	5	5	5	5	5	V
Power Dissipation	$P_D$	84	84	84	72	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** ( $T_A = 25^\circ\text{C}$ )

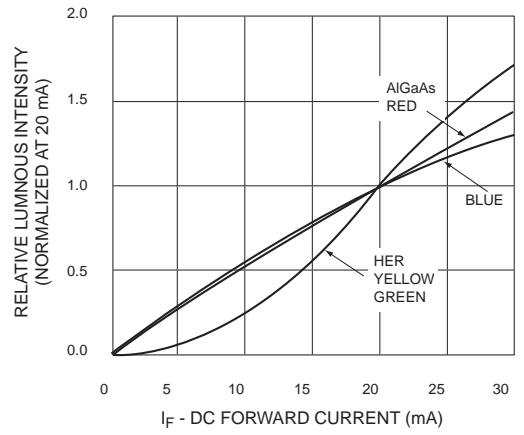
Parameter	Symbol	QTL P630C					Condition
		-2	-3	-4	-7	-B	
Luminous Intensity (mcd)							
Minimum	$I_V$	5	5	6	10	15	$I_F = 20\text{mA}$
Typical		10	10	10	20	20	
Forward Voltage (V)							
Maximum	$V_F$	2.8	2.8	2.8	2.4	4.5	$I_F = 20\text{mA}$
Typical		2.0	2.0	2.1	1.9	3.8	
Wavelength (nm)							
Peak	$\lambda_P$	635	585	565	660	430	$I_F = 20\text{mA}$
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 ( $^\circ$ )	$2\theta^{1/2}$	140	140	140	140	140	$I_F = 20\text{mA}$

## Typical Performance Curves

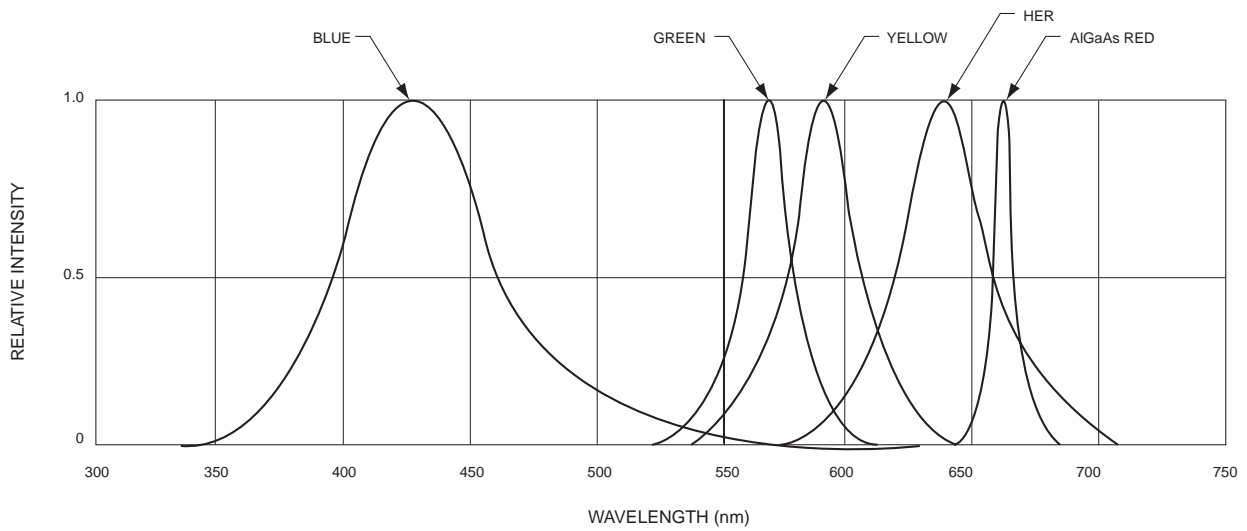
**Fig. 1 Forward Current vs. Forward Voltage**



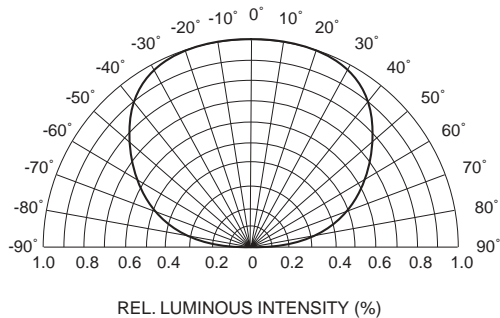
**Fig. 2 Relative Luminous Intensity vs. DC Forward Current**



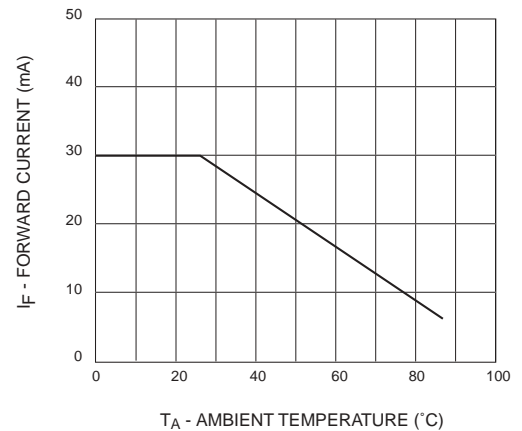
**Fig. 3 Relative Intensity vs. Peak Wavelength**



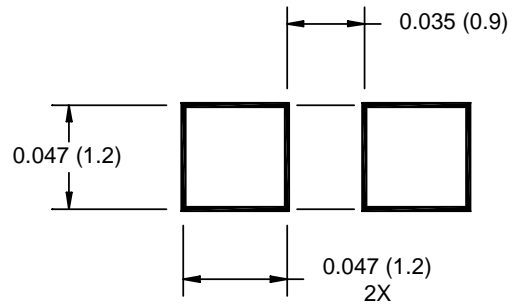
**Fig.4 Radiation Diagram**



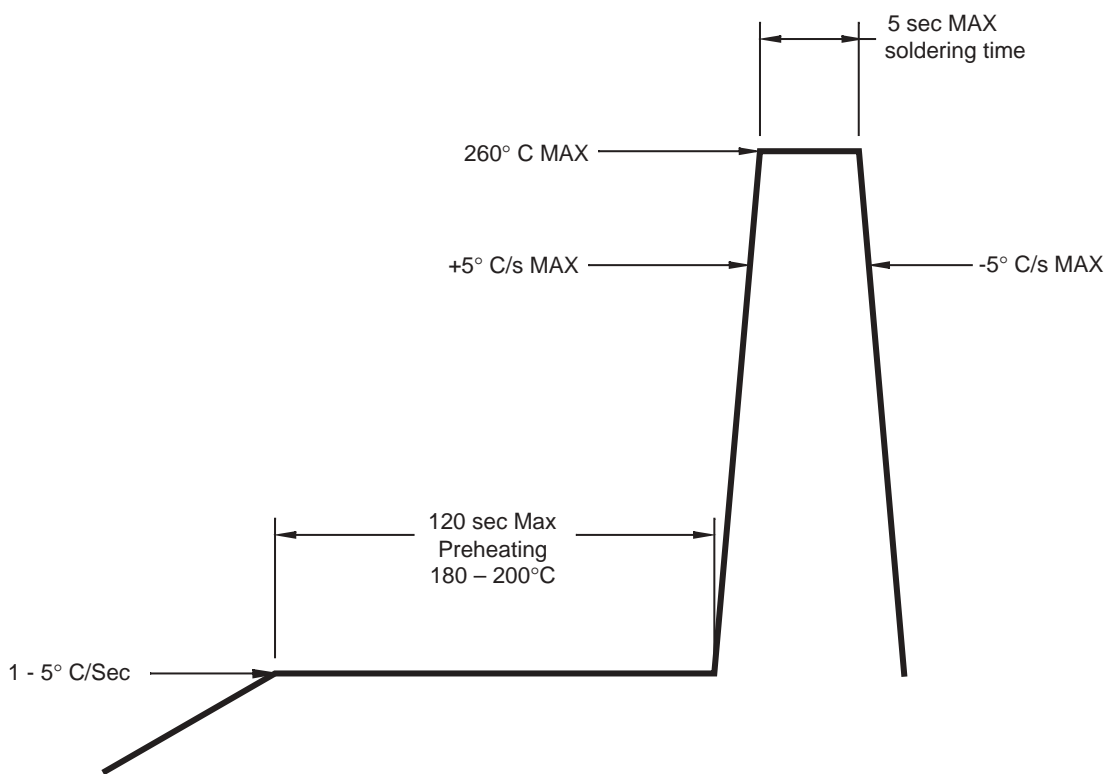
**Fig.5 Maximum Forward Current vs. Ambient Temperature**



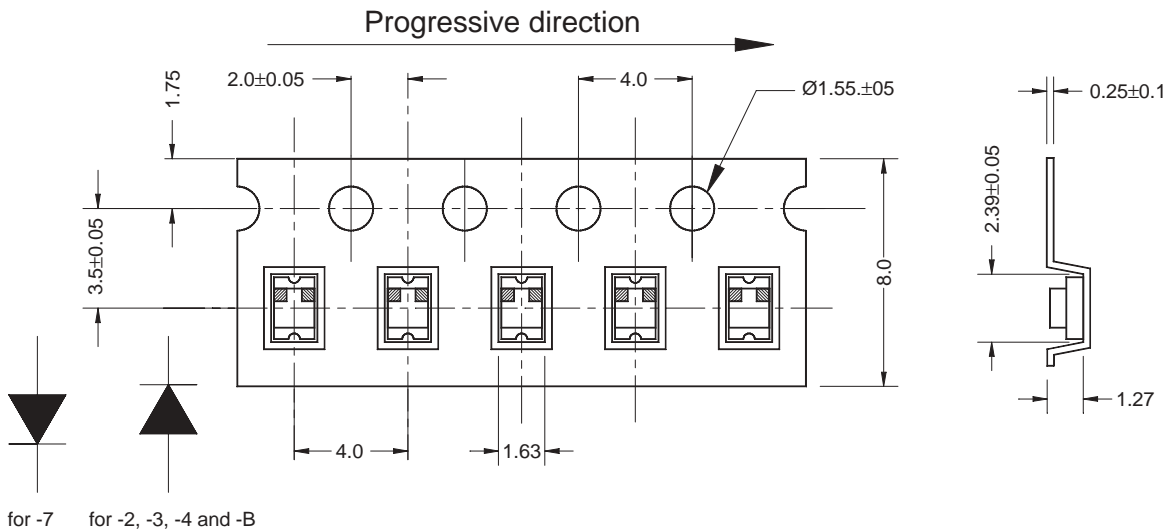
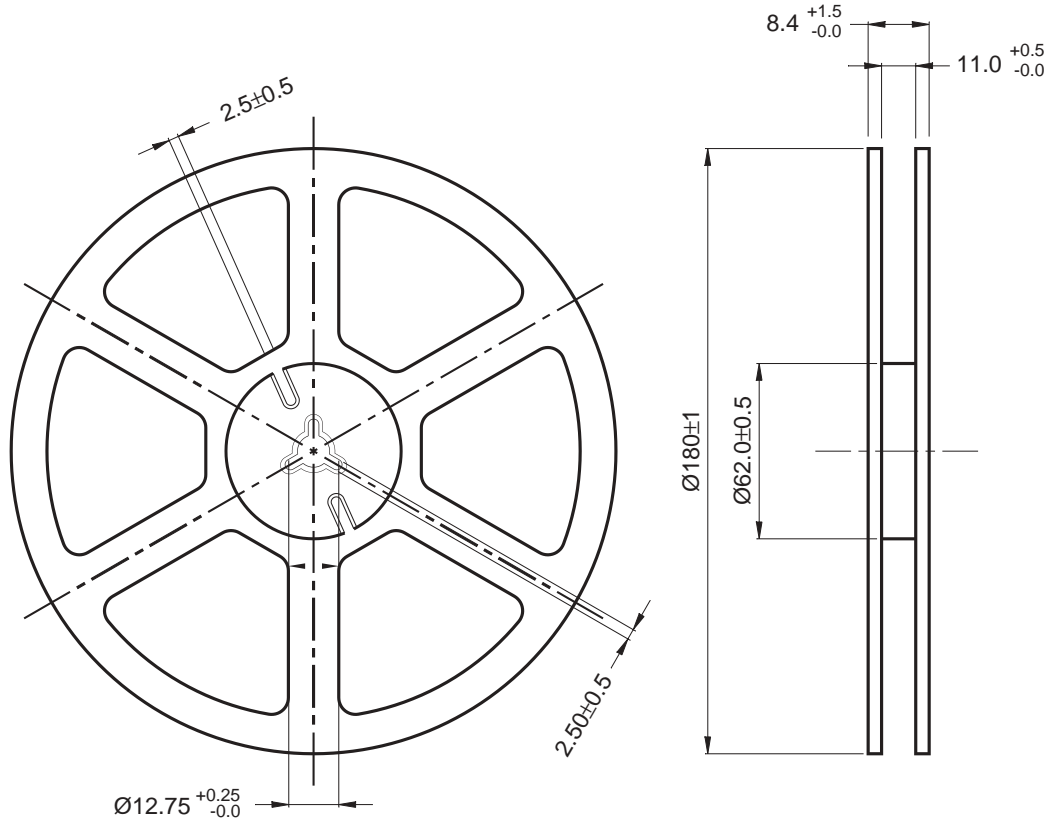
### Recommended Printed Circuit Board Pattern



### Recommended IR Reflow Soldering Profile



Tape and Reel Dimensions



for -7 for -2, -3, -4 and -B

Polarity

Dimensional tolerance is  $\pm 0.1$  mm unless otherwise specified

Angle:  $\pm 0.5$

Unit: mm

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Rev. 117

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