FAIRCHILD SEMICONDUCTOR®

November 2005

QTLP630C-2 HER
QTLP630C-3 Yellow
QTLP630C-4 Green
QTLP630C-7 AlGaAs Red
QTLP630C-B Blue
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

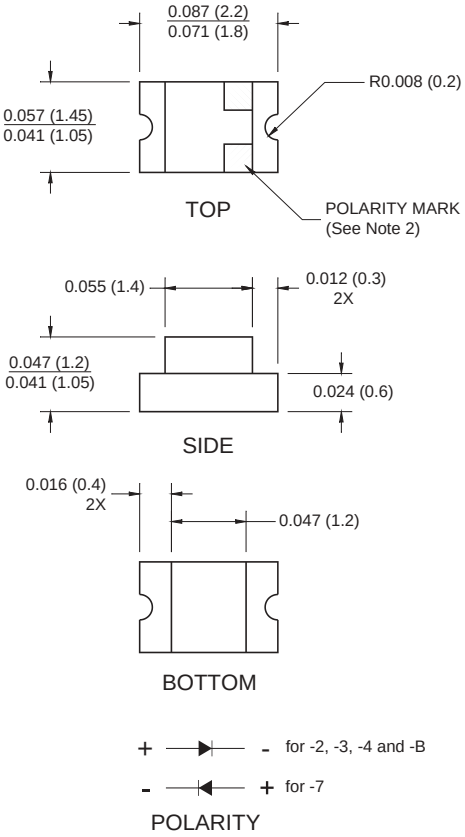
Applications

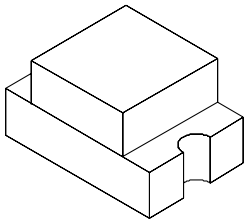
- Keypad backlighting
- Push-button backlighting
- LCD backlighting

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°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 (f = 1.0 KHz, Duty Factor = 1/10)	I_{FM}	160	160	160	180	100	mA
Reverse Voltage (I_R = 10 µA)	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					°C
Storage Temperature	T_{STG}	-40 to +90					°C
Lead Soldering Time	T_{SOL}	260 for 5 sec					°C

Electrical/Optical Characteristics (T_A = 25°C)

Parameter	Symbol	QTLP630C					Condition
		-2	-3	-4	-7	-B	
Luminous Intensity (mcd)							
Minimum	I_V	5	5	6	10	15	I_F = 20mA
Typical		10	10	10	20	20	
Forward Voltage (V)							
Maximum	V_F	2.8	2.8	2.8	2.4	4.5	I_F = 20mA
Typical		2.0	2.0	2.1	1.9	3.8	
Wavelength (nm)							
Peak	λ_P	635	585	565	660	430	I_F = 20mA
Dominant	λ_D	630	590	570	645	465	
Spectral Line Half Width (nm)	Δ_λ	45	35	30	20	65	I_F = 20mA
Viewing Angle (°)	$2\Theta^1/_2$	140	140	140	140	140	I_F = 20mA

Typical Performance Curves

Fig. 1 Forward Current vs. Forward Voltage

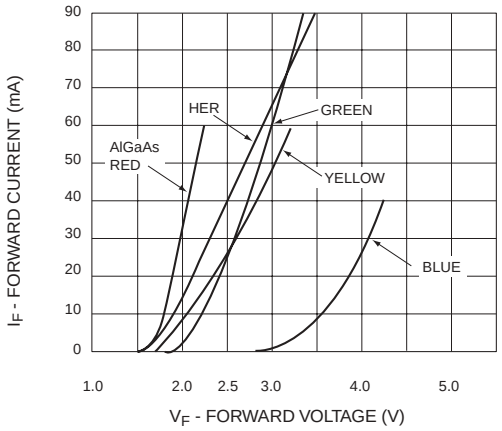


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

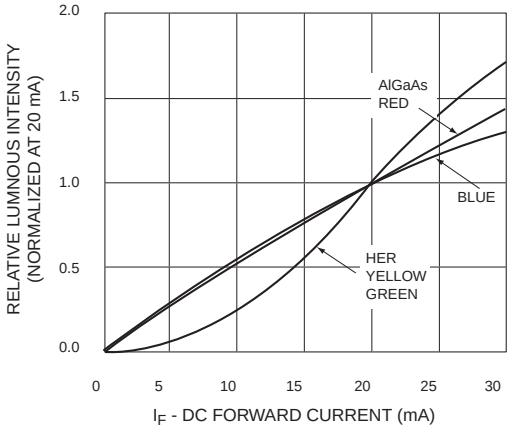


Fig. 3 Relative Intensity vs. Peak Wavelength

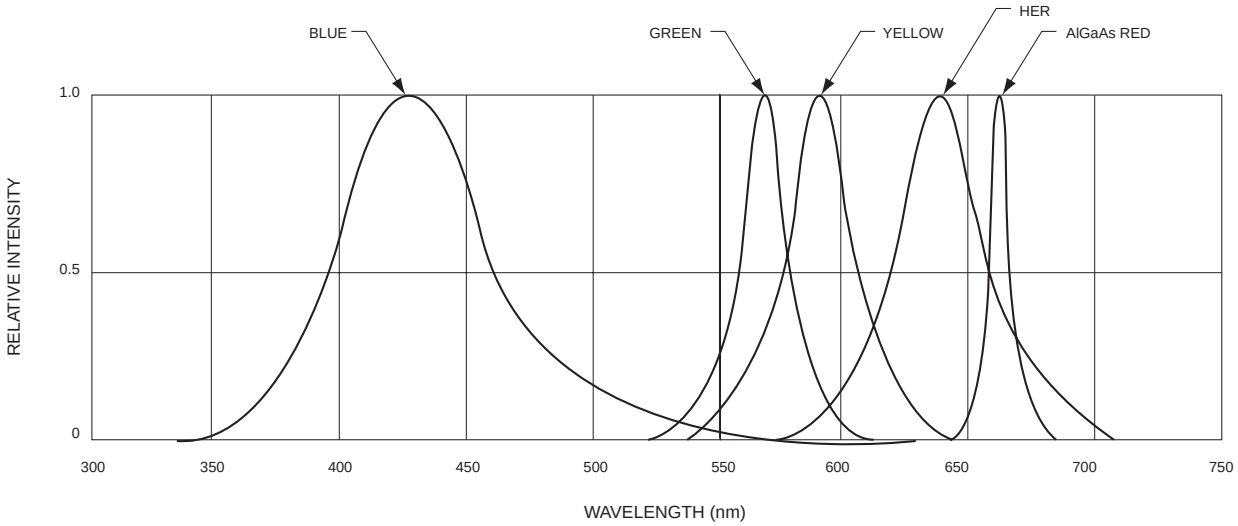


Fig.4 Radiation Diagram

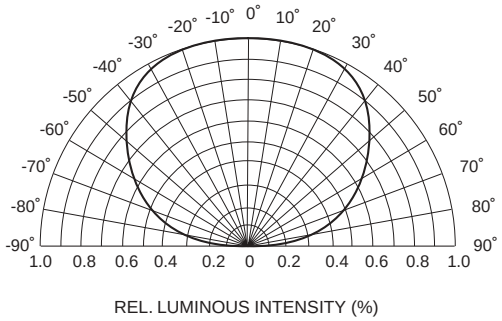
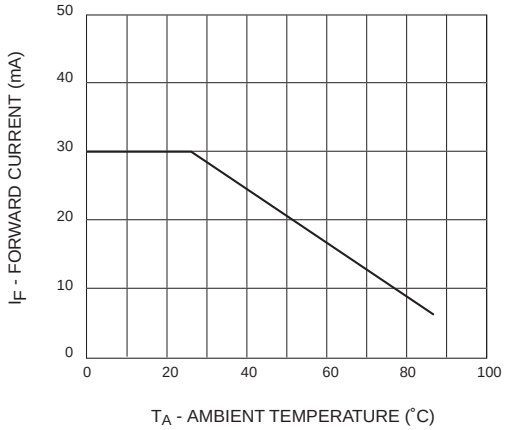
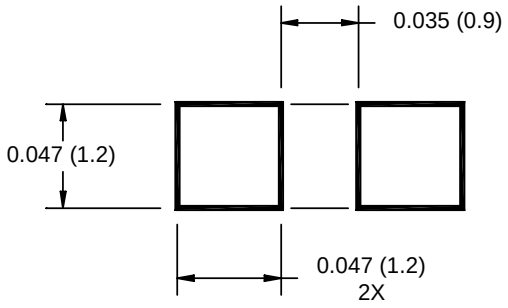


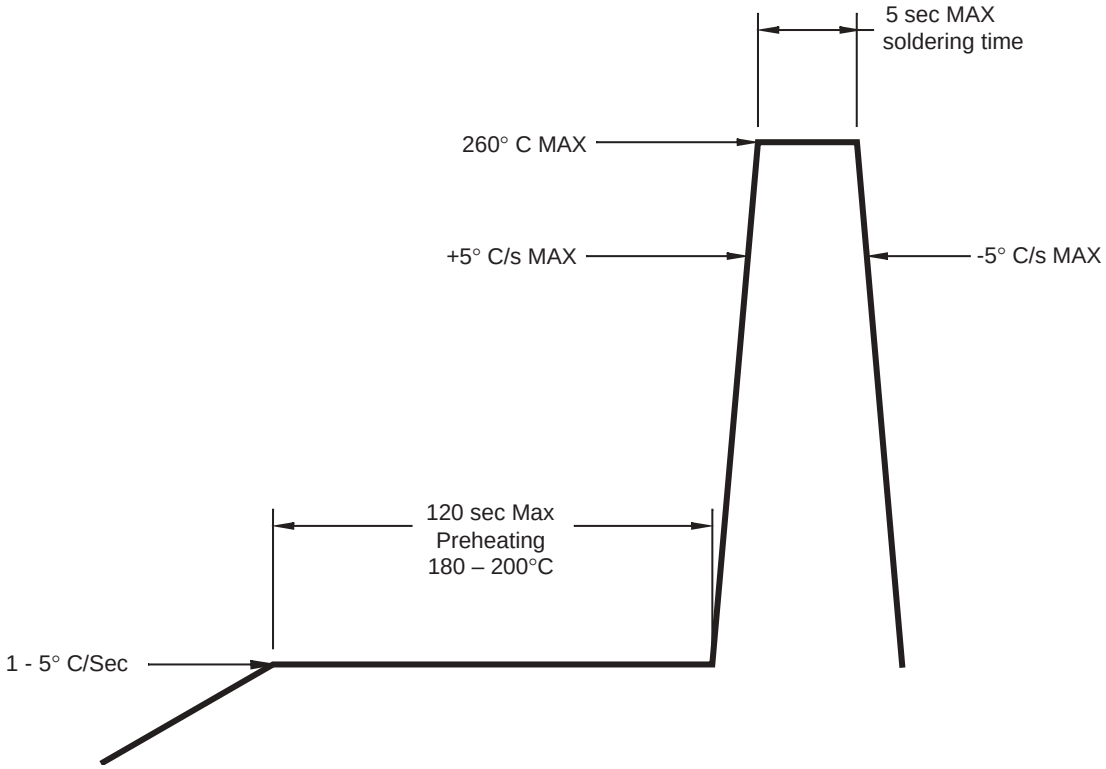
Fig.5 Maximum Forward Current vs. Ambient Temperature



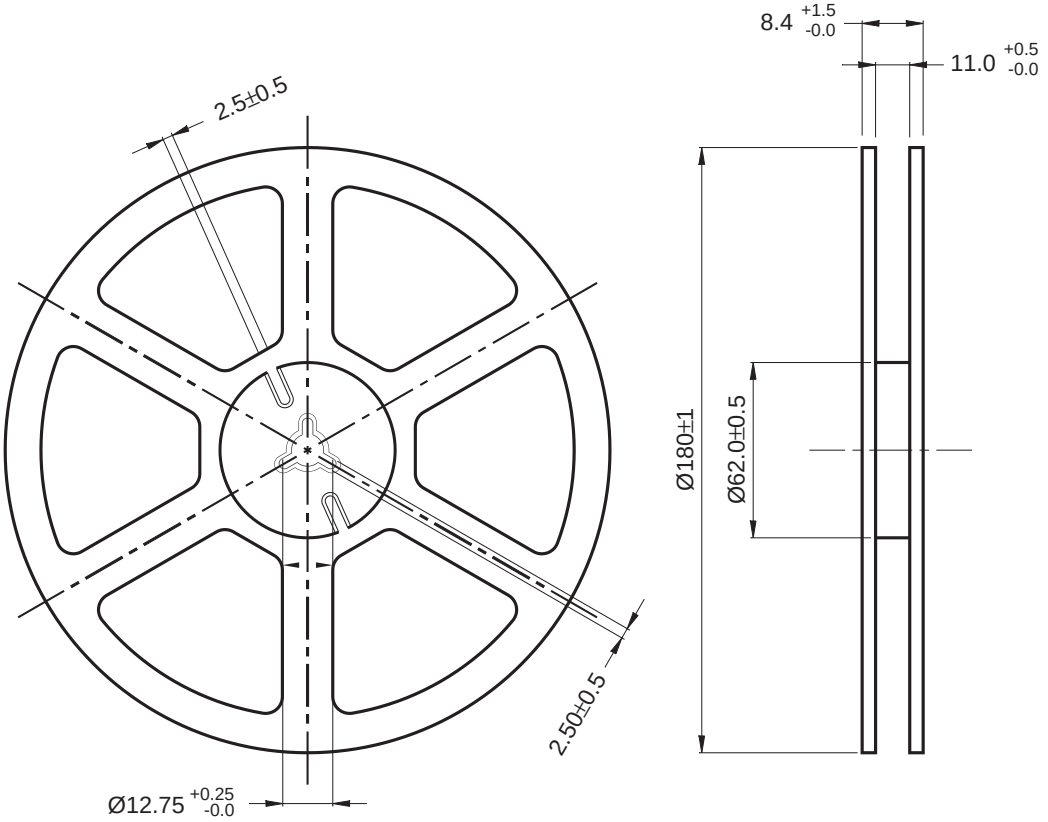
Recommended Printed Circuit Board Pattern

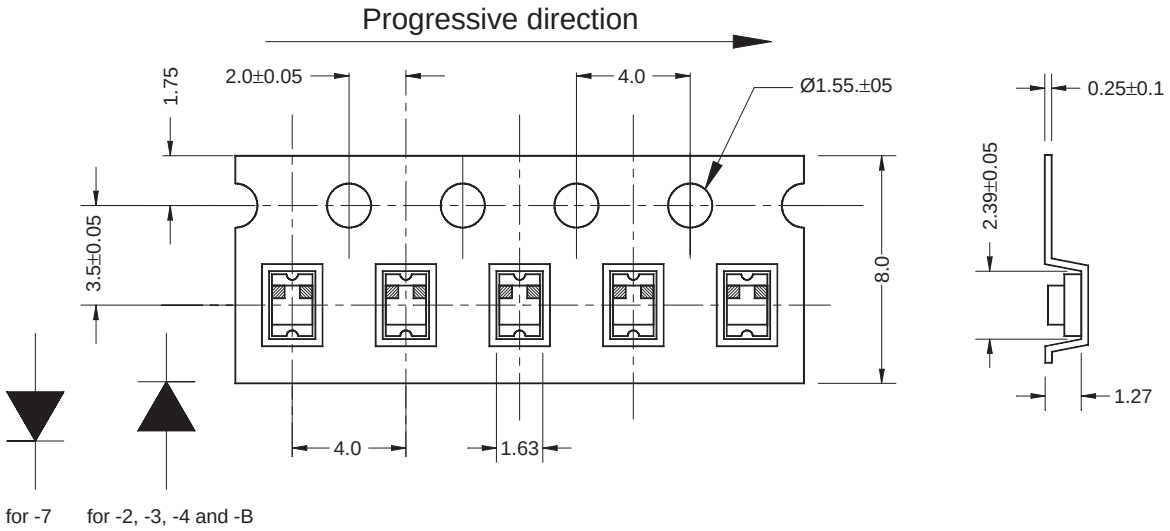


Recommended IR Reflow Soldering Profile



Tape and Reel Dimensions





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

Polarity

Dimensional tolerance is ± 0.1mm unless otherwise specified

Angle: ± 0.5

Unit: mm

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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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