

FAIRCHILD
SEMICONDUCTOR®

SURFACE MOUNT LED LAMP STANDARD BRIGHT 1.8mm (Dome Lens)

QTL660C-2 HER

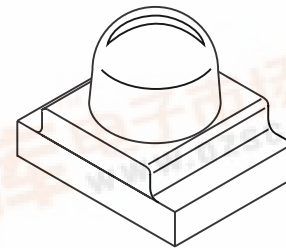
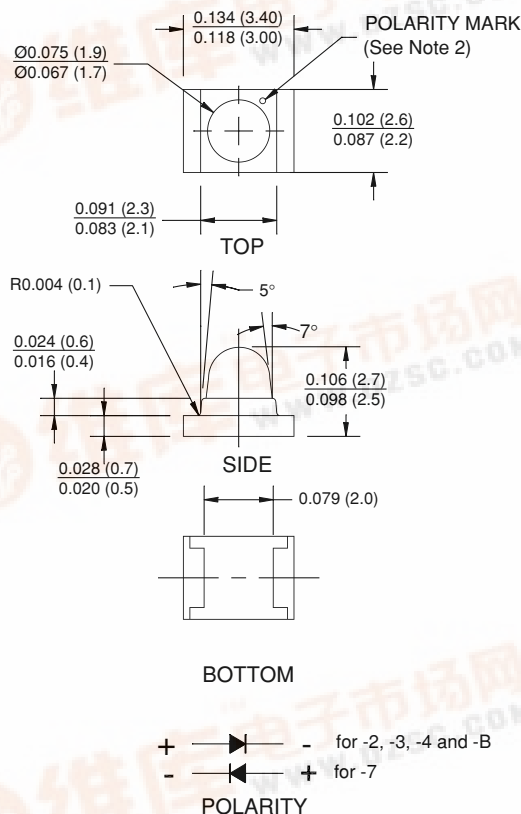
QTL660C-3 Yellow

QTL660C-4 Green

QTL660C-7 AlGaAs Red

QTL660C-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

- Backlighting
- Status indication for consumer electronics and other equipment

DESCRIPTION

These surface mount chip LEDs are designed with a 1.8 mm dome lens that focuses the light output.

FEATURES

- Small footprint - 3.2(L) X 2.4(W) X 2.6(H) mm
- Narrow viewing angle of 30°
- Water clear
- Moisture-proof packaging
- Available in 0.315" (8mm) width tape on 7" (178mm) diameter reel; 2,000 units per reel

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

Parameter	Symbol	QTLP660C					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 ($I_R = 10\text{ }\mu\text{A}$)	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	QTLP660C					Condition
		-2	-3	-4	-7	-B	
Luminous Intensity (mcd)	I_V						$I_F = 20\text{mA}$
Minimum		20	35	70	110	80	
Typical		40	60	120	190	110	
Forward Voltage (V)	V_F						$I_F = 20\text{mA}$
Maximum		2.8	2.8	2.8	2.4	4.5	
Typical		2.0	2.0	2.1	1.9	3.8	
Wavelength (nm)	λ_P						$I_F = 20\text{mA}$
Peak		635	585	565	660	430	
Dominant	λ_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 ($^\circ$)	$2\Theta_{1/2}$	30	30	30	30	30	$I_F = 20\text{mA}$

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TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

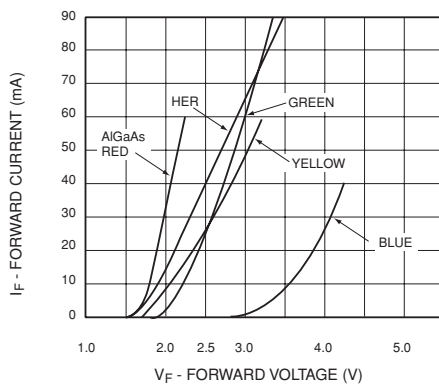


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

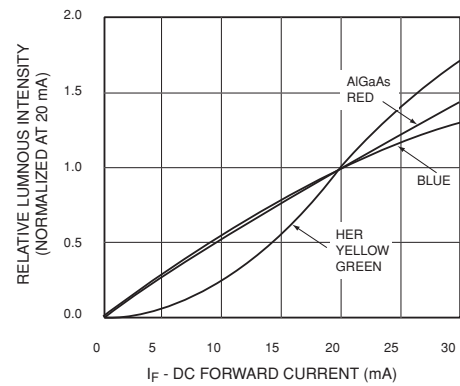


Fig. 3 Relative Intensity vs. Peak Wavelength

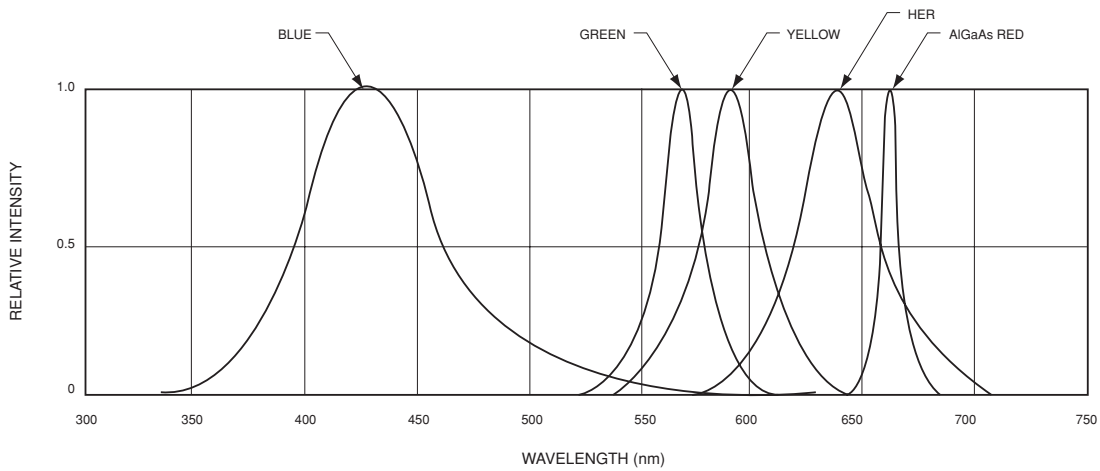


Fig.4 Radiation Diagram

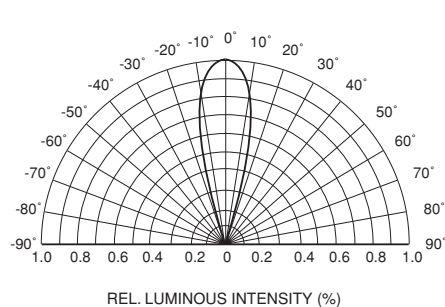
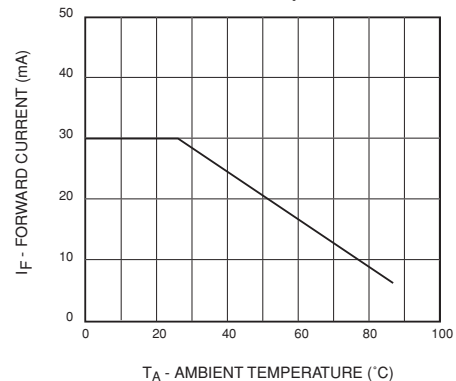


Fig.5 Maximum Forward Current vs. Ambient Temperature



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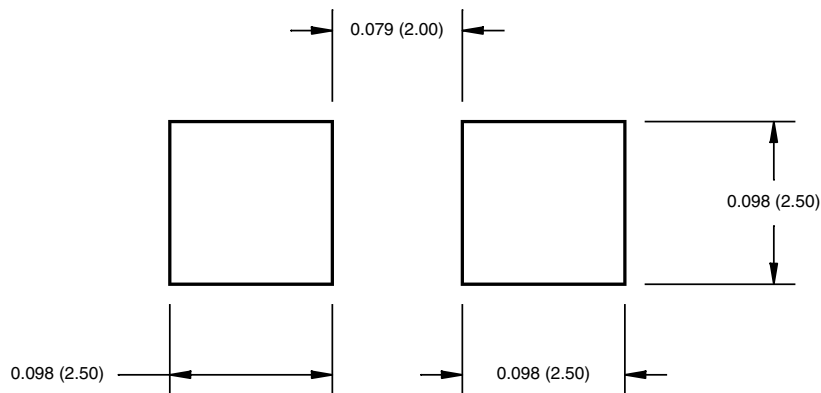
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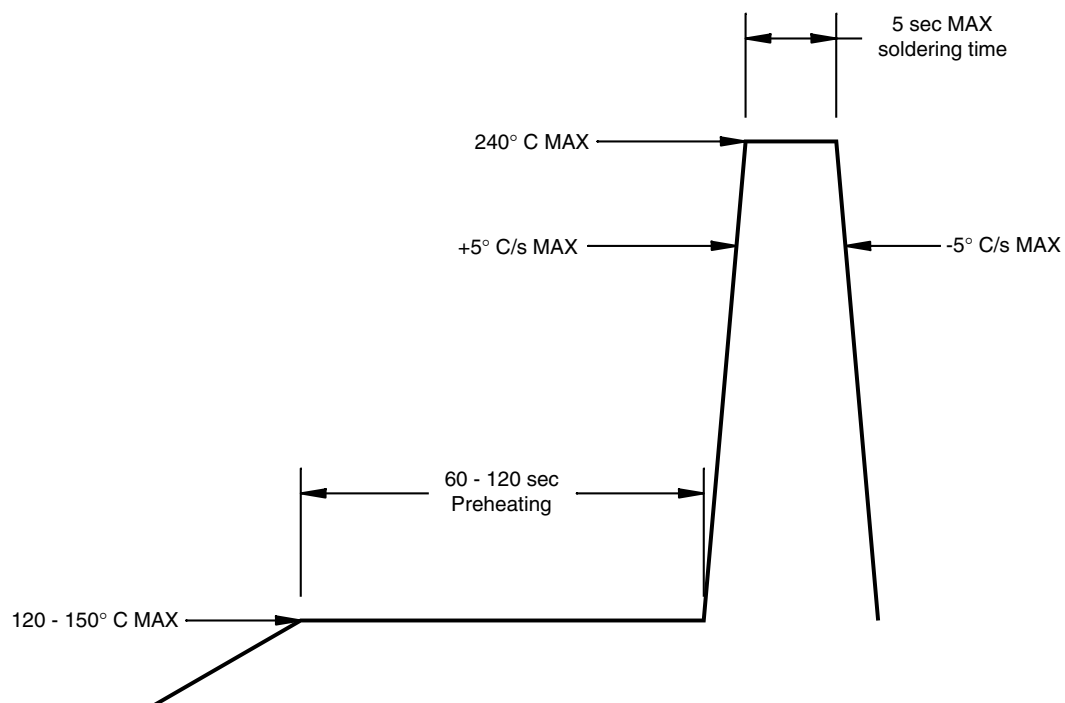
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RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE



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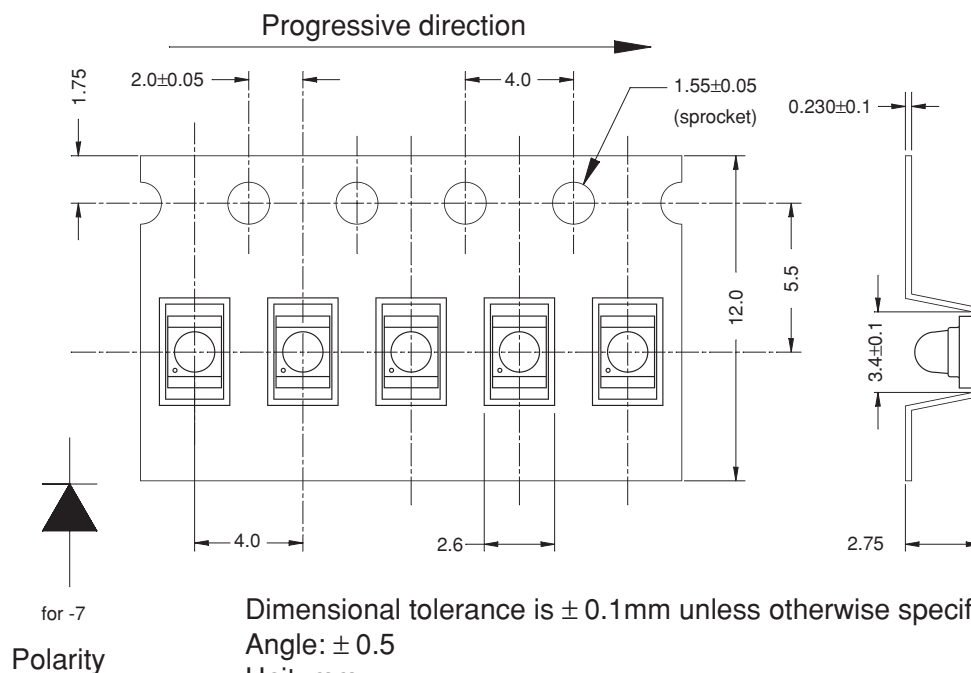
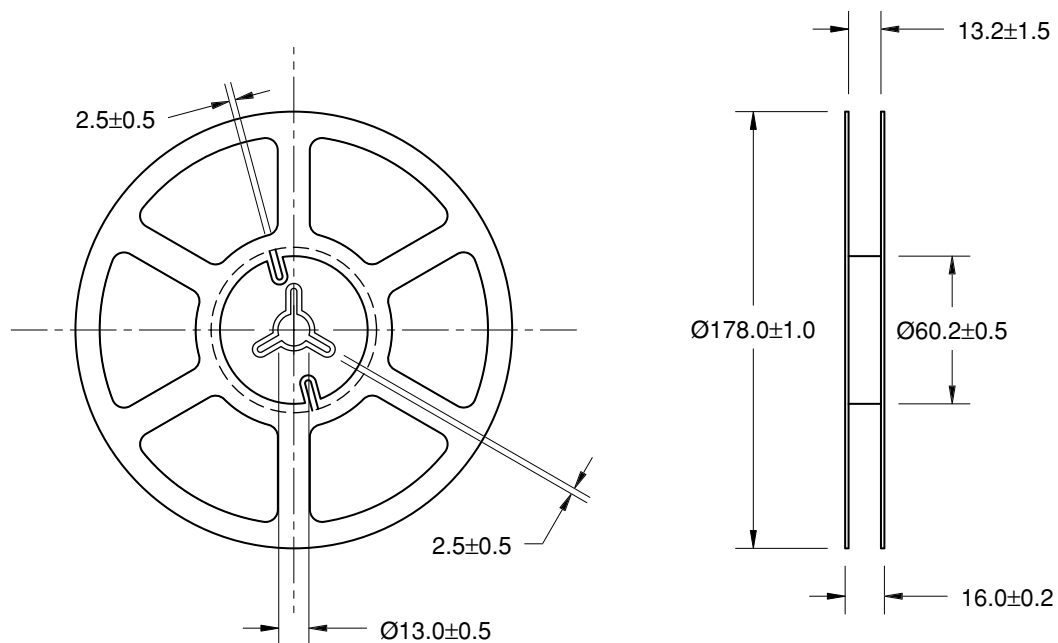
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TAPE AND REEL DIMENSIONS



Dimensional tolerance is $\pm 0.1\text{mm}$ unless otherwise specified

Angle: ± 0.5

Unit: mm

Polarity marks on the opposite sprocket side.

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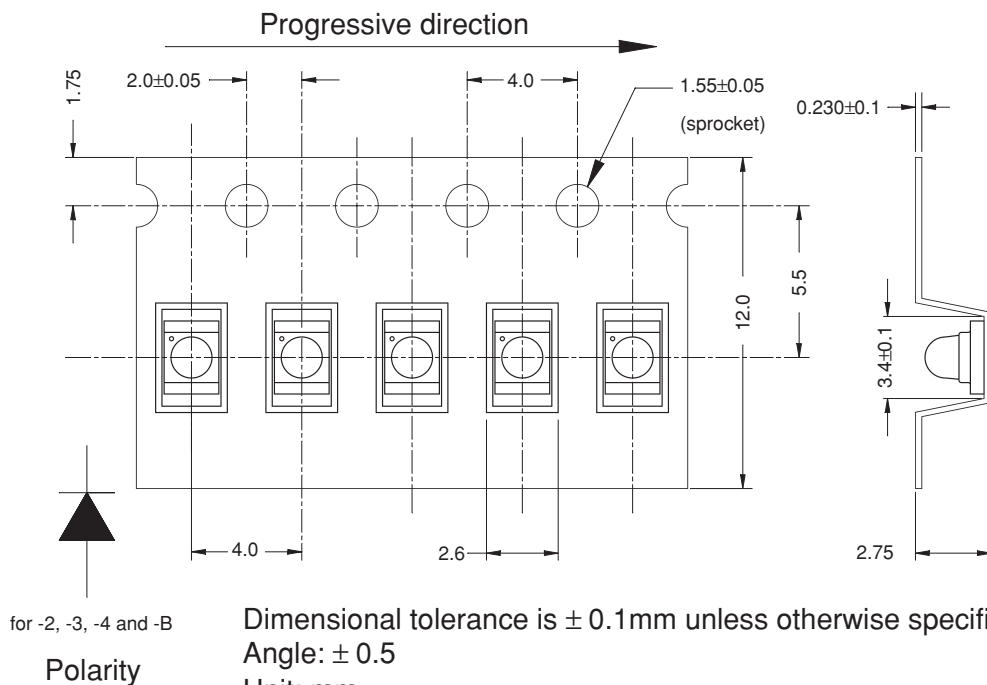
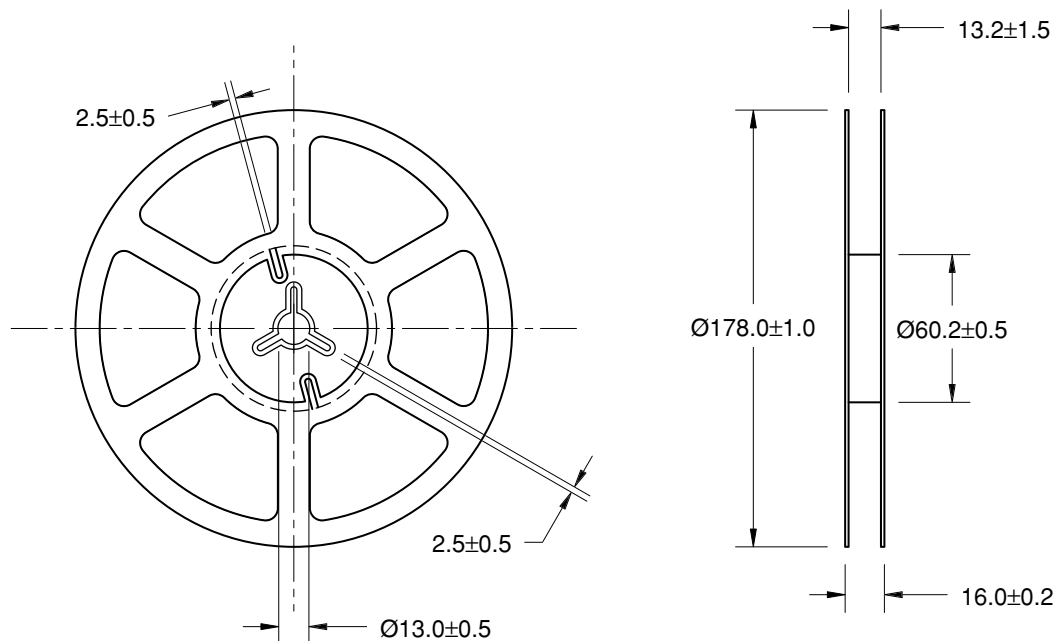
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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.