

FAIRCHILD
SEMICONDUCTOR®

SURFACE MOUNT LED LAMP STANDARD BRIGHT REFLECTOR

QTLP680C-2 HER

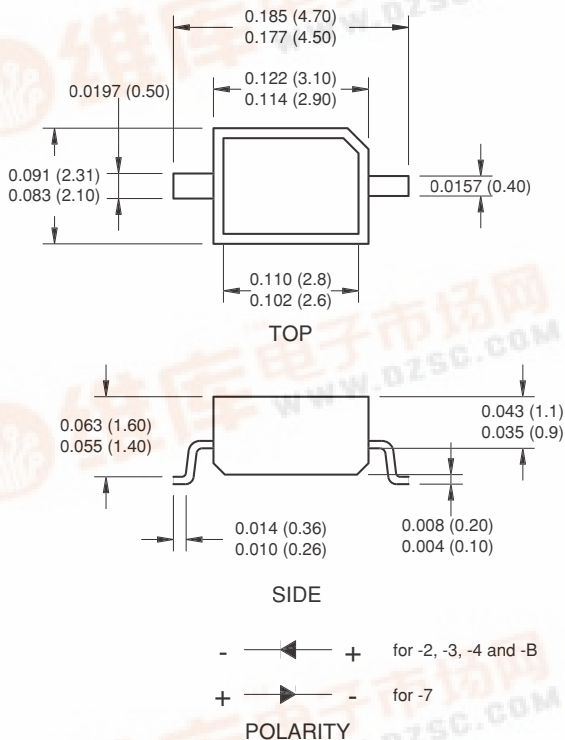
QTLP680C-3 Yellow

QTLP680C-4 Green

QTLP680C-7 AlGaAs Red

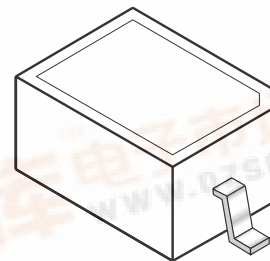
QTLP680C-B Blue

PACKAGE DIMENSIONS



NOTE:

1. Dimensions for all drawings are in inches (mm).



APPLICATIONS

- Backlighting
- Status indication for consumer electronics and other equipment

DESCRIPTION

Designed with a reflective housing, these surface mount LEDs offer uniform lighting and high light output performance.

FEATURES

- Wide viewing angle of 130°
- Water clear optics
- 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	QTLP680C					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 +100					$^\circ\text{C}$
Lead Soldering Time	T_{SOL}	260 for 5 sec					$^\circ\text{C}$

ELECTRICAL / OPTICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

Part Number	Symbol	QTLP680C					Condition
		-2	-3	-4	-7	-B	
Luminous Intensity (mcd)	I_V						$I_F = 20\text{mA}$
Minimum		7	7	15	25	15	
Typical		15	15	25	40	20	
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 ($^\circ$)	$2\Theta_{1/2}$	130	130	130	130	130	$I_F = 20\text{mA}$

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TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

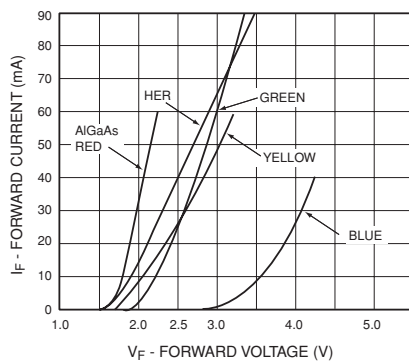


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

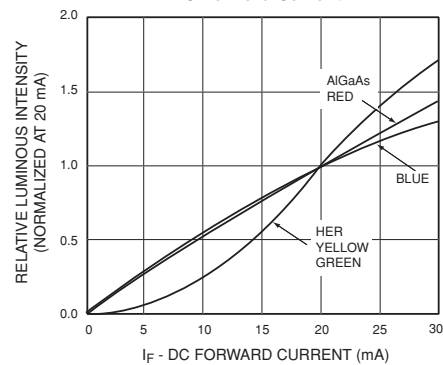


Fig. 3 Relative Intensity vs. Peak Wavelength

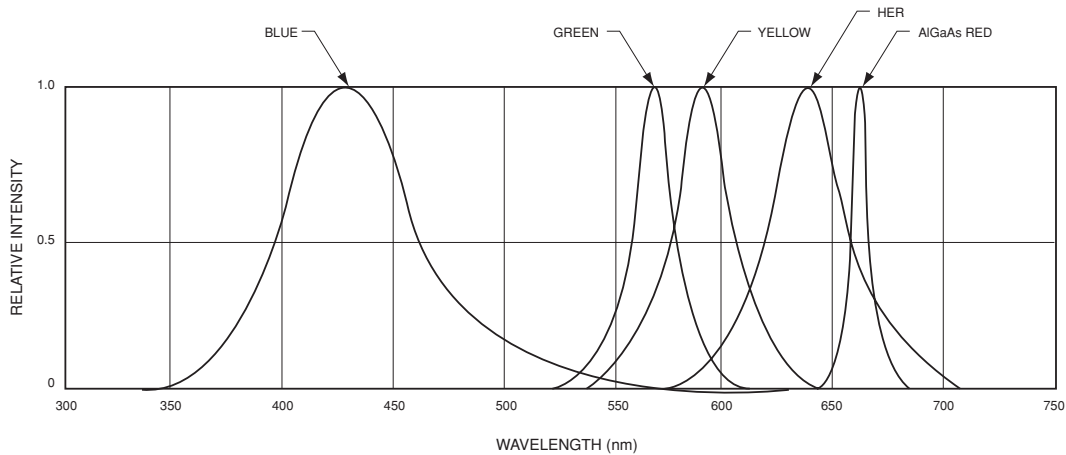


Fig.4 Radiation Diagram

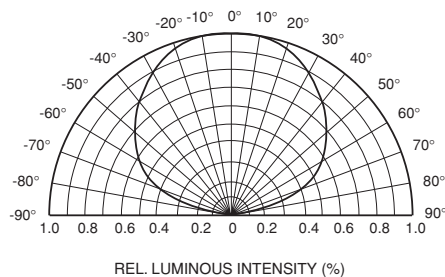
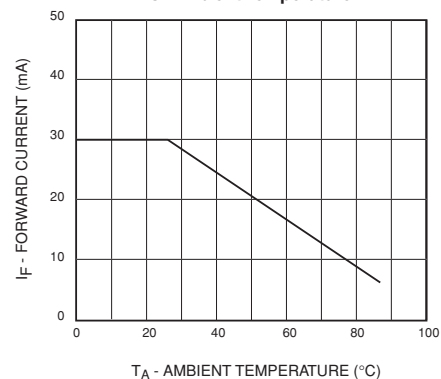


Fig.5 Maximum Forward Current vs. Ambient Temperature



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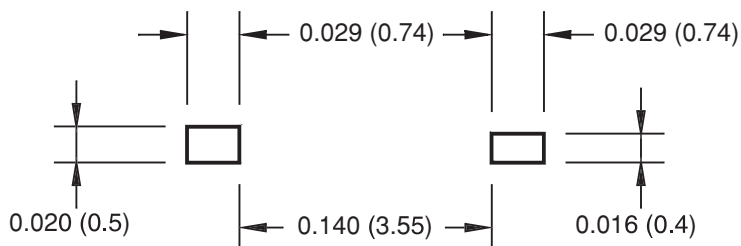
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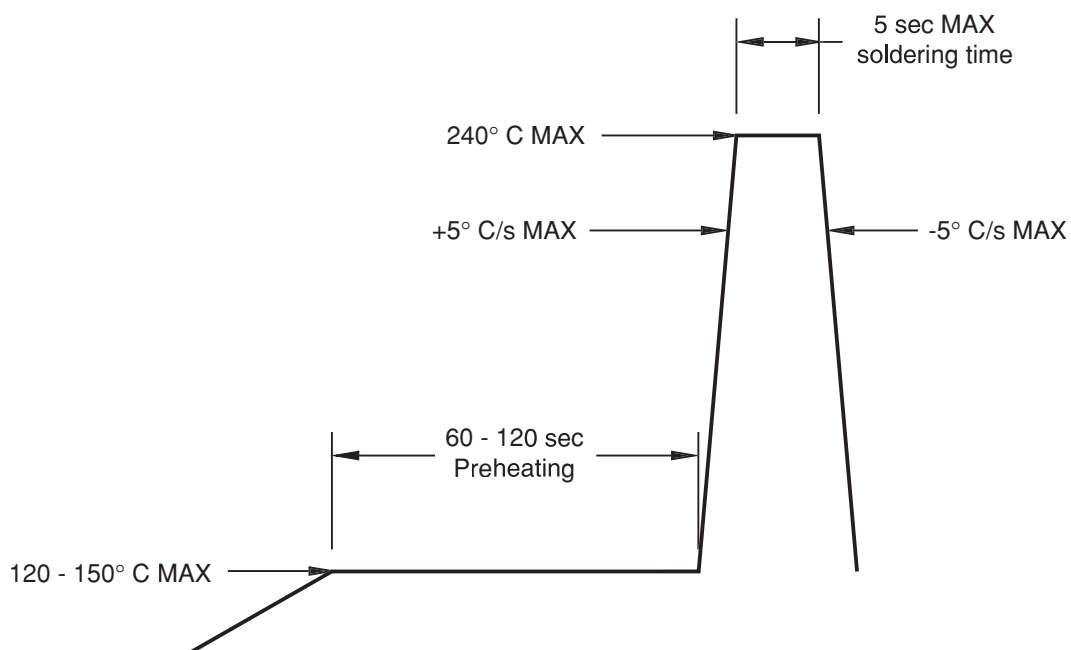
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RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE



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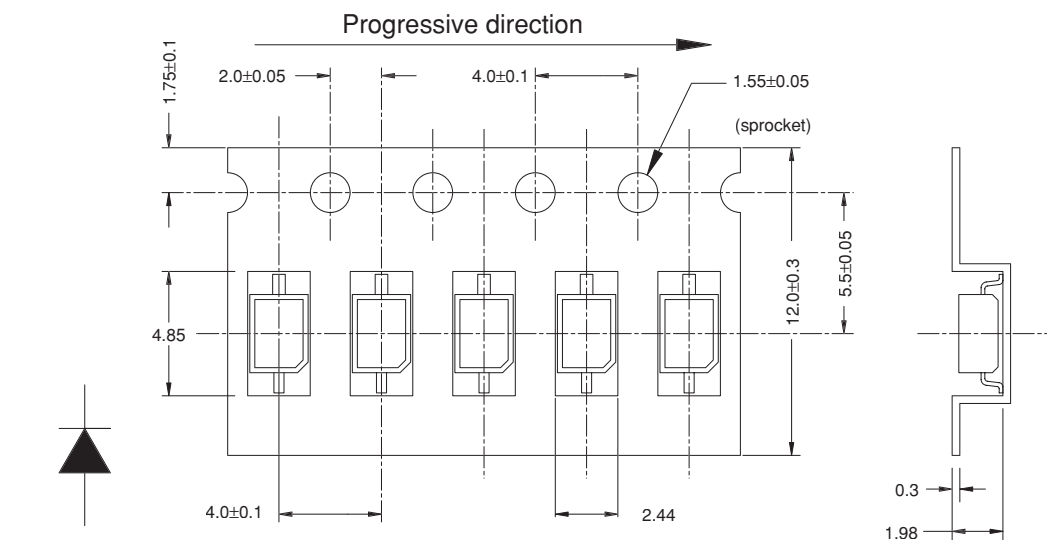
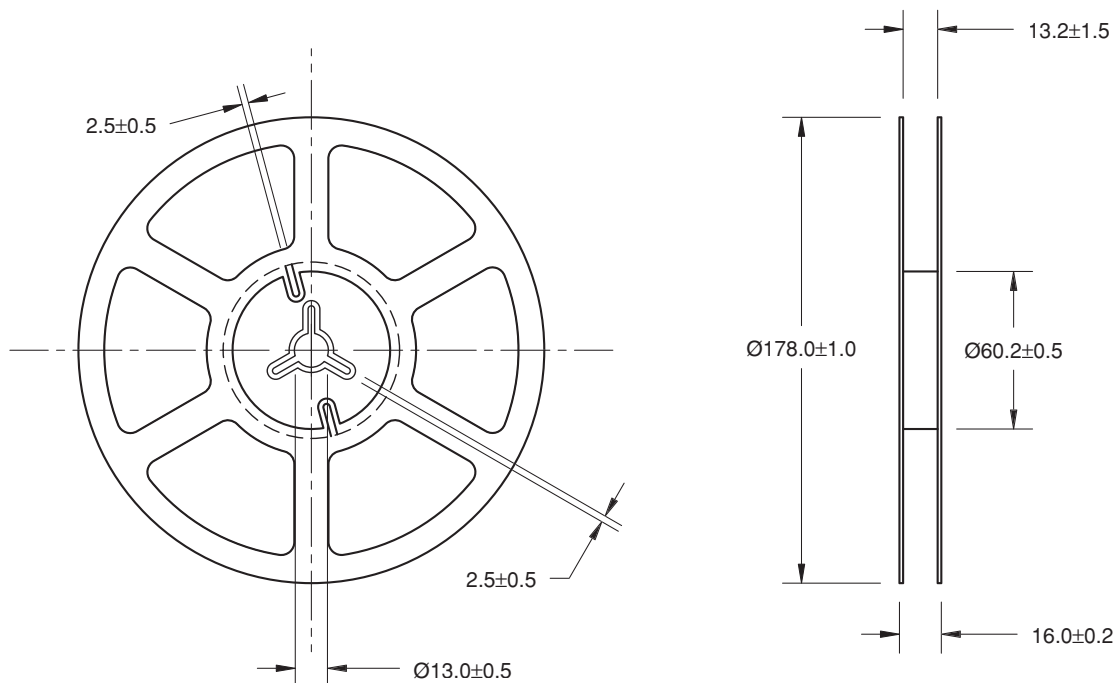
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TAPE AND REEL DIMENSIONS



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

Dimensional tolerance is ± 0.1 mm unless otherwise specified
 Angle: ± 0.5
 Unit: mm
 Polarity marks are on the opposite sprocket side.

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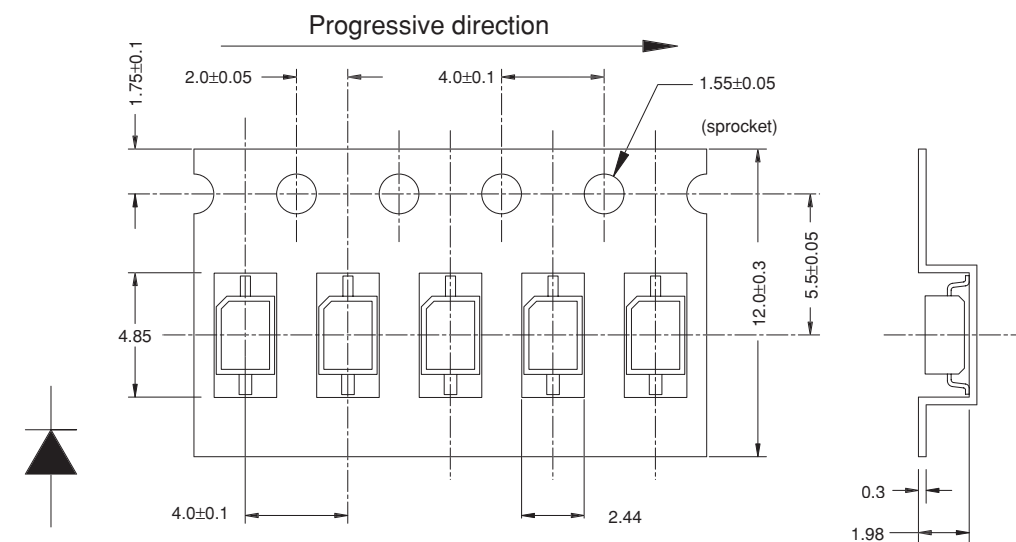
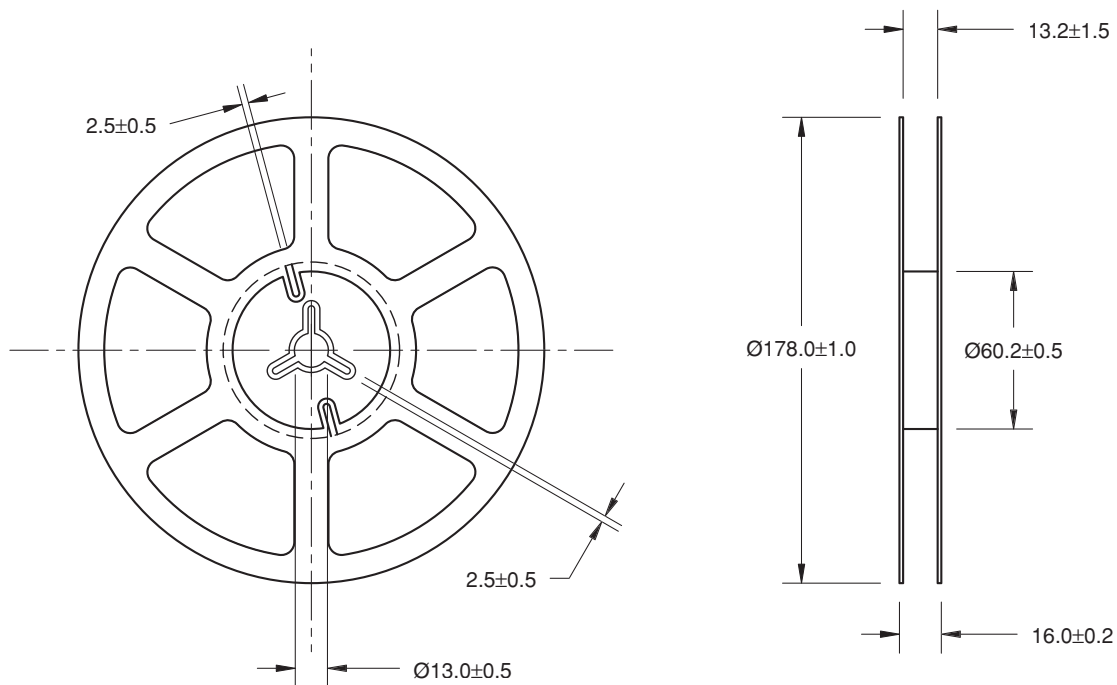
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TAPE AND REEL DIMENSIONS



for -7
Polarity

Dimensional tolerance is ± 0.1 mm unless otherwise specified

Angle: ± 0.5

Unit: mm

Polarity marks are on the sprocket side.



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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.