

QTLP680C-2 HER

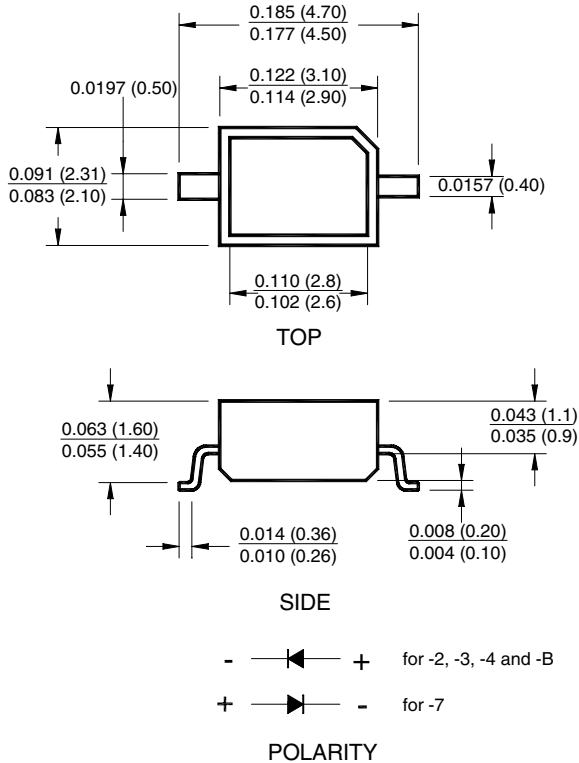
QTLP680C-3 Yellow

QTLP680C-4 Green

QTLP680C-7 AlGaAs Red

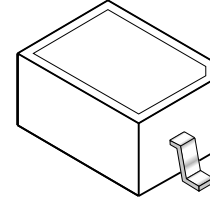
QTLP680C-B Blue

PACKAGE DIMENSIONS



NOTE:

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

SURFACE MOUNT LED LAMP

STANDARD BRIGHT REFLECTOR

QTLP680C-2 HER
QTLP680C-3 Yellow
QTLP680C-4 Green
QTLP680C-7 AlGaAs Red
QTLP680C-B Blue
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	7	7	15	25	15	$I_F = 20\text{mA}$
Minimum		15	15	25	40	20	
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)	λ_P	635	585	565	660	430	$I_F = 20\text{mA}$
Peak		λ_D	630	590	570	645	
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	$I_F = 20\text{mA}$

QTLP680C-2 HER

QTLP680C-3 Yellow

QTLP680C-4 Green

QTLP680C-7 AlGaAs Red

QTLP680C-B Blue

TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

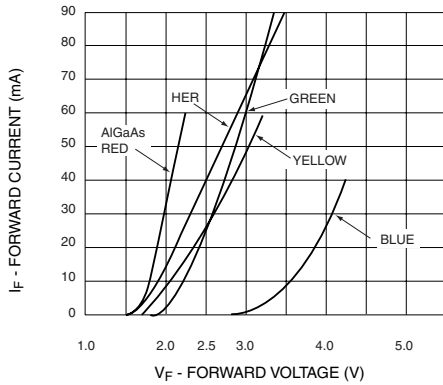


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

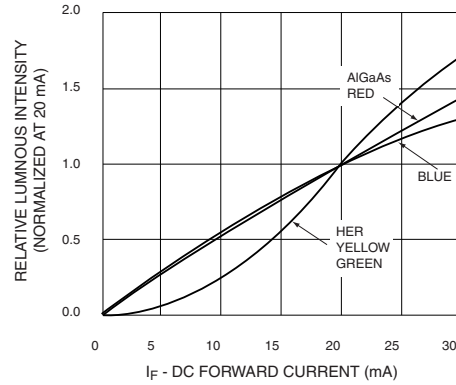


Fig. 3 Relative Intensity vs. Peak Wavelength

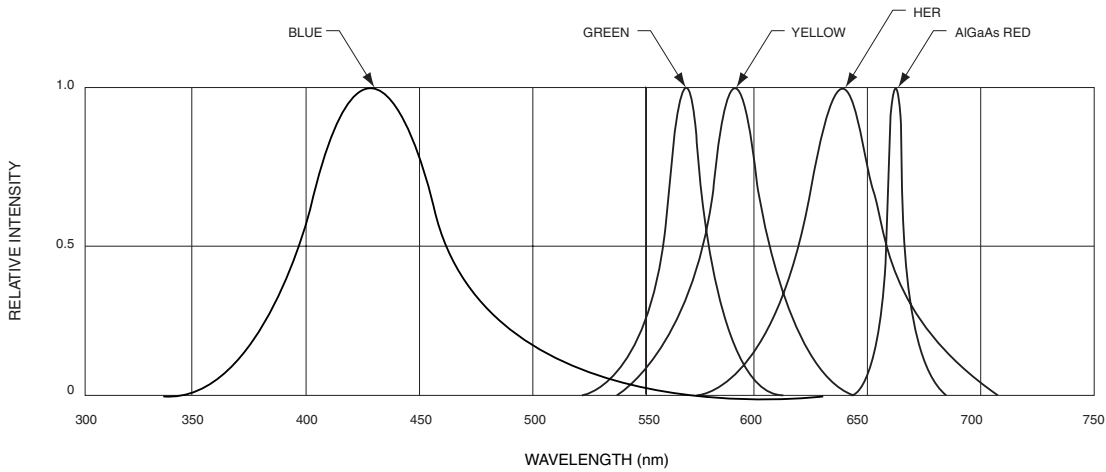


Fig.4 Radiation Diagram

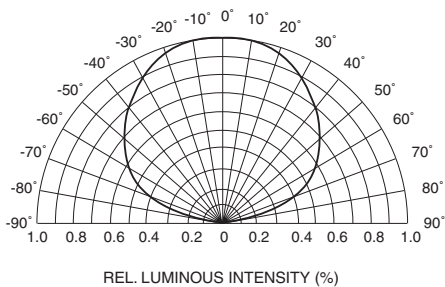
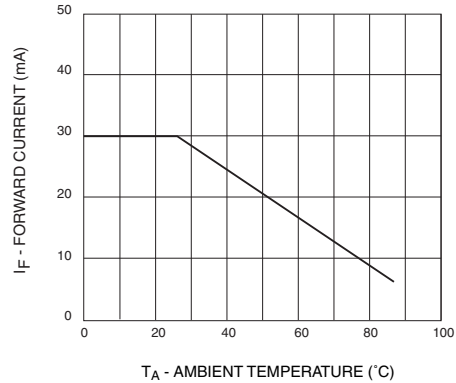


Fig.5 Maximum Forward Current vs. Ambient Temperature



QTLP680C-2 HER

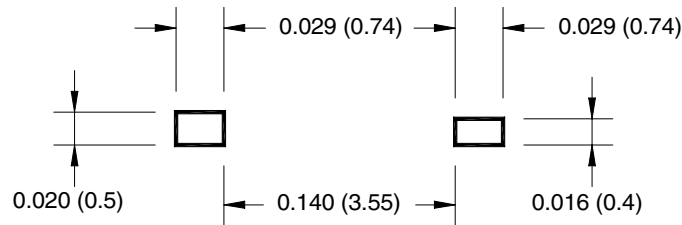
QTLP680C-3 Yellow

QTLP680C-4 Green

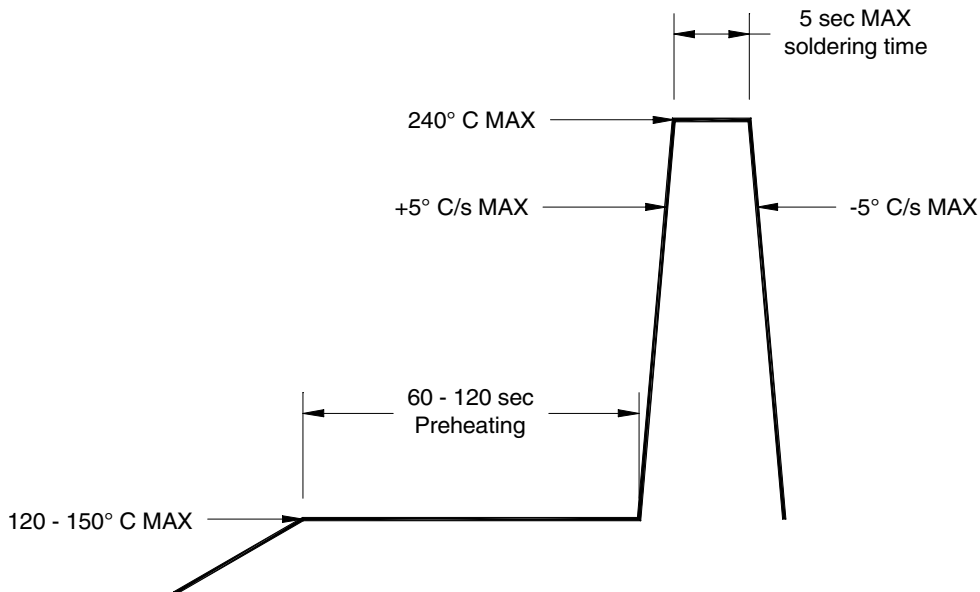
QTLP680C-7 AlGaAs Red

QTLP680C-B Blue

RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE



QTLP680C-2 HER

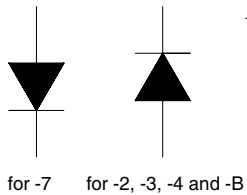
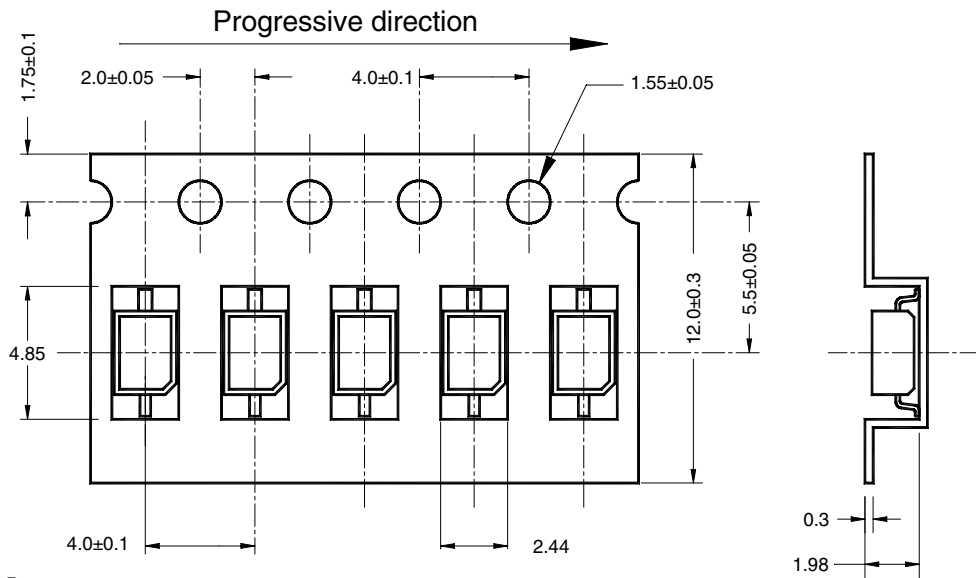
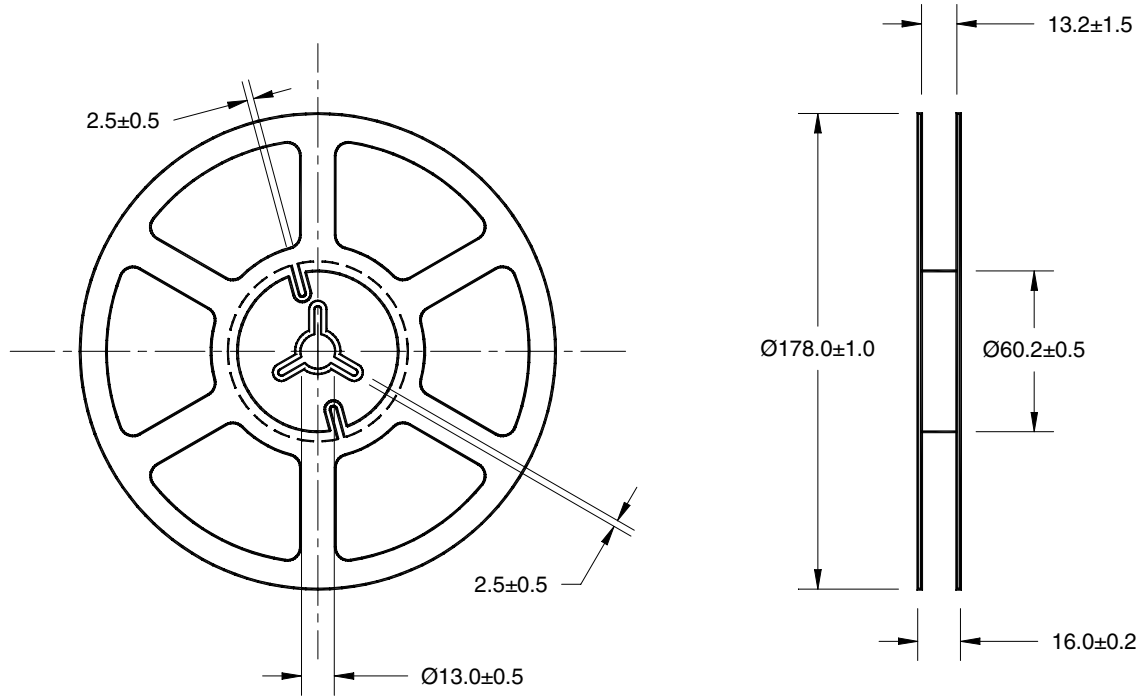
QTLP680C-3 Yellow

QTLP680C-4 Green

QTLP680C-7 AlGaAs Red

QTLP680C-B Blue

TAPE AND REEL DIMENSIONS



Polarity

Dimensional tolerance is ± 0.1 mm unless otherwise specified
Angle: ± 0.5
Unit: mm

QTLP680C-2 HER

QTLP680C-3 Yellow

QTLP680C-4 Green

QTLP680C-7 AlGaAs Red

QTLP680C-B Blue

DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in labeling, can be reasonably expected to result in a significant injury of the user.
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.