

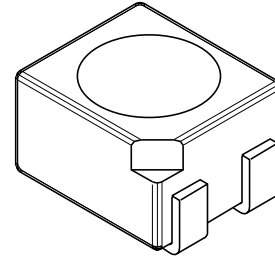
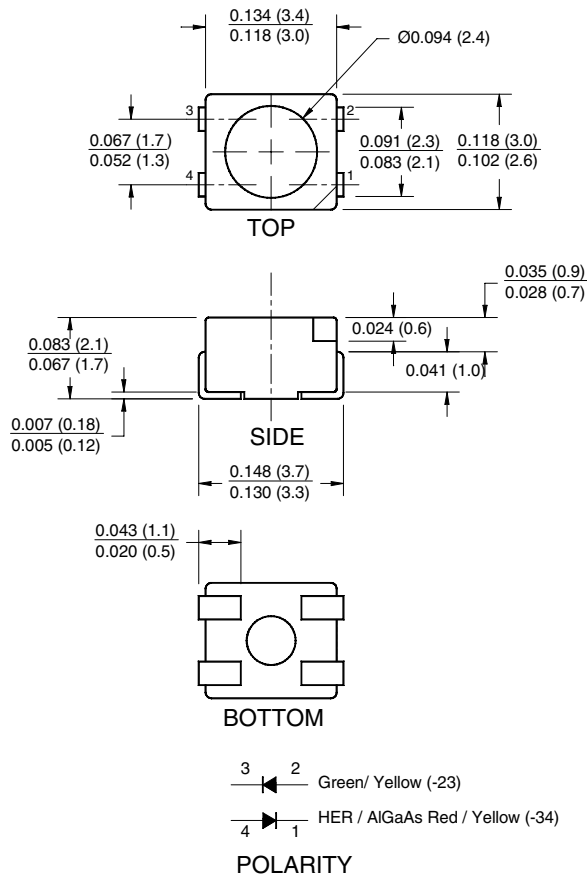
QTLP670C-23 HER/Yellow

QTLP670C-24 HER/Green

QTLP670C-34 Yellow/Green

QTLP670C-74 AlGaAs Red/Green

PACKAGE DIMENSIONS



NOTE:

Dimensions for all drawings are in inches (mm).

APPLICATIONS

- Automotive interior lighting
- Status indication for consumer electronics and office equipment

DESCRIPTION

These dual color surface mount LEDs are designed with flat top and sides for the ease of pick-and-place by automatic placement equipment. They are compatible with convective IR and vapor phase reflow soldering. The package size and configuration conform to EIA-535 BAAC standard specification for case size 3528 tantalum capacitor. These LEDs are ideal for backlighting and optical coupling into light pipes.

FEATURES

- Wide viewing angle of 120°
- Water clear optics
- Moisture-proof packaging
- Available in 0.315" (8mm) width tape on 7" (178mm) diameter reel; 2,000 units per reel

QTLP670C-23 HER/Yellow

QTLP670C-24 HER/Green

QTLP670C-34 Yellow/Green

QTLP670C-74 AlGaAs Red/Green

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

Parameter	Symbol	QTLP670C				Units
		-23	-24	-34	-74	
Continuous Forward Current	I_F	30 / 30	30 / 30	30 / 30	30 / 30	mA
Peak Forward Current ($f = 1.0$ KHz, Duty Factor = 1/10)	I_{FM}	160 / 160	160 / 160	160 / 160	180 / 160	mA
Reverse Voltage	V_R	5	5	5	5	V
Power Dissipation	P_D	84 / 84	84 / 84	84 / 84	72 / 84	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	QTLP670C				Units
		-23	-24	-34	-74	
Luminous Intensity (mcd)	I_V	5 / 2.5	5 / 15	2.5 / 15	10 / 15	$I_F = 20\text{mA}$
Minimum		10 / 5	10 / 25	5 / 25	20 / 25	
Typical						
Forward Voltage (V)	V_F	2.8 / 2.8	2.8 / 2.8	2.8 / 2.8	2.4 / 2.8	$I_F = 20\text{mA}$
Maximum		2.0 / 2.0	2.0 / 2.1	2.0 / 2.1	1.9 / 2.1	
Typical						
Wavelength (nm)	λ_P	635 / 585	635 / 565	585 / 565	660 / 565	$I_F = 20\text{mA}$
Peak		630 / 590	630 / 570	590 / 570	645 / 570	
Dominant	λ_D					
Spectral Line Half Width (nm)	$\Delta\lambda$	45 / 35	45 / 30	35 / 30	20 / 30	$I_F = 20\text{mA}$
Viewing Angle ($^\circ$)	$2\theta_{1/2}$	120	120	120	120	$I_F = 20\text{mA}$

QTLP670C-23 HER/Yellow

QTLP670C-24 HER/Green

QTLP670C-34 Yellow/Green

QTLP670C-74 AlGaAs Red/Green

TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

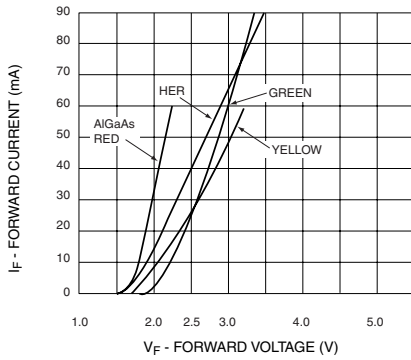


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

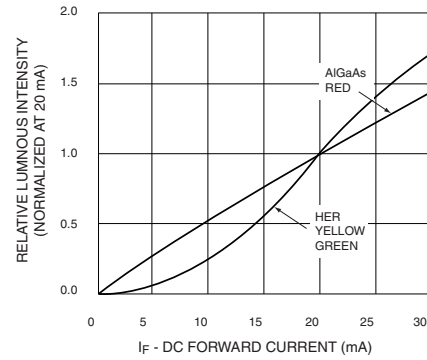


Fig. 3 Relative Intensity vs. Peak Wavelength

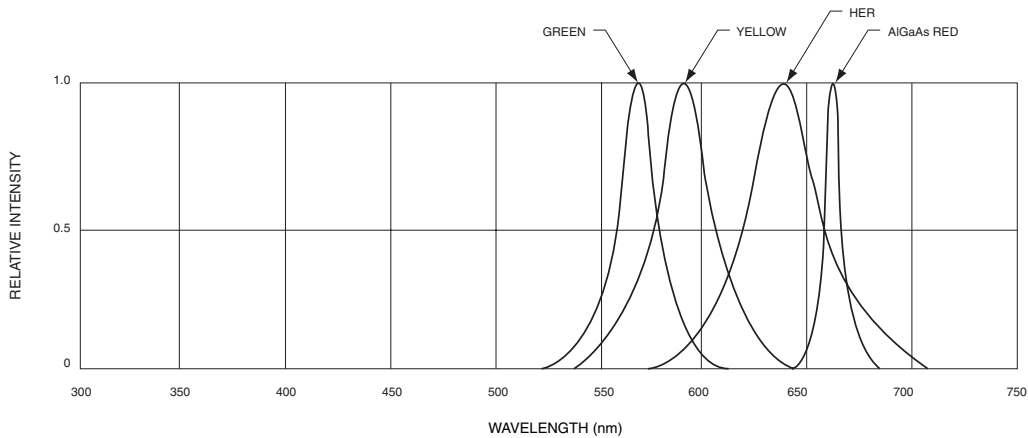


Fig. 4 Radiation Diagram

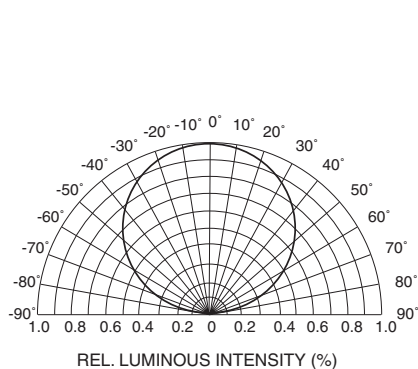
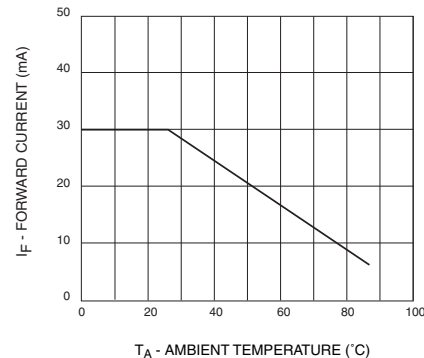


Fig. 5 Maximum Forward Current vs. Ambient Temperature



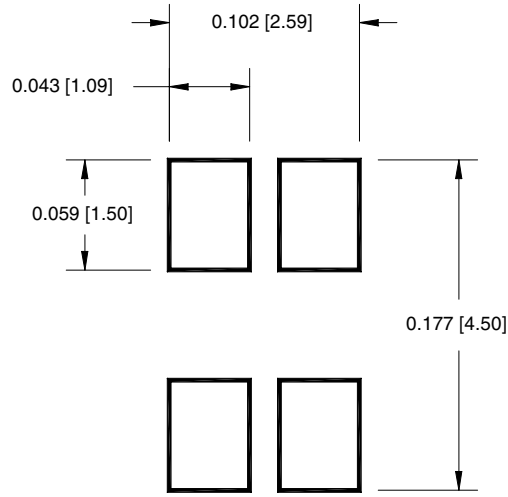
QTLP670C-23 HER/Yellow

QTLP670C-24 HER/Green

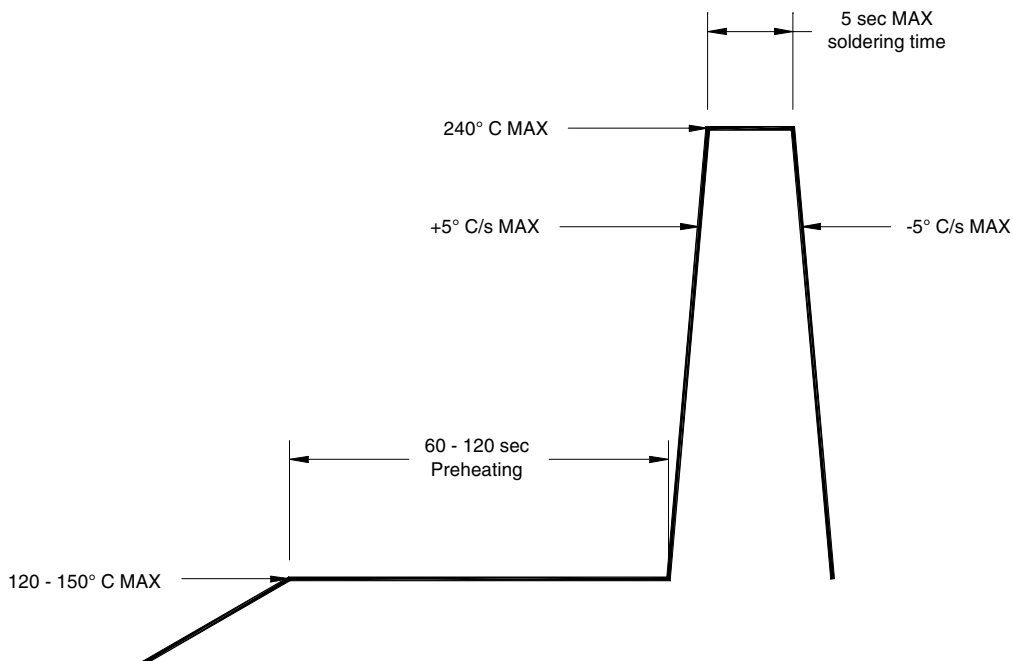
QTLP670C-34 Yellow/Green

QTLP670C-74 AlGaAs Red/Green

RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE



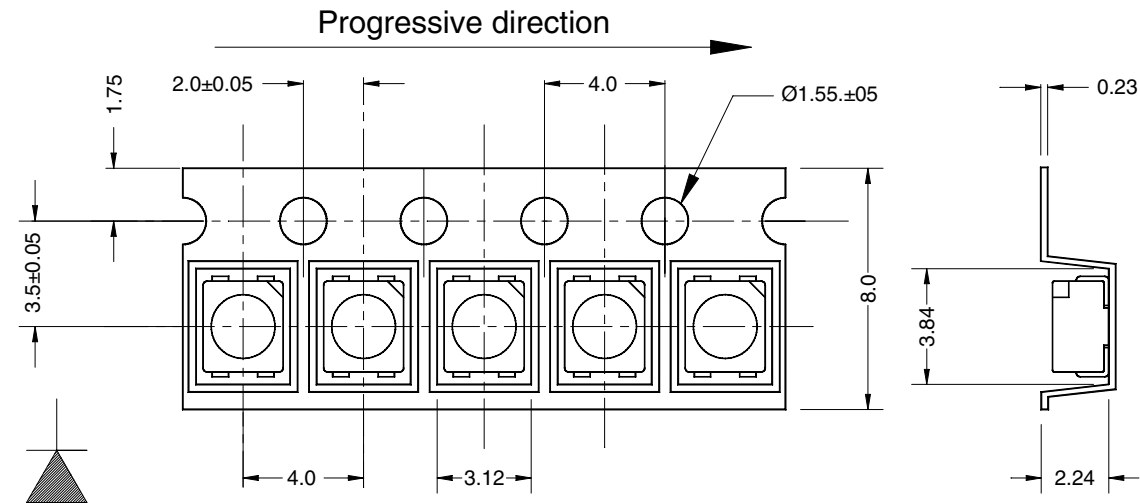
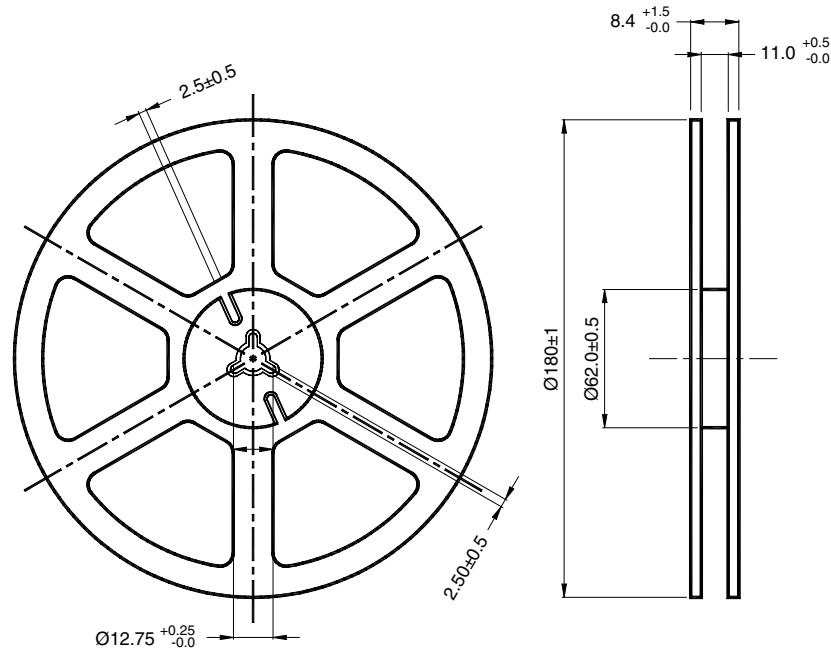
QTLP670C-23 HER/Yellow

QTLP670C-24 HER/Green

QTLP670C-34 Yellow/Green

QTLP670C-74 AlGaAs Red/Green

TAPE AND REEL DIMENSIONS



Polarity

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

Angle: ± 0.5

Unit: mm

QTLP670C-23 HER/Yellow

QTLP670C-24 HER/Green

QTLP670C-34 Yellow/Green

QTLP670C-74 AlGaAs Red/Green

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.