

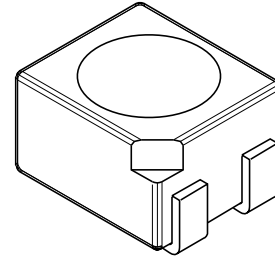
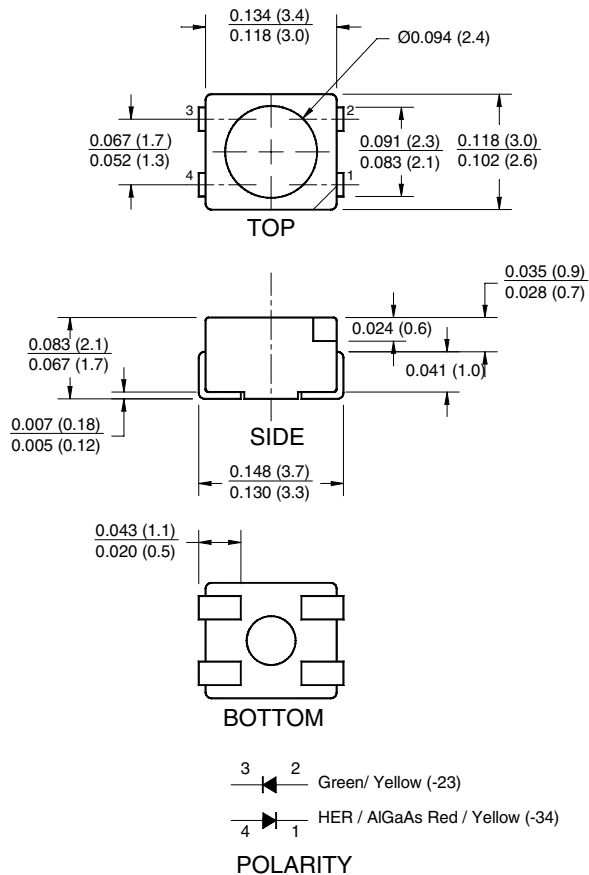
QTLP670C-23 HER/Yellow

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

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**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)	$\lambda_P$	635 / 585	635 / 565	585 / 565	660 / 565	$I_F = 20\text{mA}$
Peak		630 / 590	630 / 570	590 / 570	645 / 570	
Dominant	$\lambda_D$					
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	$I_F = 20\text{mA}$

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## TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

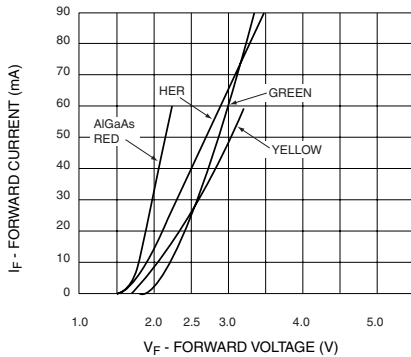


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

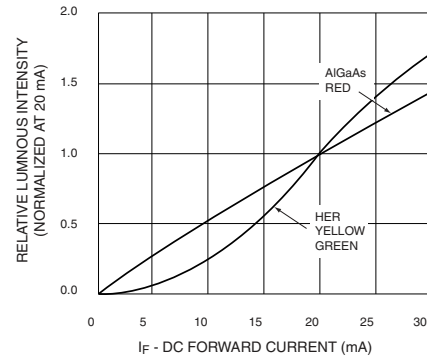


Fig. 3 Relative Intensity vs. Peak Wavelength

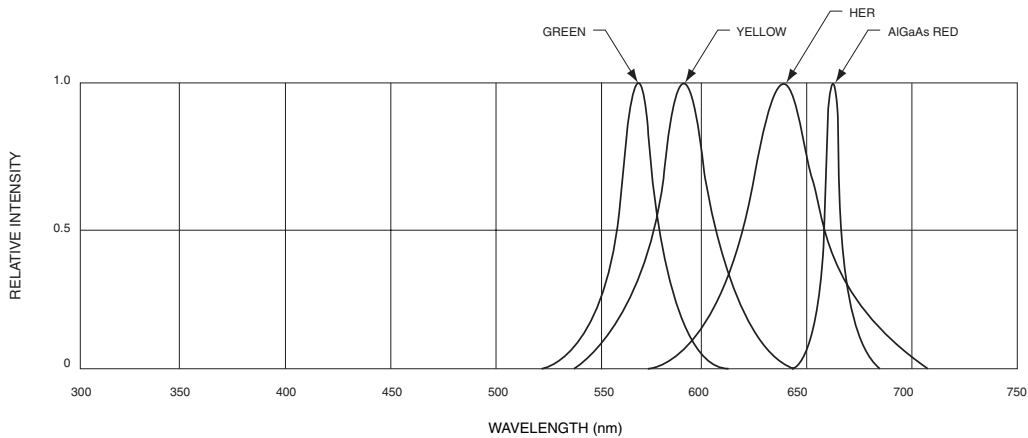


Fig. 4 Radiation Diagram

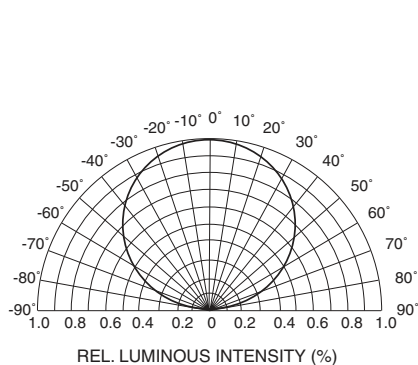
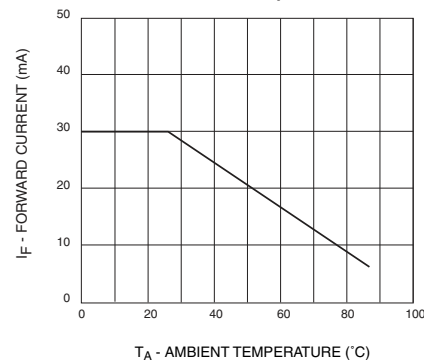


Fig. 5 Maximum Forward Current vs. Ambient Temperature



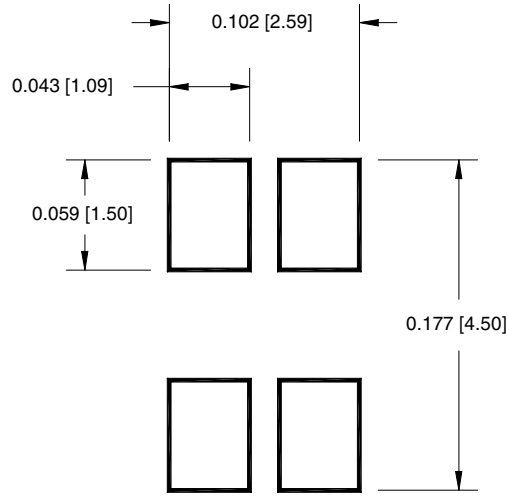
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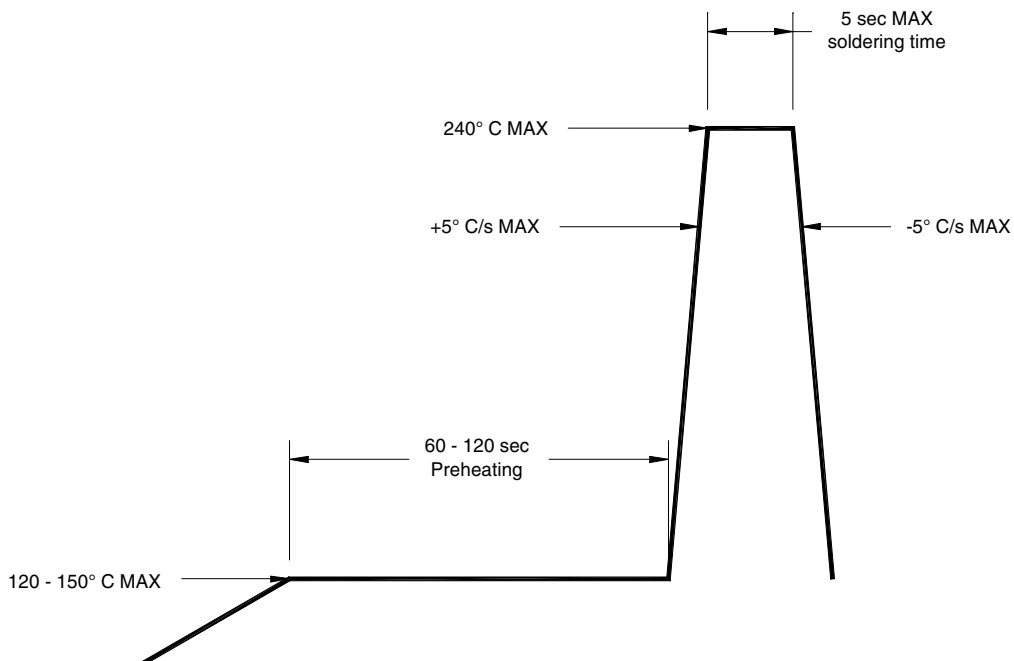
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**RECOMMENDED PRINTED CIRCUIT BOARD PATTERN**



**RECOMMENDED IR REFLOW SOLDERING PROFILE**



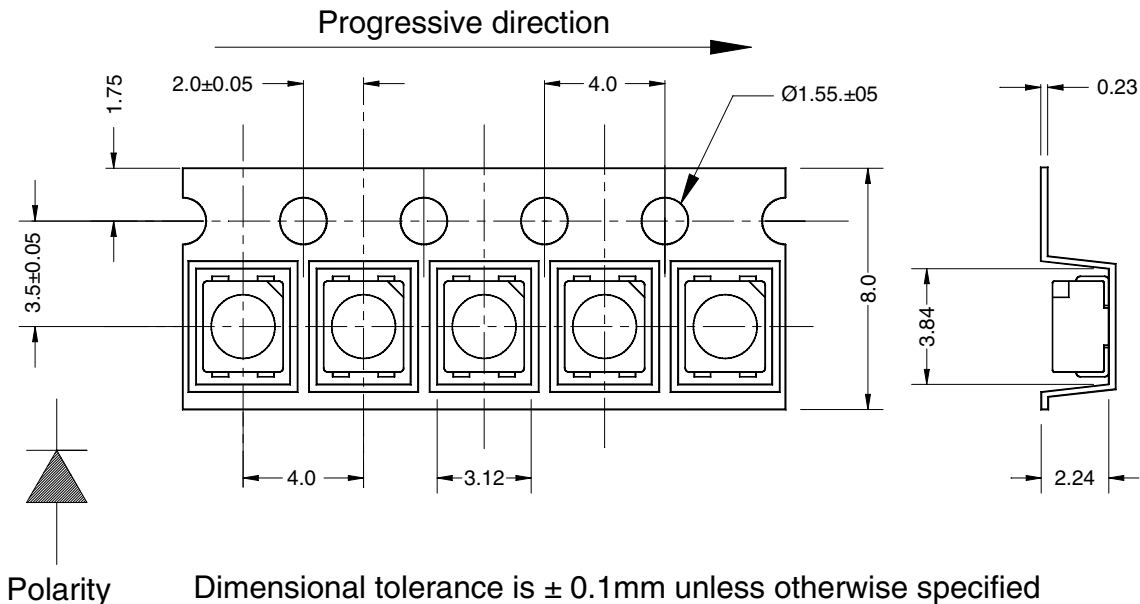
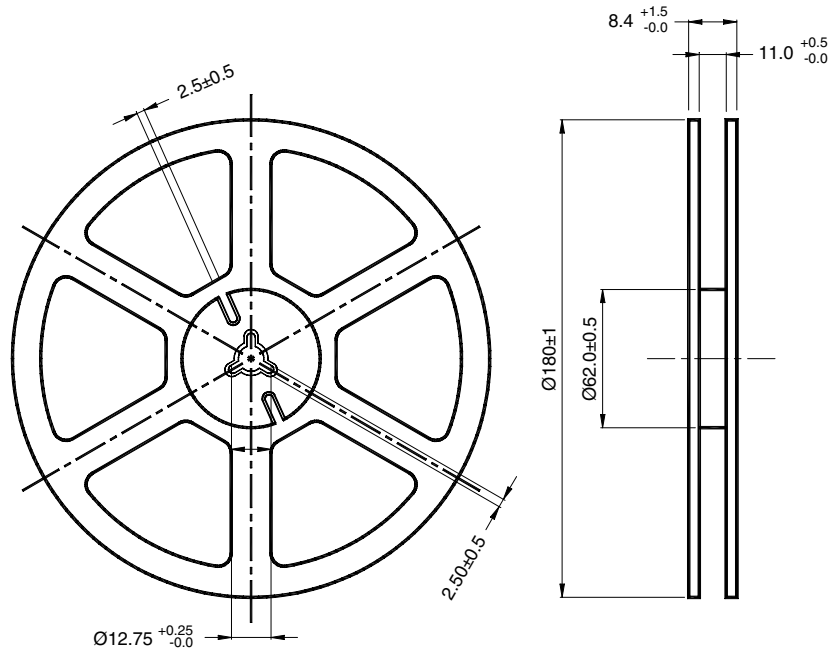
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**TAPE AND REEL DIMENSIONS**



Polarity

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

Angle:  $\pm 0.5$

Unit: mm

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