

FAIRCHILD
SEMICONDUCTOR®

SURFACE MOUNT LED LAMP

STANDARD BRIGHT PLCC-4

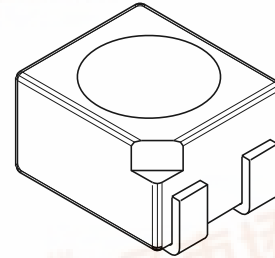
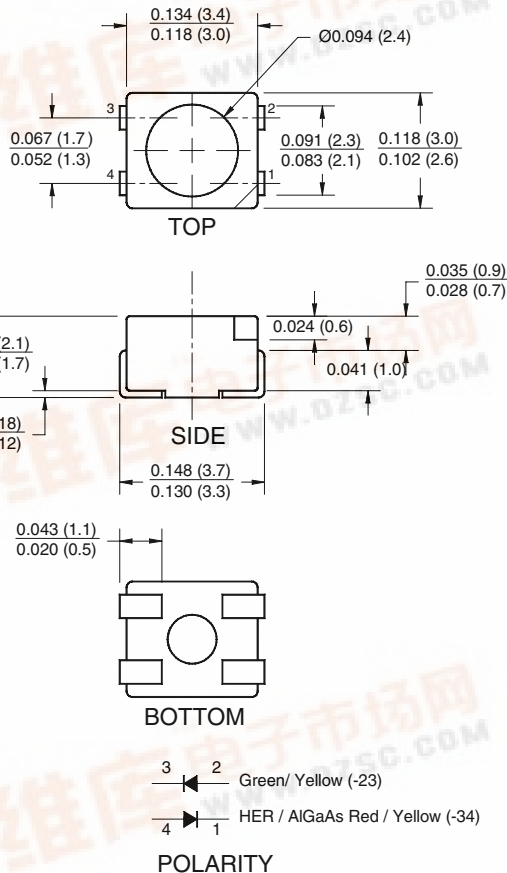
QTL670C-23 HER/Yellow

QTL670C-24 HER/Green

QTL670C-34 Yellow/Green

QTL670C-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°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				°C
Storage Temperature	T _{STG}	-40 to +90				°C
Lead Soldering Time	T _{SOL}	260 for 5 sec				°C

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A = 25°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 = 20mA
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 = 20mA
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 = 20mA
Peak		630 / 590	630 / 570	590 / 570	645 / 570	
Dominant	λ _D					
Spectral Line Half Width (nm)	Δλ	45 / 35	45 / 30	35 / 30	20 / 30	I _F = 20mA
Viewing Angle (°)	2Θ _{1/2}	120	120	120	120	I _F = 20mA

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TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

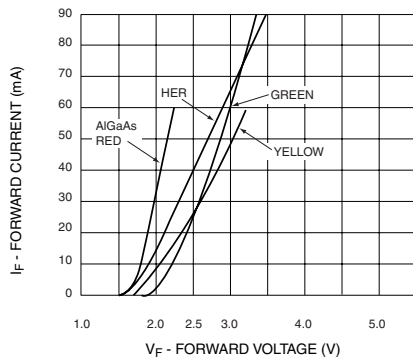


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

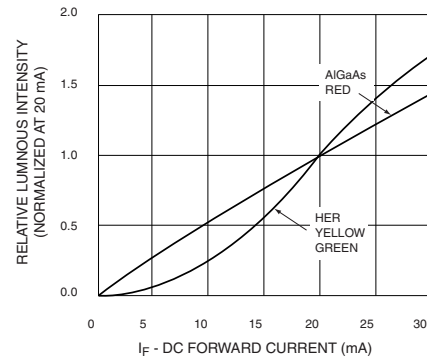


Fig. 3 Relative Intensity vs. Peak Wavelength

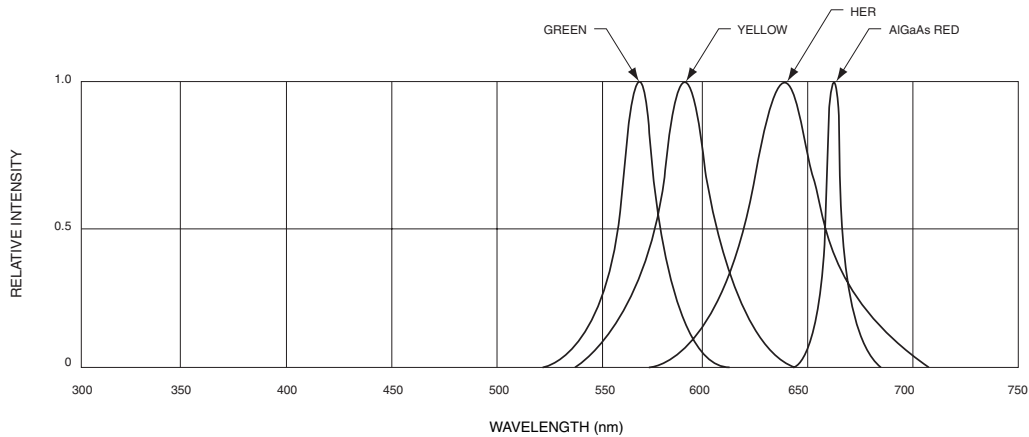


Fig. 4 Radiation Diagram

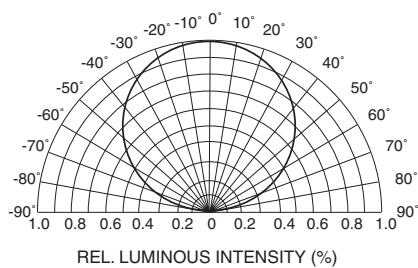
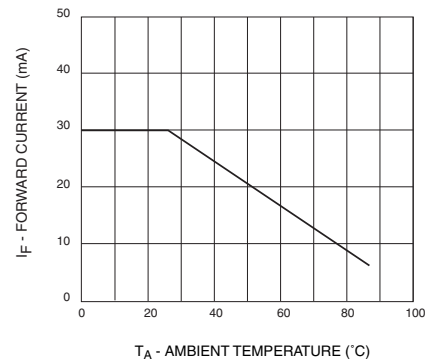


Fig. 5 Maximum Forward Current vs. Ambient Temperature



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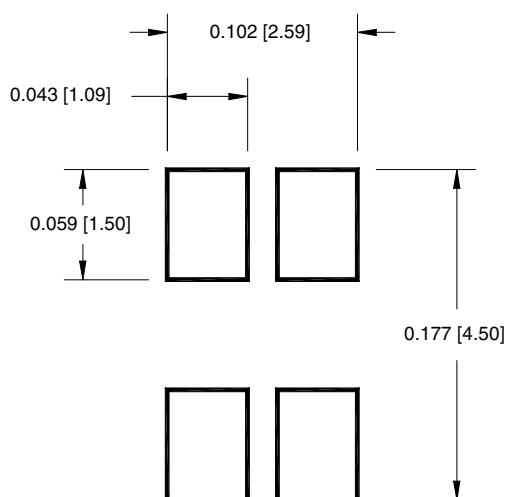
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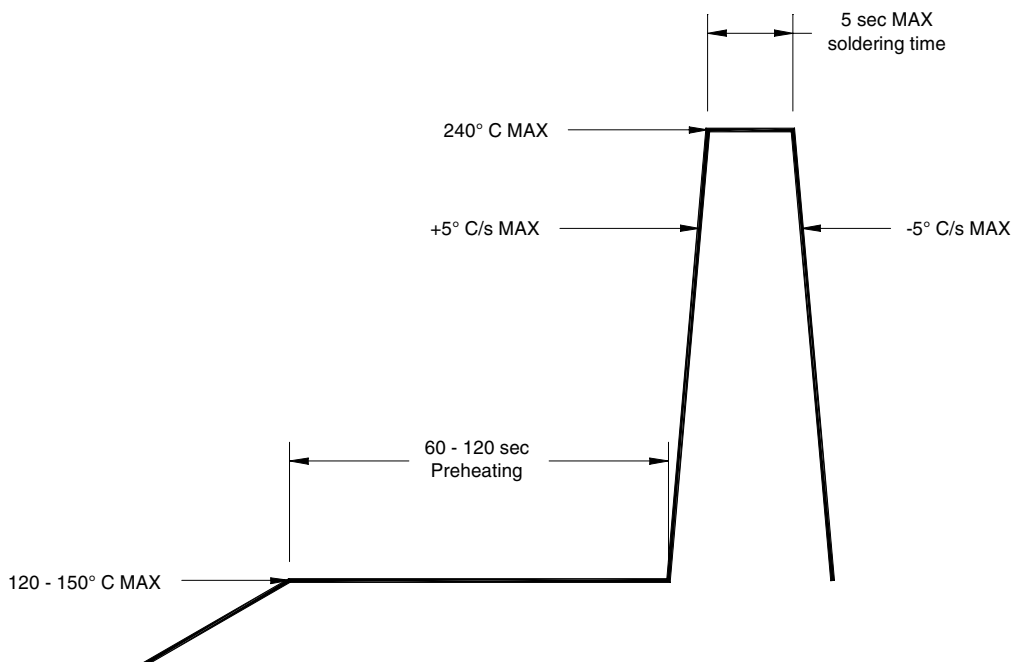
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RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE





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Unit: mm



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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.