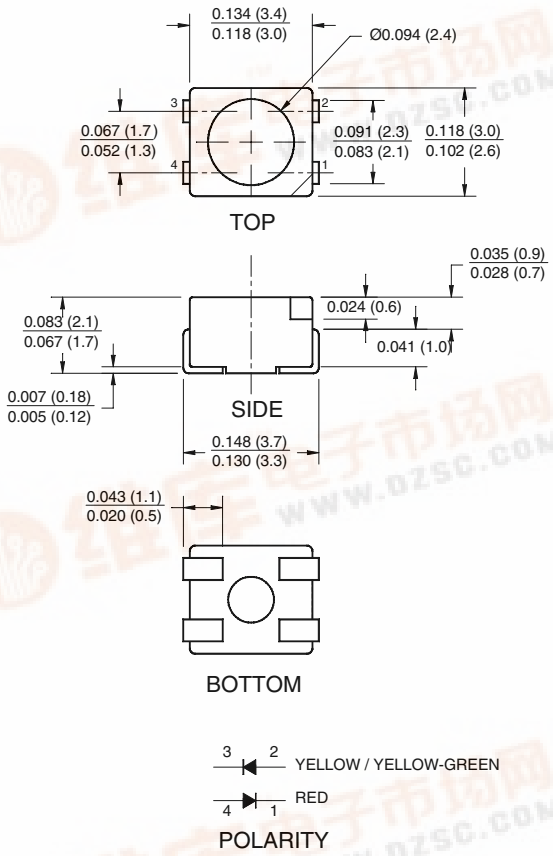
FAIRCHILD
SEMICONDUCTOR®

SURFACE MOUNT LED LAMP
SUPER BRIGHT PLCC-4

QTLP670C-RY Red/Yellow

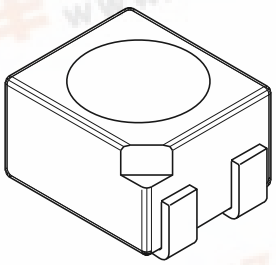
QTLP670C-RAG Red/Yellow-Green

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 super bright 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

- AlInGaP technology for -R, -Y and -AG
- Wide viewing angle of 120°
- Water clear optics
- 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
		-RY	-RAG	
Continuous Forward Current	I_F	30 / 25	30 / 30	mA
Peak Forward Current (f = 1.0 KHz, Duty Factor = 1/10)	I_{FM}	160 / 120	160 / 160	mA
Reverse Voltage	V_R	5	5	V
Power Dissipation	P_D	72 / 60	72 / 72	mW
Junction Temperature	T_J	100 / 100	100 / 100	°C
Thermal Resistance (Junction-Air)	$R_{th\ JA}$	550[1] / 750[2]	550[1] / 750[2]	K/W
Operating Temperature	T_{OPR}	-40 to +95		°C
Storage Temperature	T_{STG}	-40 to +100		°C
Lead Soldering Time	T_{SOL}	260 for 5 sec		°C

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A =25°C)

Parameter	Symbol	QTLP670C		Units
		-RY	-RAG	
Luminous Intensity (mcd)				
Minimum	I_V	20 / 20	20 / 15	I_F = 20mA
Typical		55 / 55	55 / 25	
Forward Voltage (V)				
Maximum	V_F	2.4 / 2.4	2.4 / 2.4	I_F = 20mA
Typical		2.0 / 2.0	2.0 / 2.0	
Wavelength (nm)				
Peak	λ_P	630 / 590	630 / 575	I_F = 20mA
Dominant	λ_D	624 / 589	624 / 573	
Spectral Line Half Width (nm)	$\Delta\lambda$	20 / 15	20 / 20	I_F = 20mA
Viewing Angle (°)	$2\Theta_{1/2}$	120	120	I_F = 20mA

[1] One chip on
[2] Two chips on

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TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

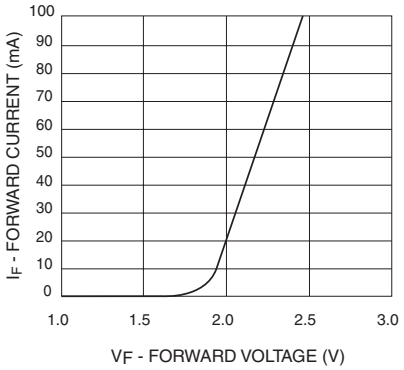


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

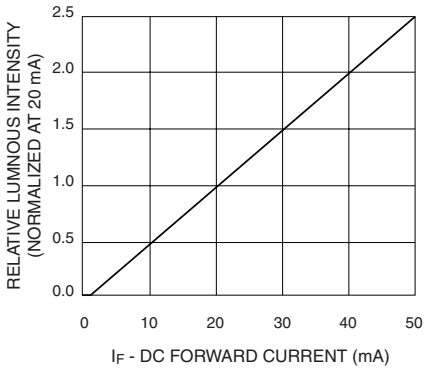


Fig. 3 Relative Intensity vs. Peak Wavelength

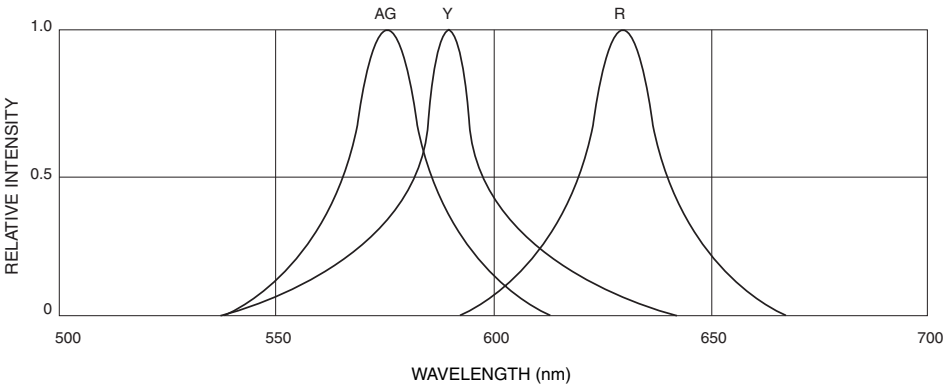


Fig.4 Radiation Diagram

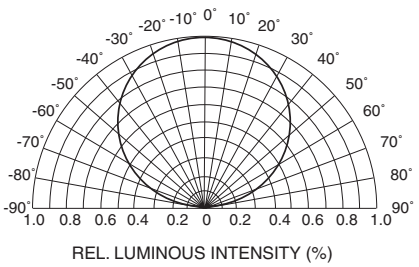
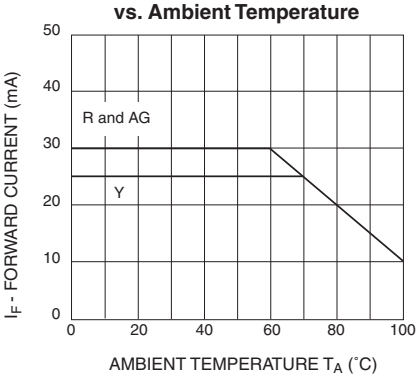


Fig.5 Maximum Forward Current vs. Ambient Temperature



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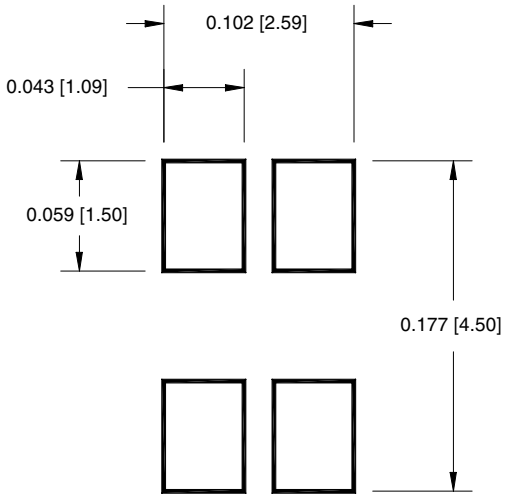
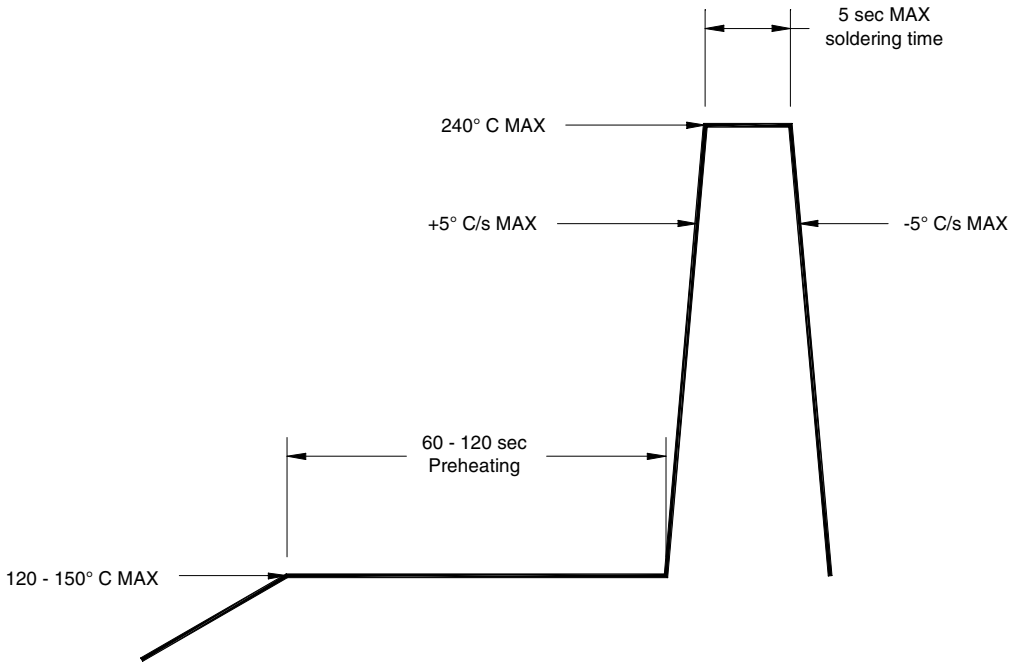
RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE



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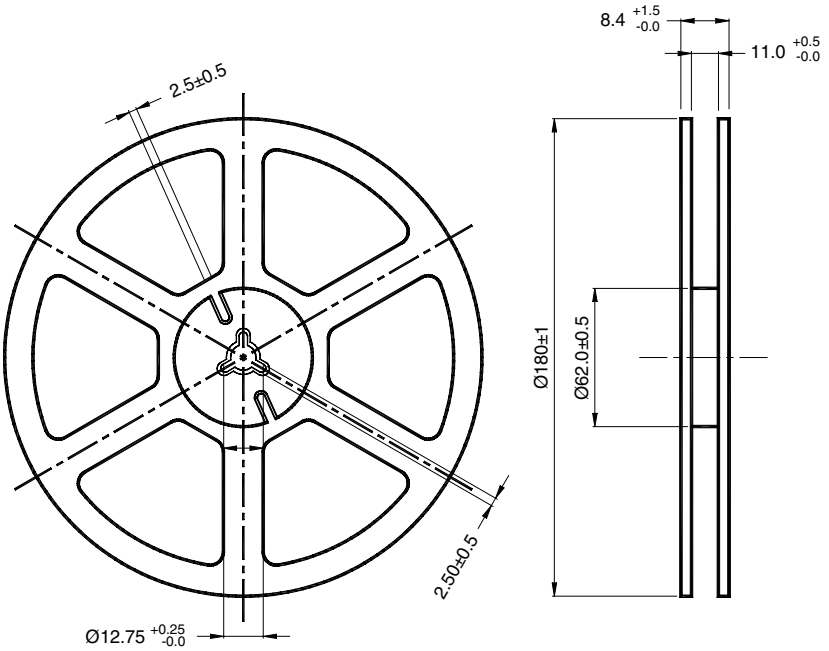
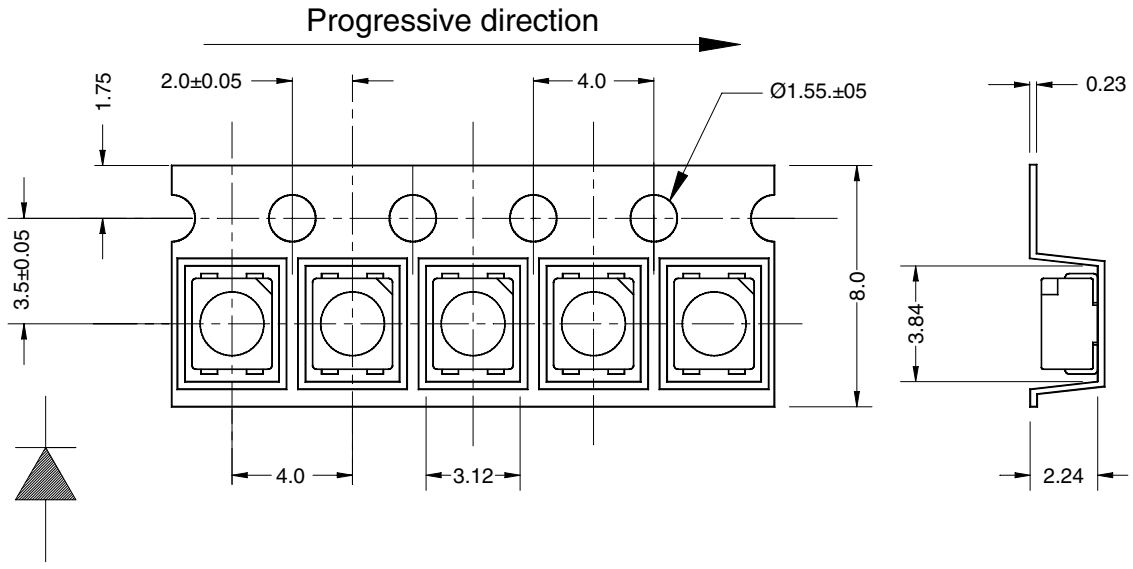
TAPE AND REEL DIMENSIONS





Polarity

Dimensional tolerance is ± 0.1mm unless otherwise specified

Angle: ± 0.5

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.