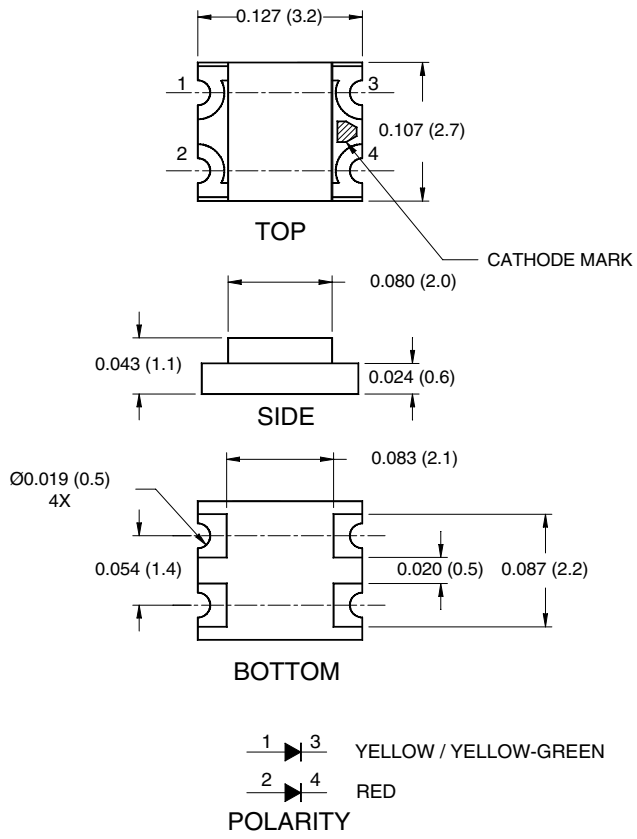
FAIRCHILD
SEMICONDUCTOR®

SURFACE MOUNT LED LAMP
SUPER BRIGHT 1210

QTLP650C-RY Red/Yellow

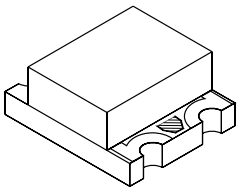
QTLP650C-RAG Red/Yellow-Green

PACKAGE DIMENSIONS



NOTE:

Dimensions for all drawings are in inches (mm).



APPLICATIONS

- Keypad backlighting
- Push-button backlighting
- LCD backlighting

DESCRIPTION

These super bright bi-color surface mount chip LEDs are designed to fit industry standard footprint. Small size, low profile and wide viewing angle make these LEDs ideal for backlighting applications and panel illumination.

FEATURES

- Miniature footprint - 3.2(L) X 2.7(W) X 1.1(H) mm
- AlInGaP technology
- Wide viewing angle of 140°
- 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	QTLP650C		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
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	QTLP650C		Units
		-RY	-RAG	
Luminous Intensity (mcd)				
Minimum	I_V	15 / 15	15 / 10	I_F = 20mA
Typical		35 / 35	35 / 15	
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 (°)	$2\Theta_{1/2}$	140	140	I_F = 20mA

TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

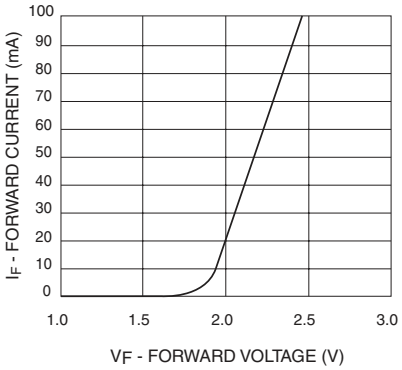


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

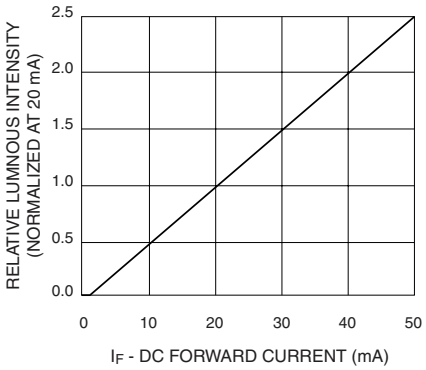


Fig. 3 Relative Intensity vs. Peak Wavelength

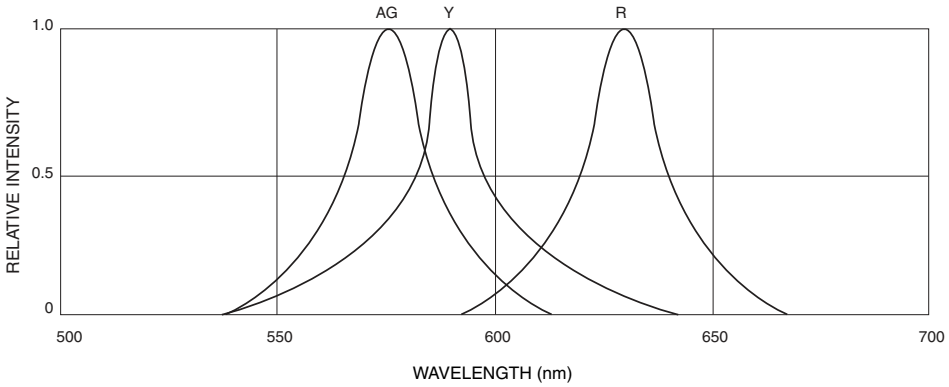


Fig.4 Radiation Diagram

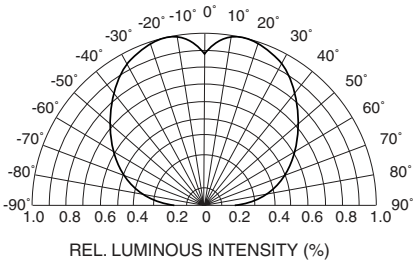
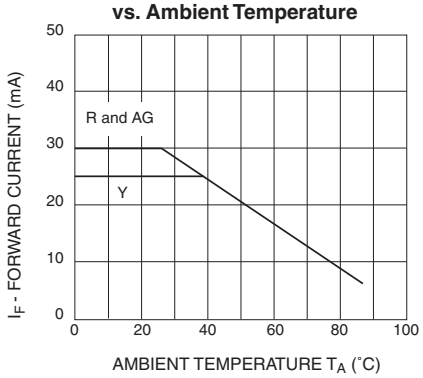
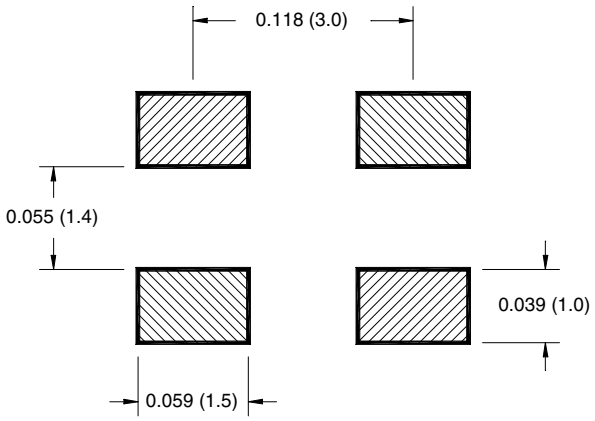


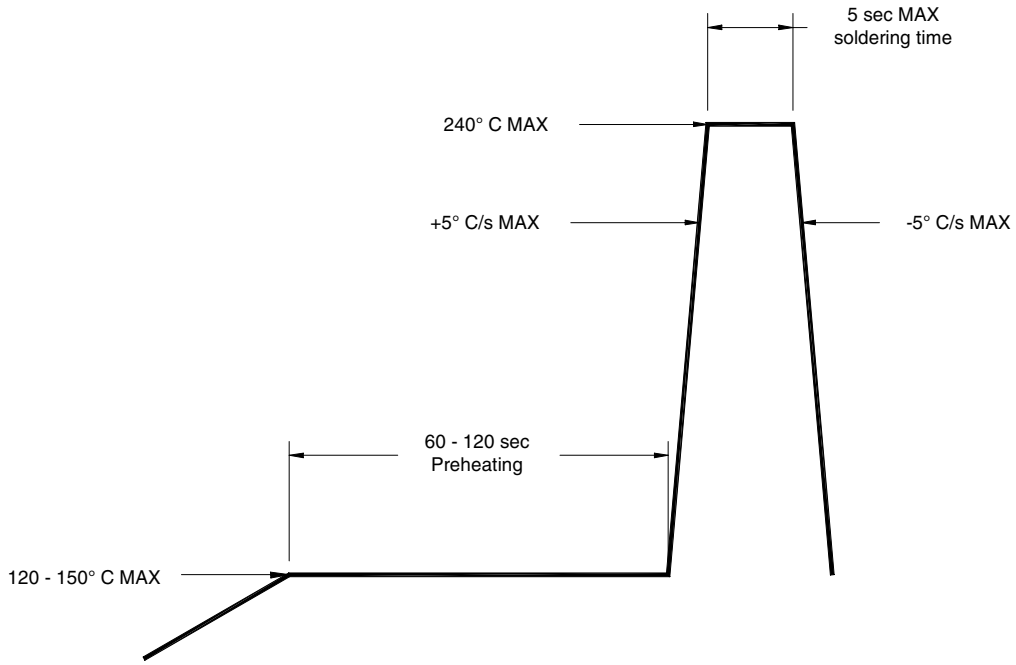
Fig.5 Maximum Forward Current vs. Ambient Temperature



RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE



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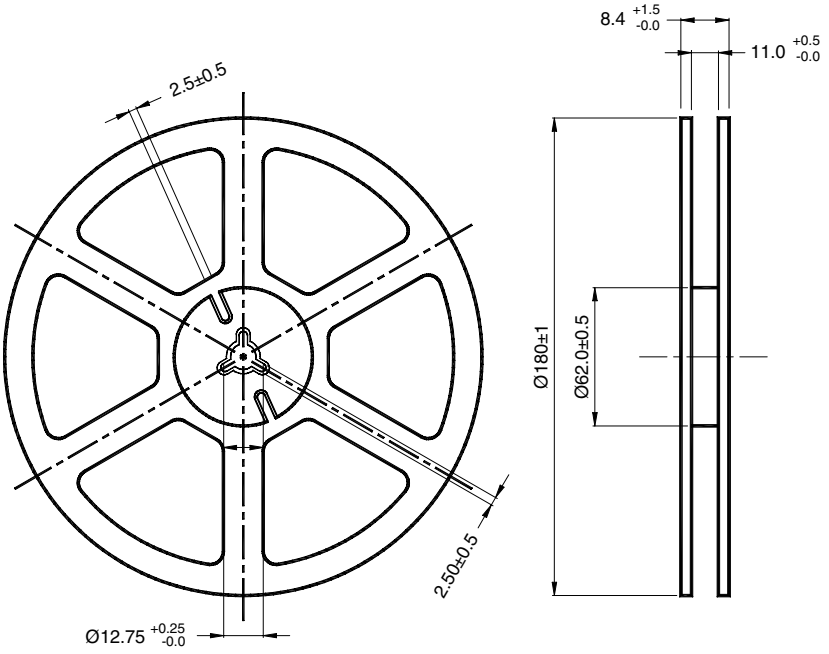
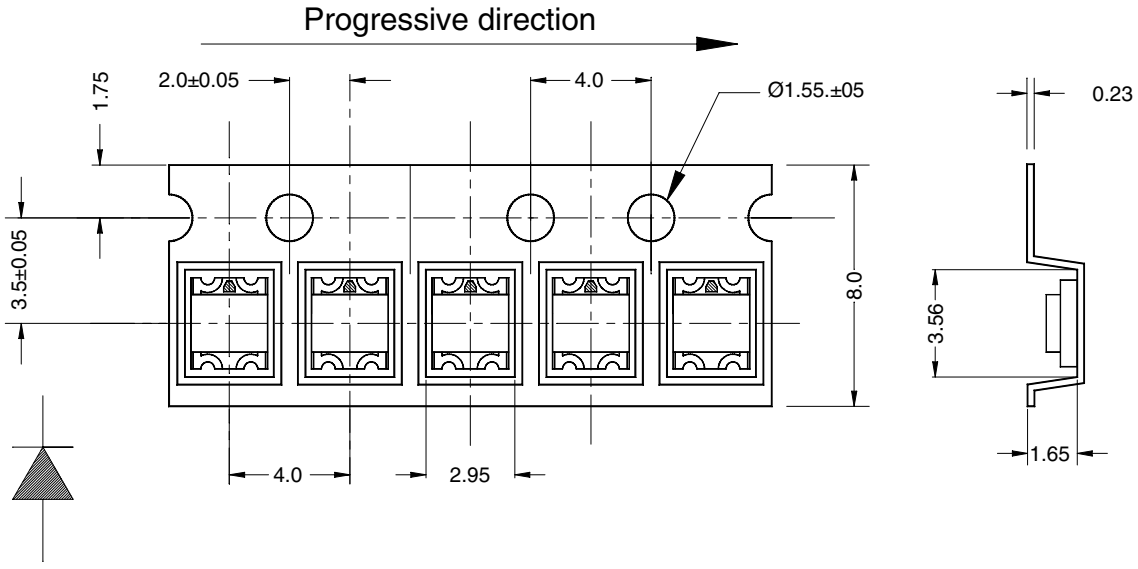
TAPE AND REEL DIMENSIONS





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.