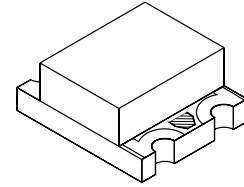
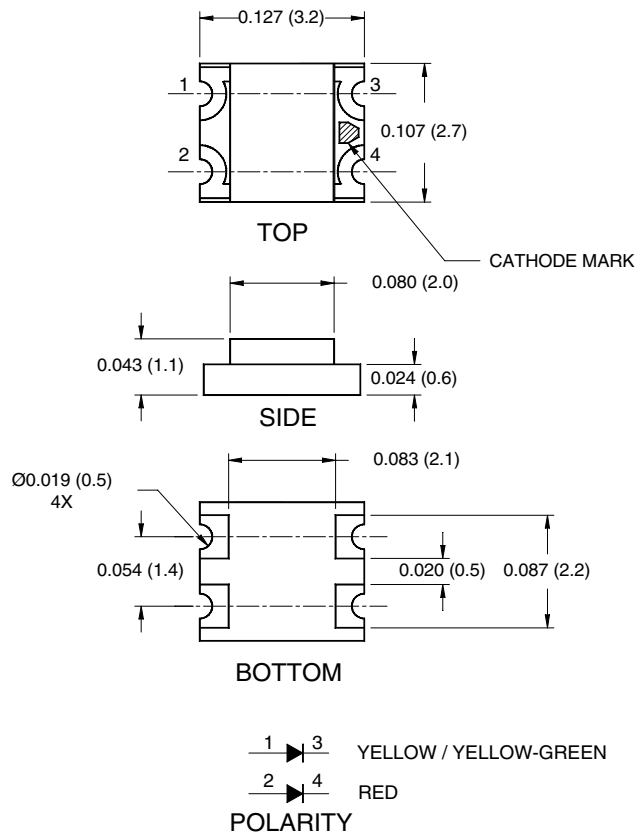


QTLP650C-RY Red/Yellow

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
- AllnGaP 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

QTLP650C-RY Red/Yellow

QTLP650C-RAG Red/Yellow-Green

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

Parameter	Symbol	QTLP650C		Units
		-RY	-RAG	
Continuous Forward Current	I_F	30 / 25	30 / 30	mA
Peak Forward Current ($f = 1.0 \text{ KHz}$, 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		$^\circ\text{C}$
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	QTLP650C		Units
		-RY	-RAG	
Luminous Intensity (mcd)	I_V			$I_F = 20\text{mA}$
Minimum		15 / 15	15 / 10	
Typical		35 / 35	35 / 15	
Forward Voltage (V)	V_F			$I_F = 20\text{mA}$
Maximum		2.4 / 2.4	2.4 / 2.4	
Typical		2.0 / 2.0	2.0 / 2.0	
Wavelength (nm)	λ_P			$I_F = 20\text{mA}$
Peak		630 / 590	630 / 575	
Dominant	λ_D	624 / 589	624 / 573	
Spectral Line Half Width (nm)	$\Delta\lambda$	20 / 15	20 / 20	$I_F = 20\text{mA}$
Viewing Angle ($^\circ$)	$2\Theta_{1/2}$	140	140	$I_F = 20\text{mA}$

TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

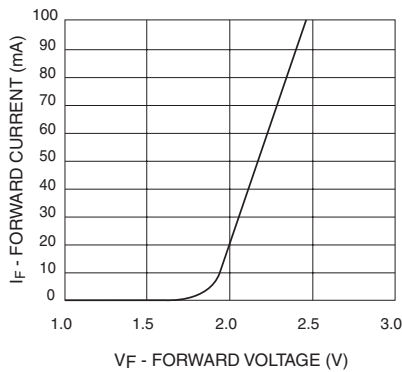


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

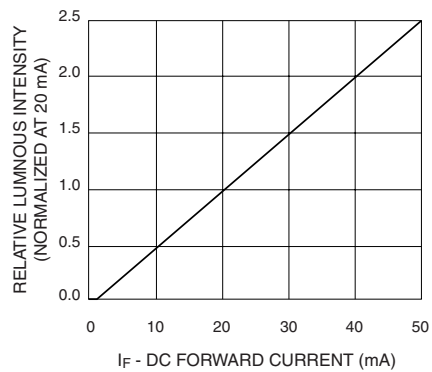


Fig. 3 Relative Intensity vs. Peak Wavelength

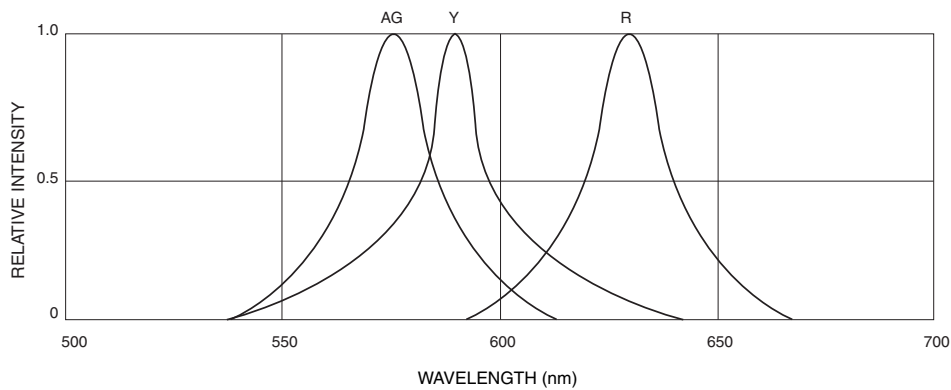


Fig.4 Radiation Diagram

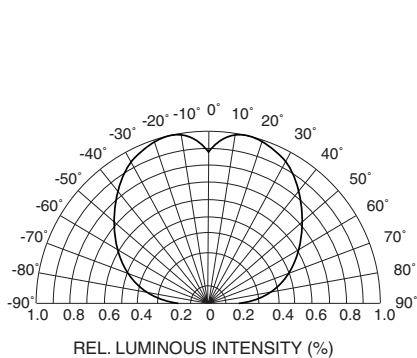
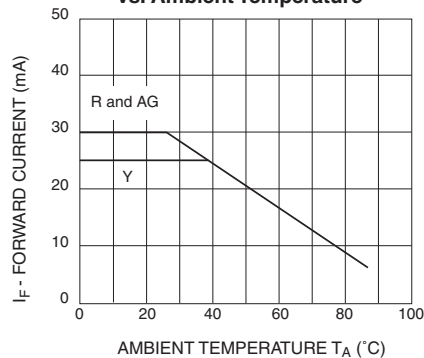


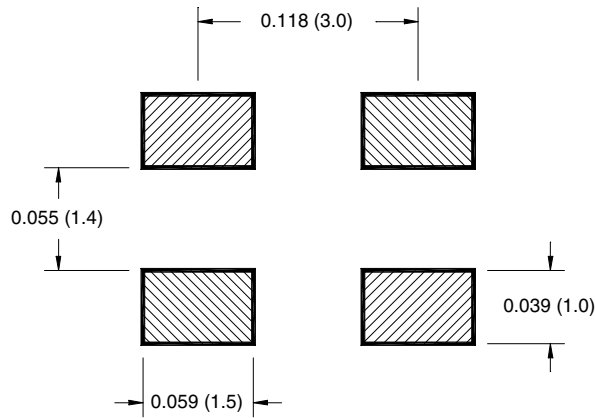
Fig.5 Maximum Forward Current vs. Ambient Temperature



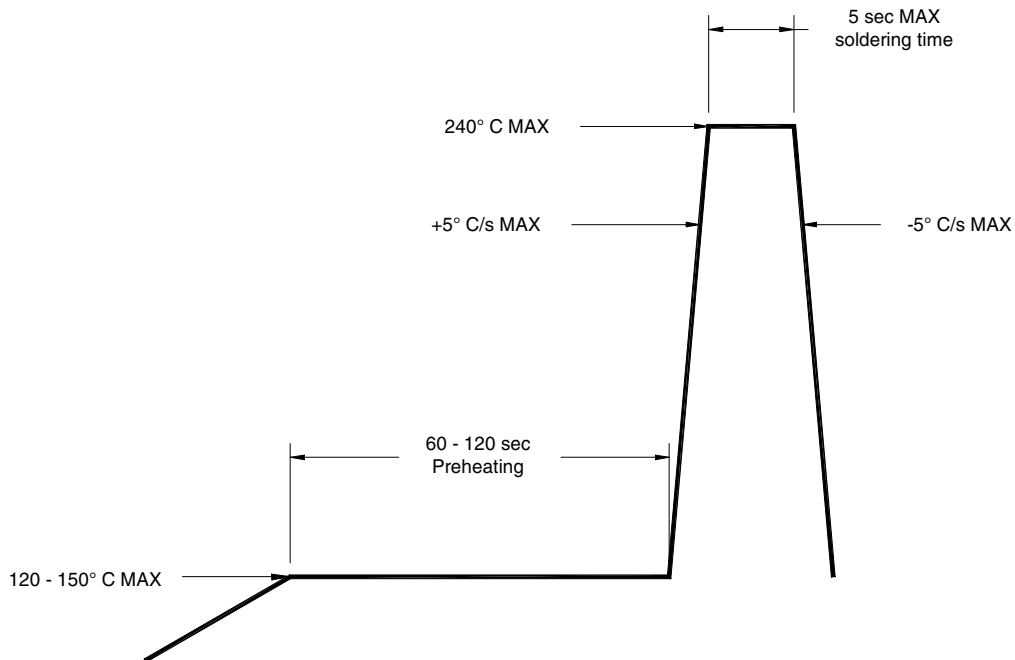
QTLP650C-RY Red/Yellow

QTLP650C-RAG Red/Yellow-Green

RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



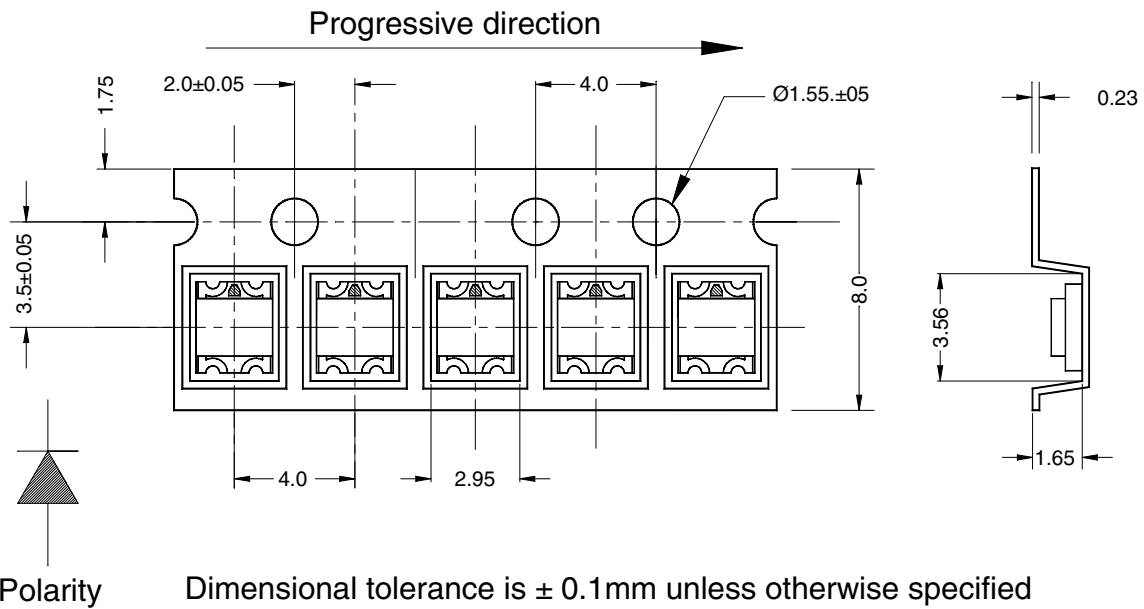
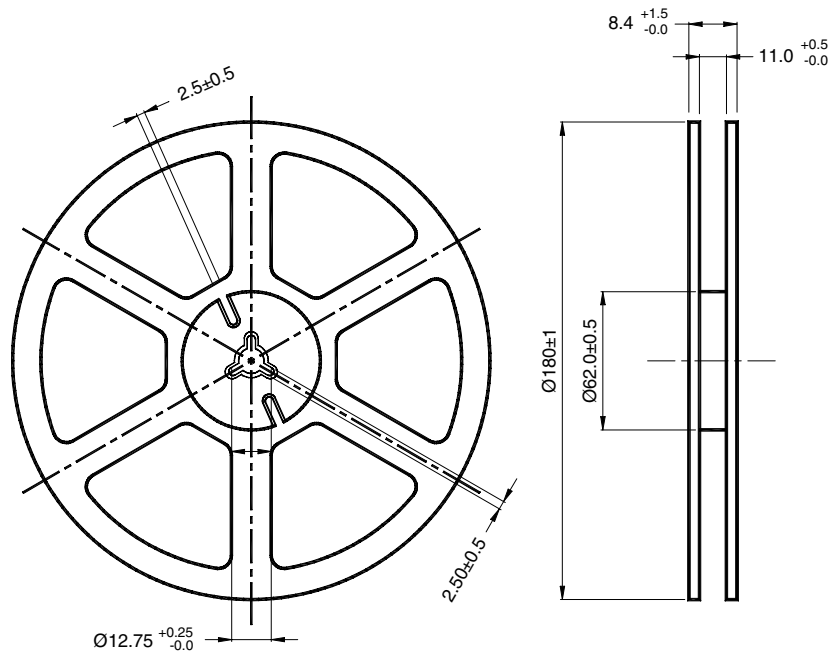
RECOMMENDED IR REFLOW SOLDERING PROFILE



QTLP650C-RY Red/Yellow

QTLP650C-RAG Red/Yellow-Green

TAPE AND REEL DIMENSIONS



Dimensional tolerance is ± 0.1 mm unless otherwise specified

Angle: ± 0.5

Unit: mm

QTLP650C-RY Red/Yellow

QTLP650C-RAG Red/Yellow-Green

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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.