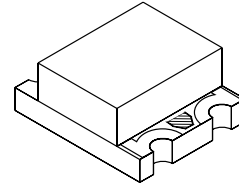
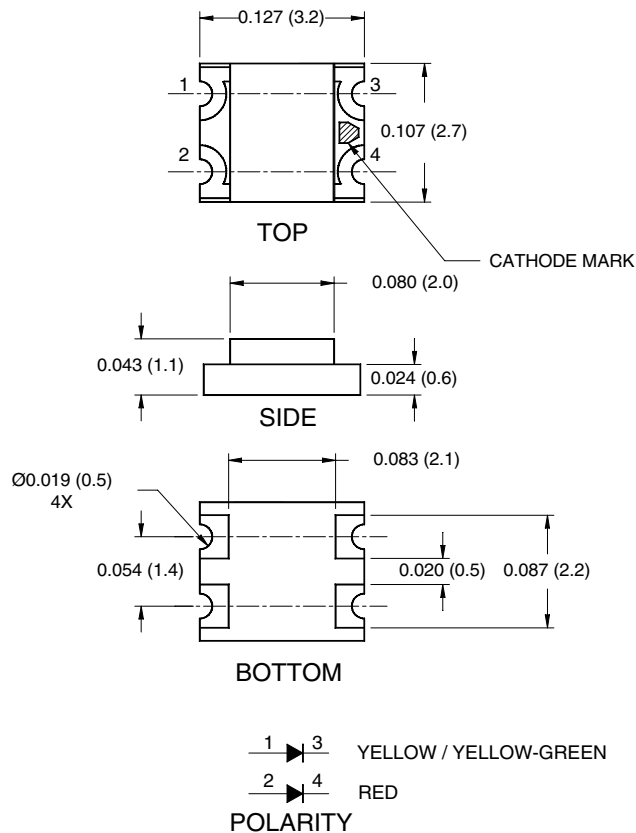


QTLP650C-RY Red/Yellow

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

QTLP650C-RY Red/Yellow

QTLP650C-RAG Red/Yellow-Green

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)	I _V	15 / 15	15 / 10	I _F = 20mA
Minimum		35 / 35	35 / 15	
Typical				
Forward Voltage (V)	V _F	2.4 / 2.4	2.4 / 2.4	I _F = 20mA
Maximum		2.0 / 2.0	2.0 / 2.0	
Typical				
Wavelength (nm)	λ _P	630 / 590	630 / 575	I _F = 20mA
Peak		624 / 589	624 / 573	
Dominant	λ _D			
Spectral Line Half Width (nm)	Δλ	20 / 15	20 / 20	I _F = 20mA
Viewing Angle (°)	2Θ _{1/2}	140	140	I _F = 20mA

QTLP650C-RY Red/Yellow

QTLP650C-RAG Red/Yellow-Green

TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

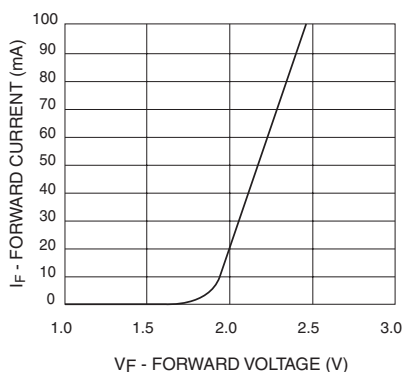


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

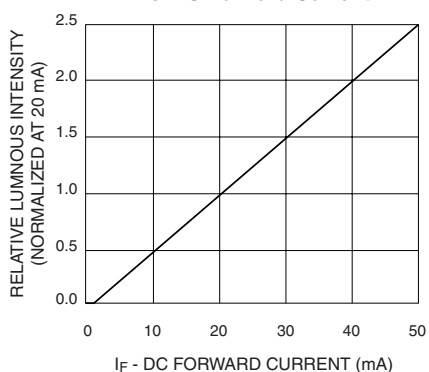


Fig. 3 Relative Intensity vs. Peak Wavelength

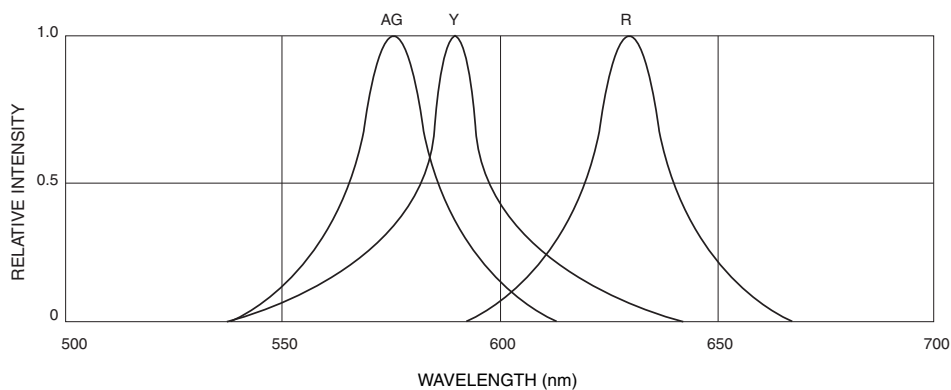


Fig.4 Radiation Diagram

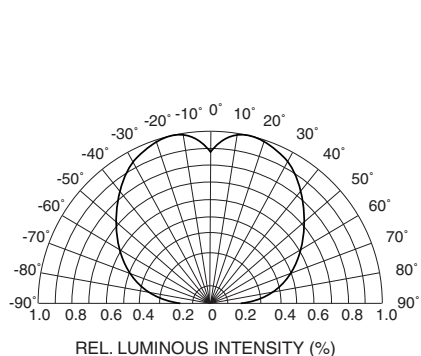
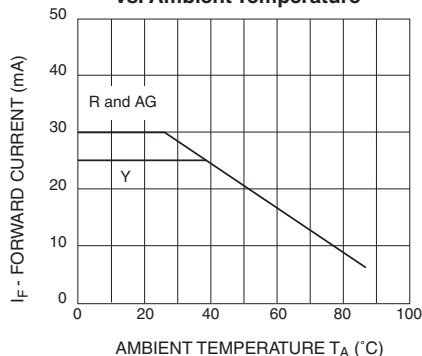


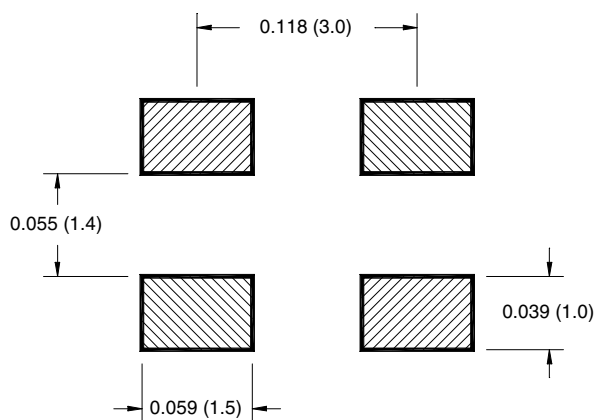
Fig.5 Maximum Forward Current vs. Ambient Temperature



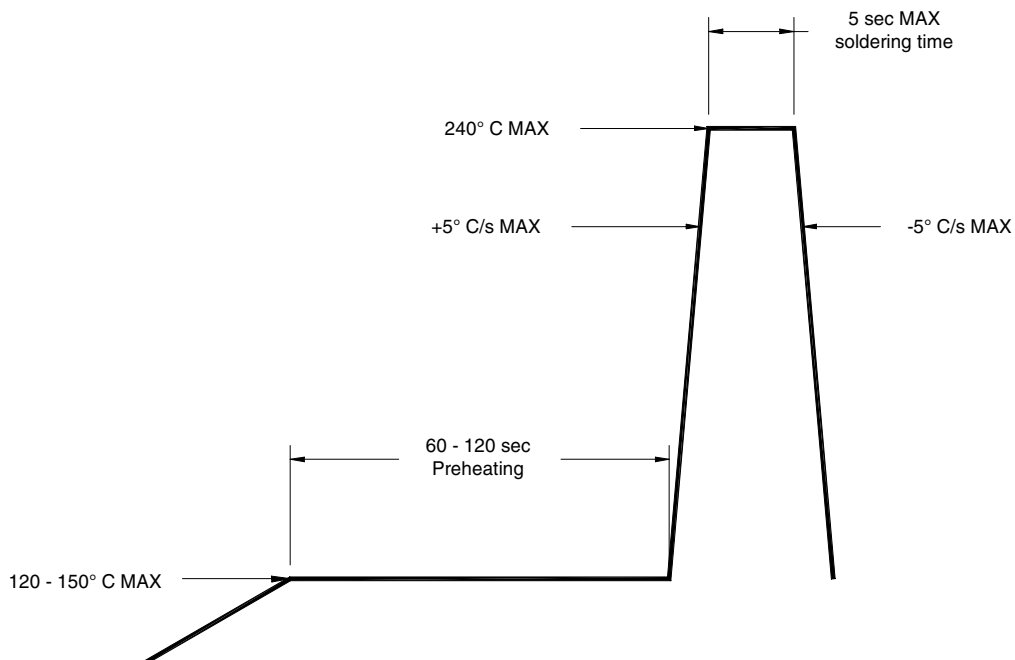
QTLP650C-RY Red/Yellow

QTLP650C-RAG Red/Yellow-Green

RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



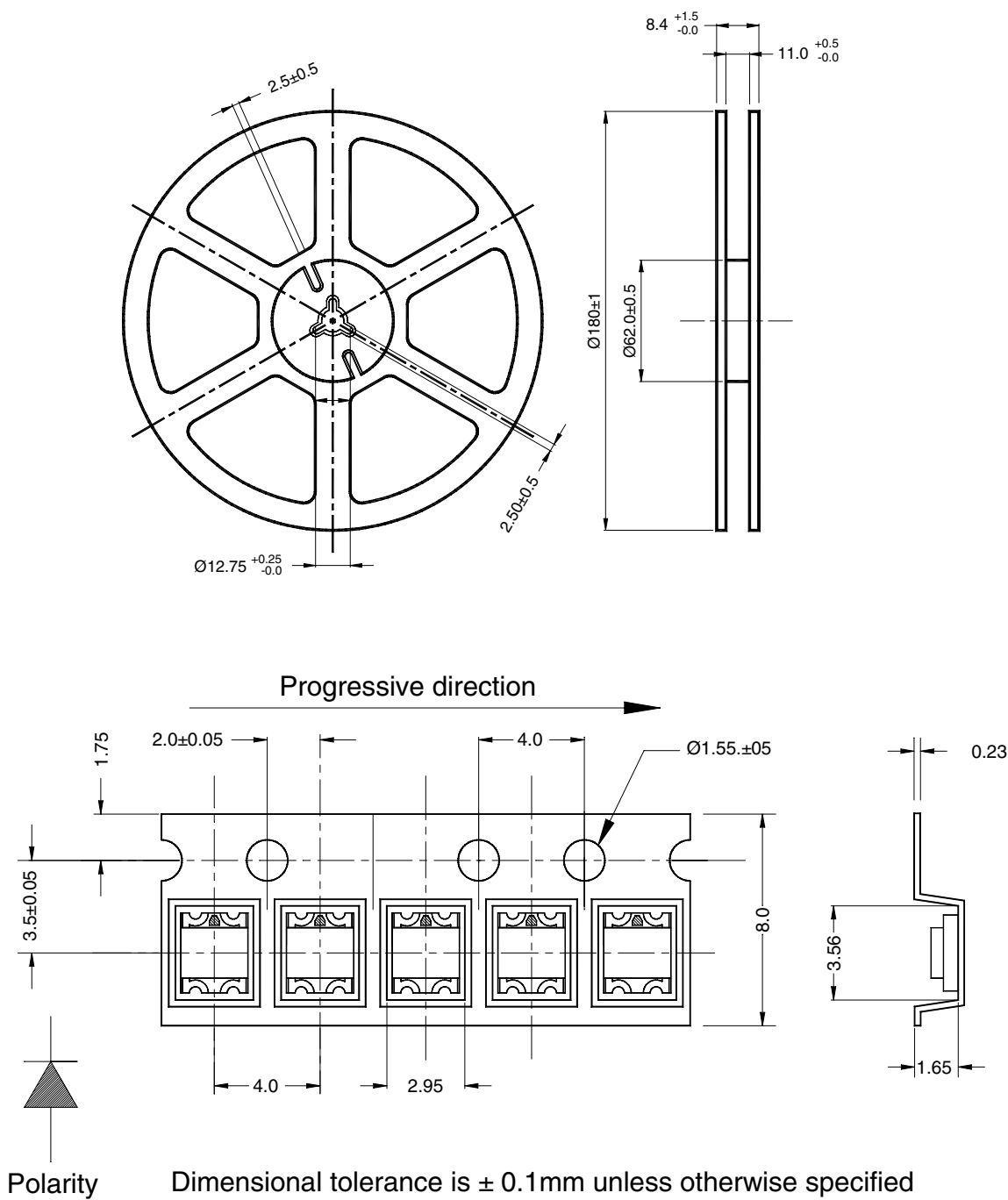
RECOMMENDED IR REFLOW SOLDERING PROFILE



QTLP650C-RY Red/Yellow

QTLP650C-RAG Red/Yellow-Green

TAPE AND REEL DIMENSIONS



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.