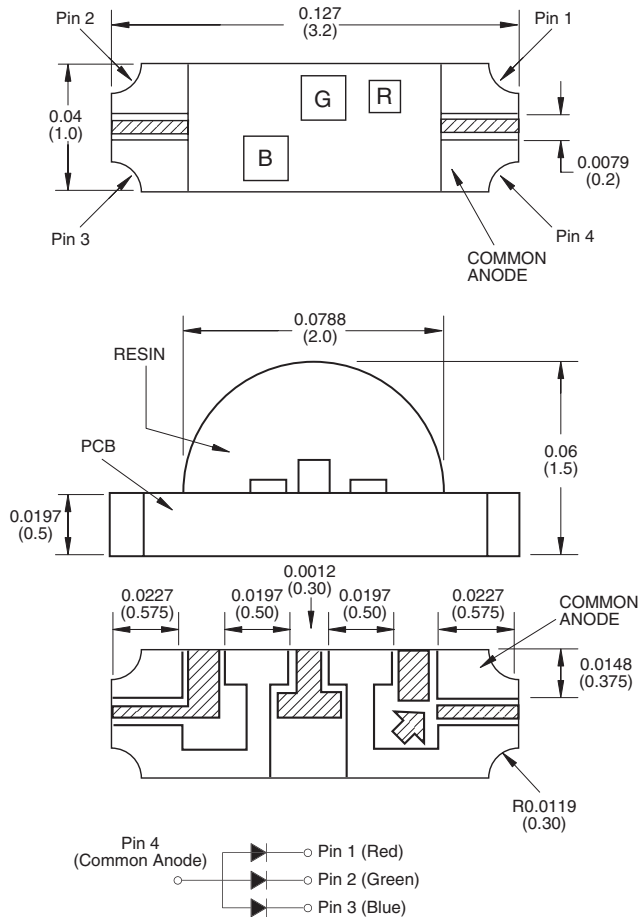
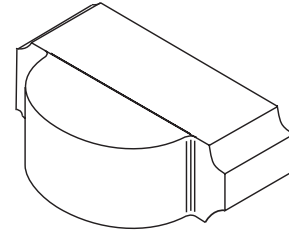


**PACKAGE DIMENSIONS**



**NOTE:**  
Dimensions for all drawings are in inches (mm).



**Applications**

- LCD edge-lighting
- Edge card lighting

**Description**

This compact right angle surface mount chip LED emits light in the lateral direction. Miniature size and wide viewing angle make this LED an ideal choice for edge-lighting LCD displays. This device utilizes an InGaN/Sapphire blue, InGaN Green, and AlInGaP Red LED.

**Features**

- Miniature footprint - 3.2(L) X 1.0(W) X 1.5(H) mm
- Wide viewing angle of 160°
- Water clear optics
- Available in 0.315" (8mm) width tape on 7" (178mm) diameter reel; 2,000 units per reel

**QTLP614CRGB Red/Green/Blue**

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

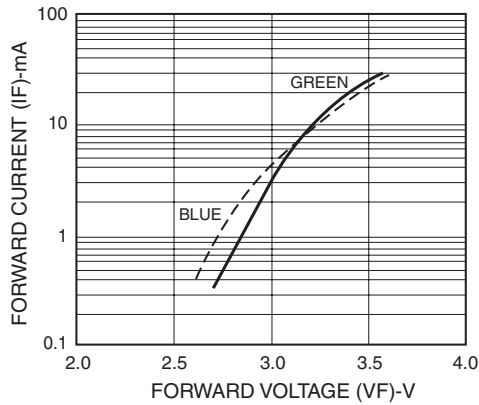
Parameter	Symbol	Rating			Unit
		R	G	B	
Operating Temperature	$T_{OPR}$	-30 to +80			$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-40 to +85			$^\circ\text{C}$
Lead Soldering Time	$T_{SOL}$	260 for 5 sec			$^\circ\text{C}$
Continuous Forward Current	$I_F$	30	20	20	mA
Peak Forward Current (Duty Factor = 10%, $t_P = 0.1$ ms)	$I_{FM}$	100	80	80	mA
Reverse Voltage ( $I_R = 100 \mu\text{A}$ )	$V_R$	5			V
Power Dissipation	$P_D$	78	84	84	mW

**ELECTRICAL / OPTICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$ )

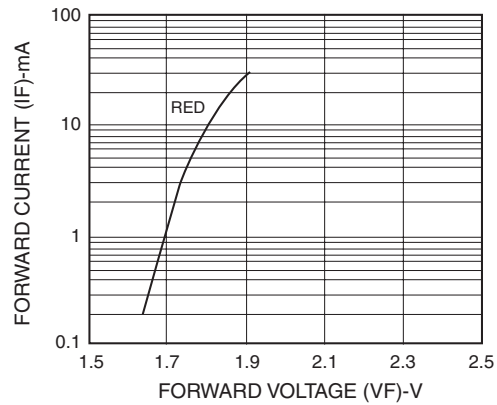
Part Number	QTLP614C-RGB			Condition	
	R	G	B		
Luminous Intensity (mcd)	min:	40	63	25	$I_F = 20\text{mA}$
	typ:	110	100	40	
Forward Voltage (V)	typ:	2.0	3.5	3.5	$I_F = 20\text{mA}$
	max:	2.6	4.2	4.2	
Dominant Wavelength (nm)		625	525	470	$I_F = 20\text{mA}$
Peak Wavelength (nm)		636	523	468	$I_F = 20\text{mA}$
Viewing Angle ( $^\circ$ )		160			$I_F = 20\text{mA}$

**TYPICAL PERFORMANCE CURVES**

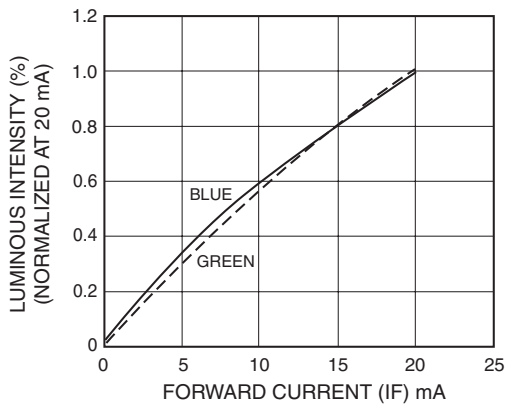
**Fig. 1A Forward Current vs. Forward Voltage**



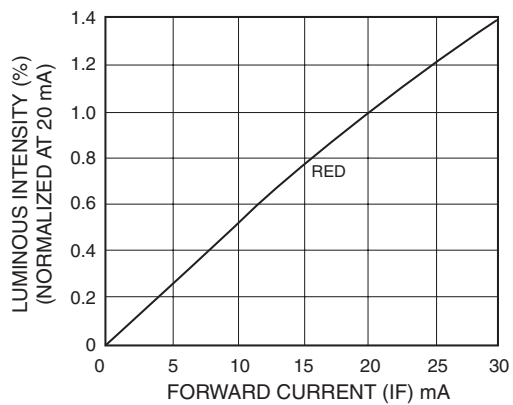
**Fig. 1B Forward Current vs. Forward Voltage**



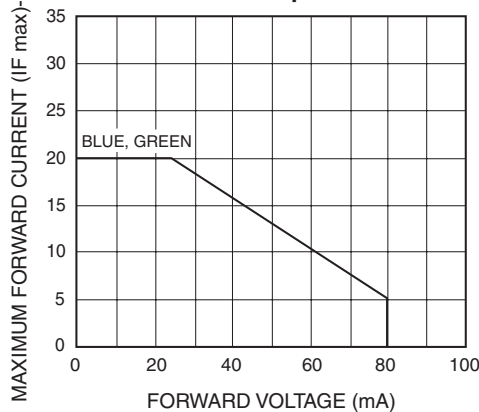
**Fig. 2A Luminous Intensity vs. Forward Current**



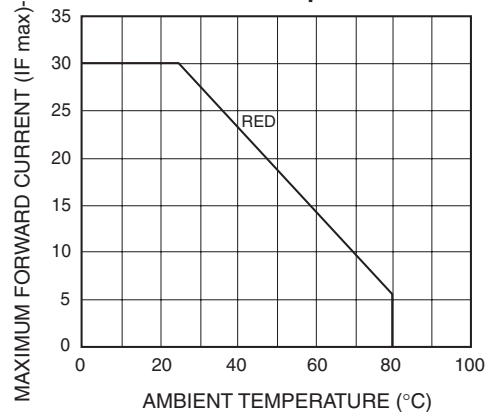
**Fig. 2B Luminous Intensity vs. Forward Current**



**Fig. 3A Maximum Forward Current vs. Ambient Temperature**

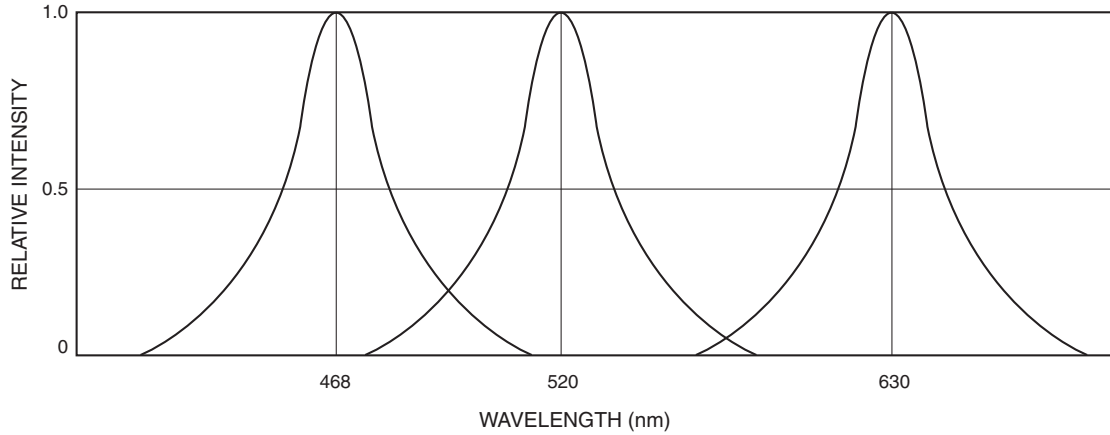


**Fig. 3B Maximum Forward Current vs. Ambient Temperature**

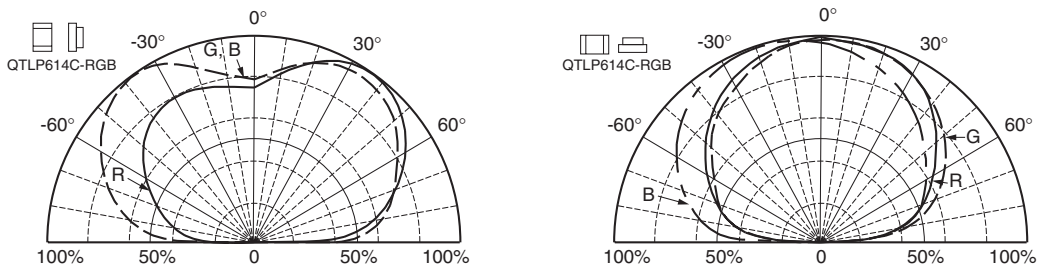


**TYPICAL PERFORMANCE CURVES**

**Fig. 4 Relative Intensity vs. Peak Wavelength**

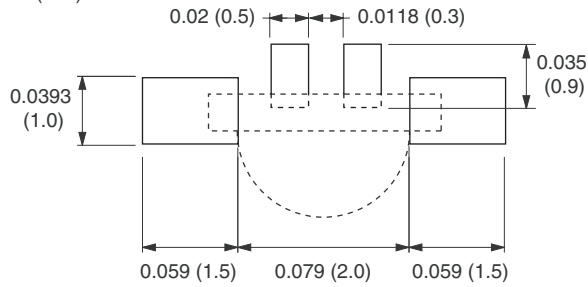


**Fig. 5 Radiation Diagrams**

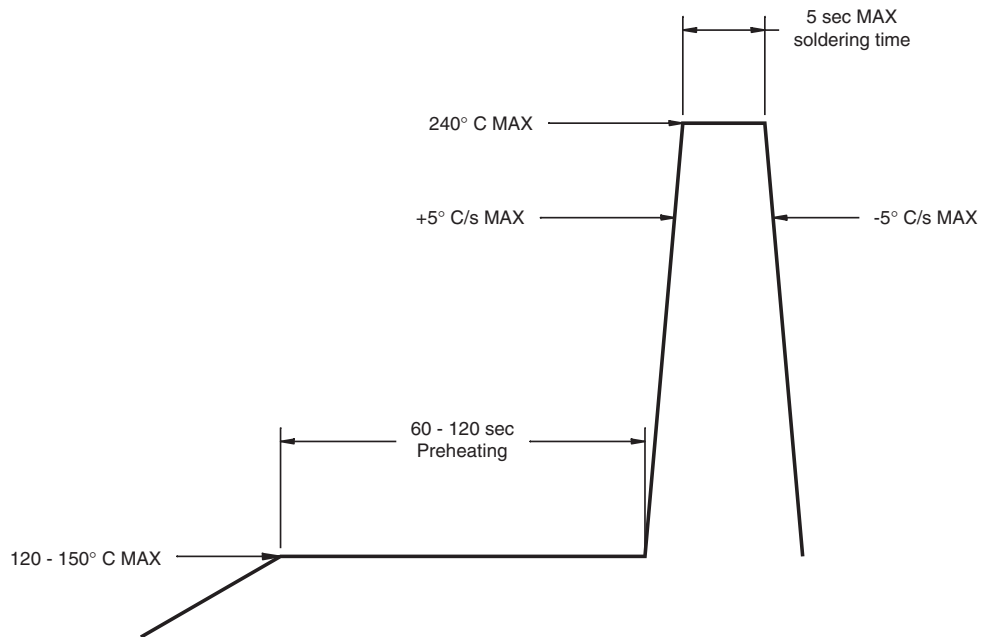


**RECOMMENDED PRINTED CIRCUIT BOARD PATTERN**

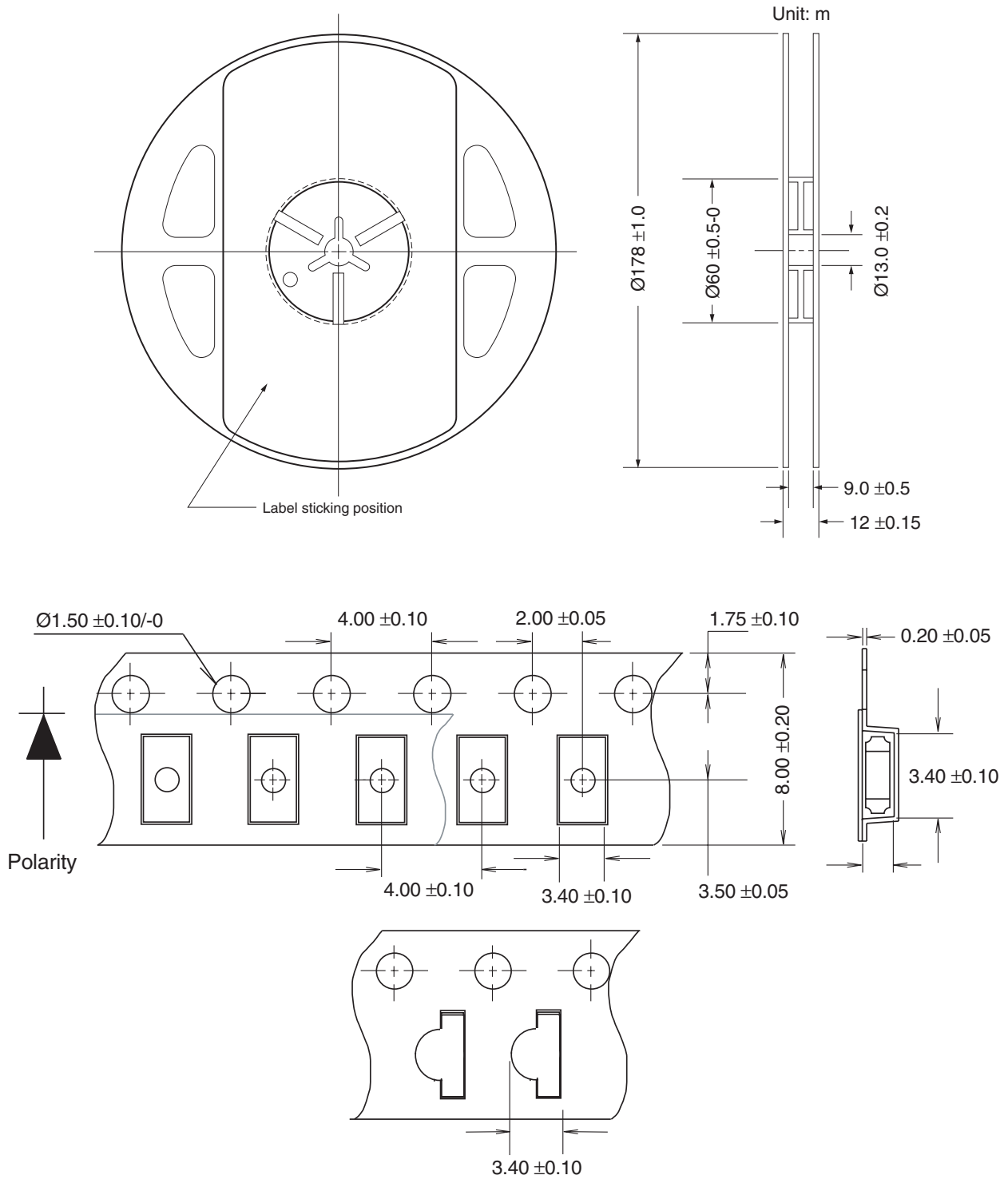
Unit = inch (mm)



**RECOMMENDED IR REFLOW SOLDERING PROFILE**



**TAPE AND REEL DIMENSIONS**



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