

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

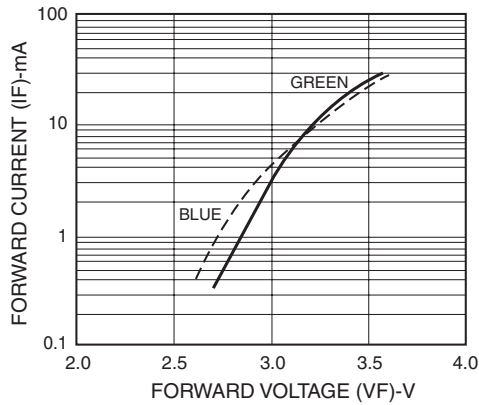


Fig. 1B Forward Current vs. Forward Voltage

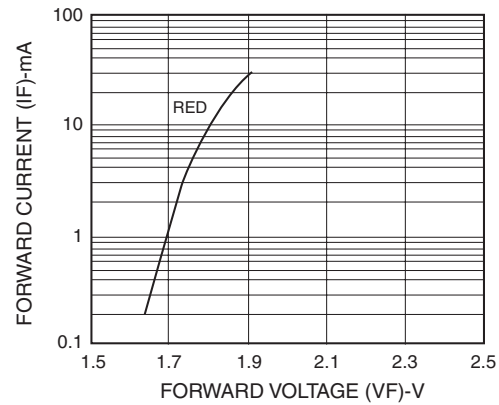


Fig. 2A Luminous Intensity vs. Forward Current

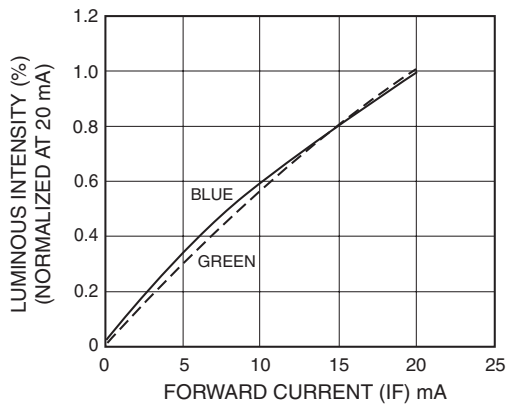


Fig. 2B Luminous Intensity vs. Forward Current

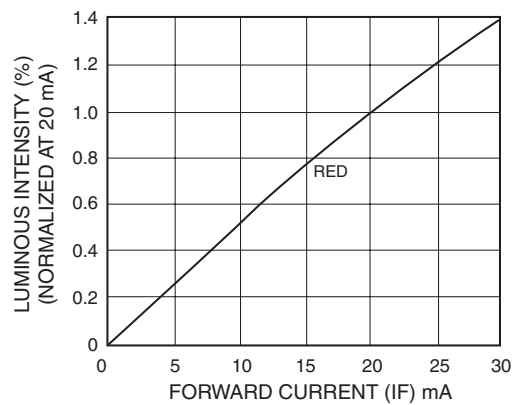


Fig. 3A Maximum Forward Current vs. Ambient Temperature

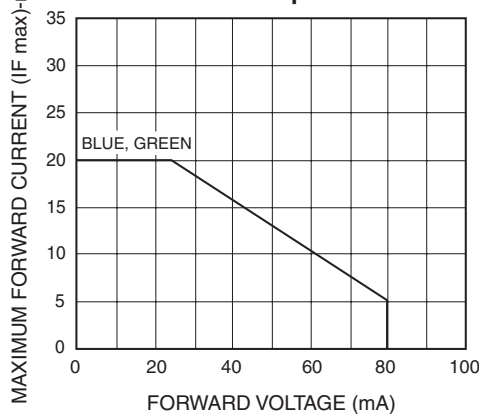
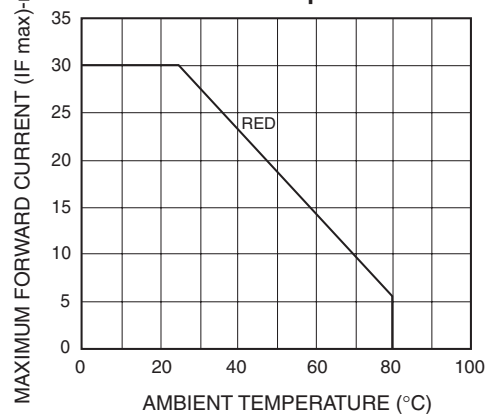


Fig. 3B Maximum Forward Current vs. Ambient Temperature



TYPICAL PERFORMANCE CURVES

Fig. 4 Relative Intensity vs. Peak Wavelength

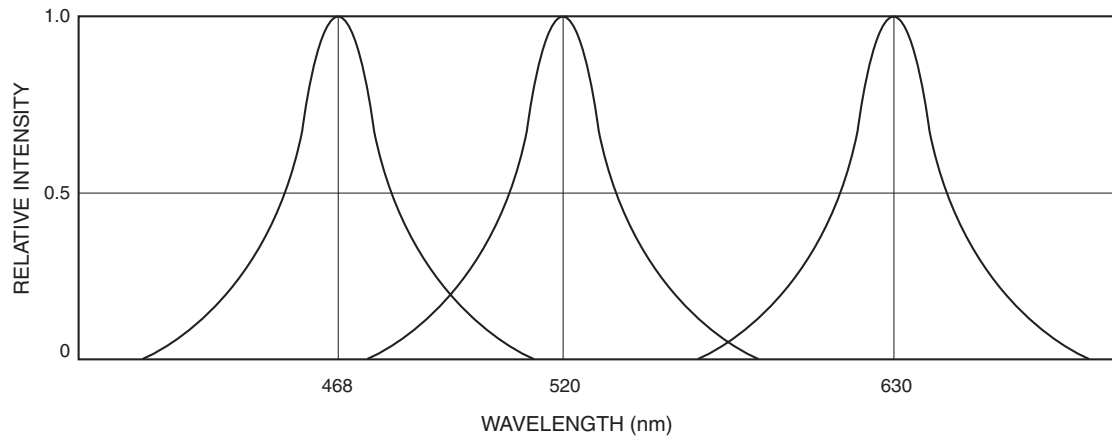
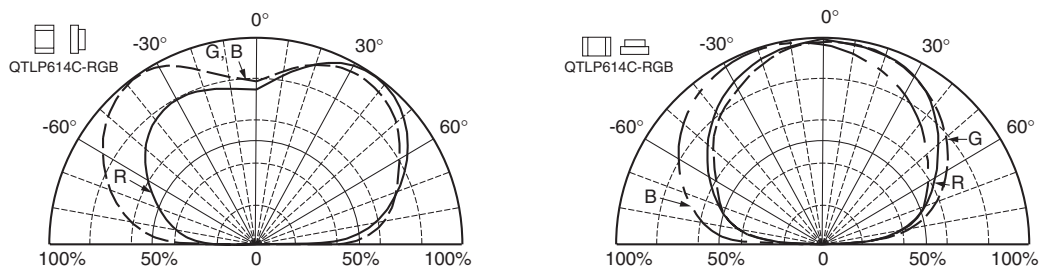


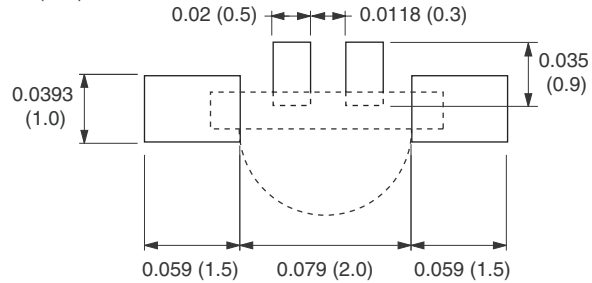
Fig. 5 Radiation Diagrams



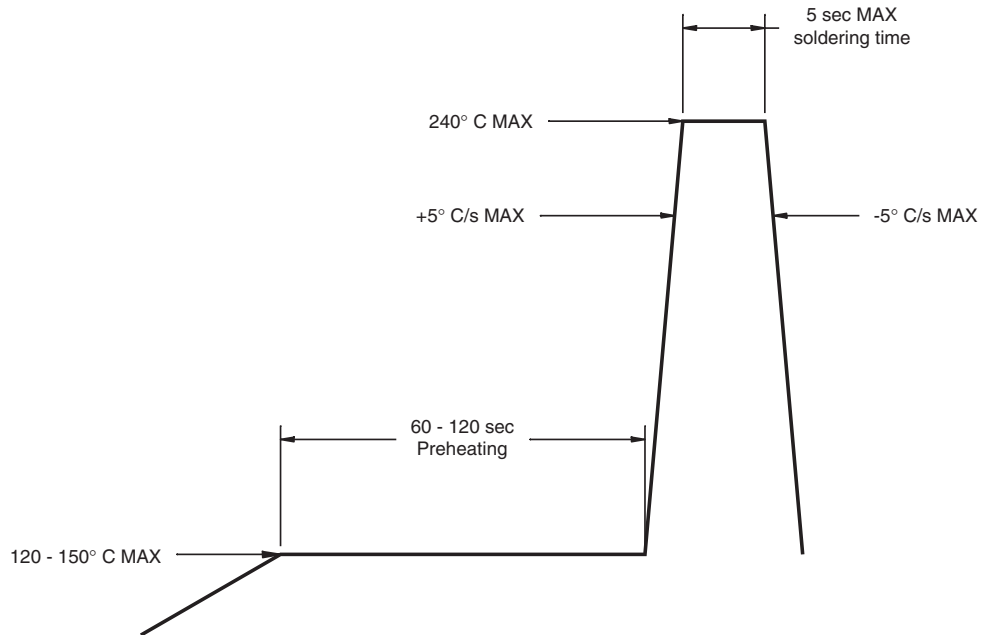
QTLP614CRGB Red/Green/Blue

RECOMMENDED PRINTED CIRCUIT BOARD PATTERN

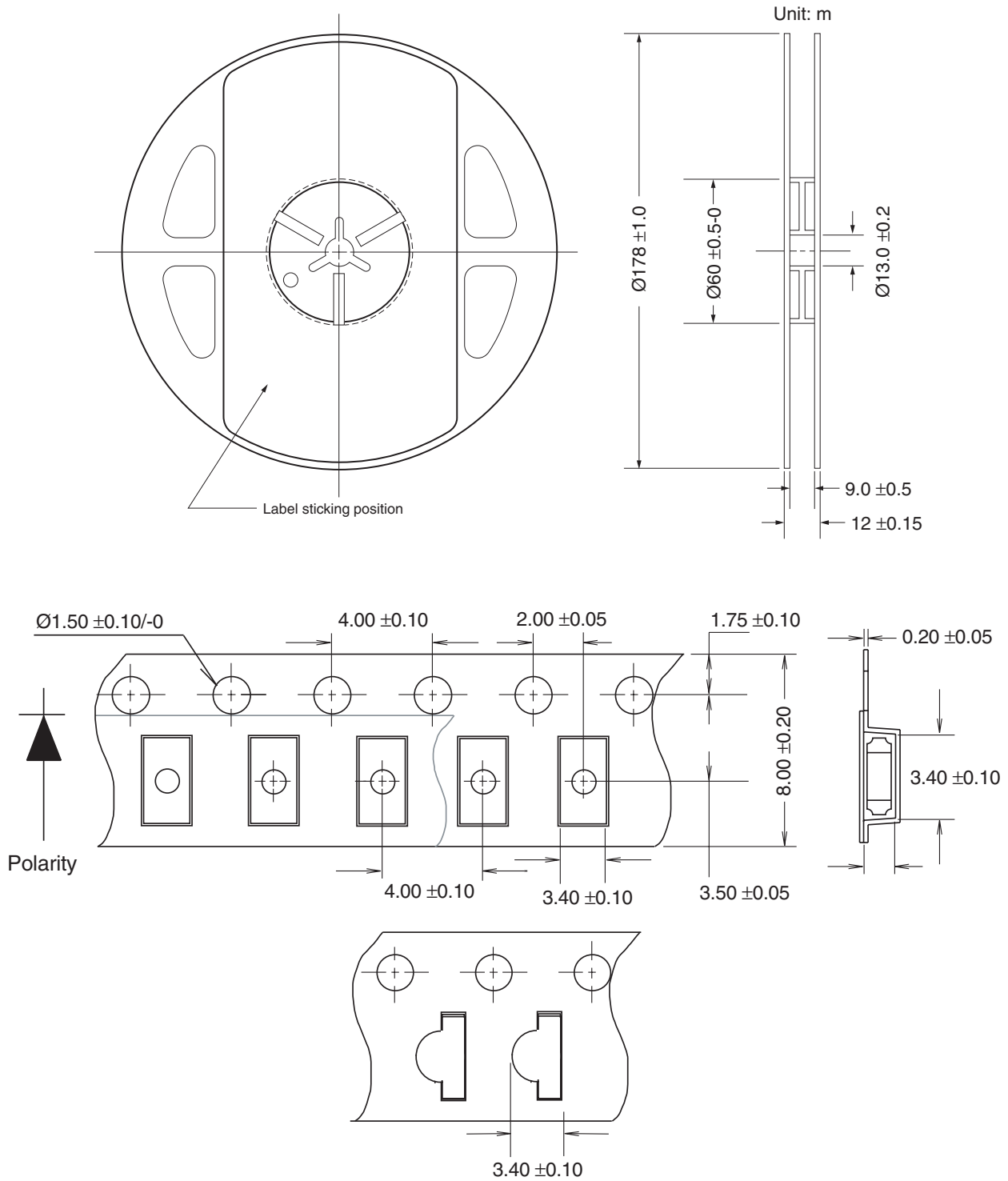
Unit = inch (mm)



RECOMMENDED IR REFLOW SOLDERING PROFILE



TAPE AND REEL DIMENSIONS



DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
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.