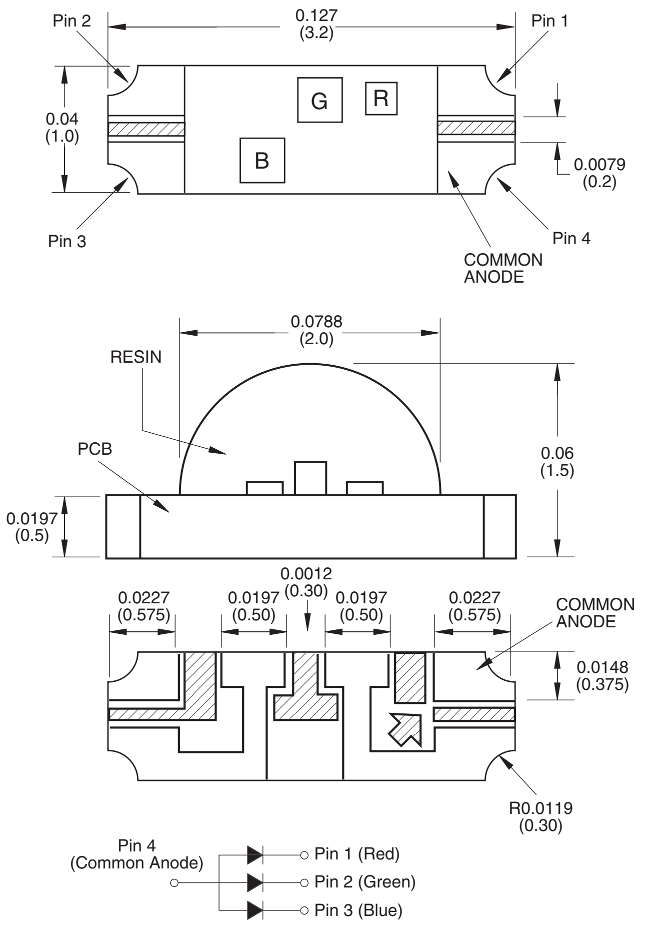
FAIRCHILD
SEMICONDUCTOR®

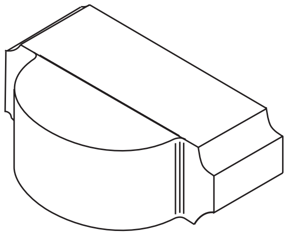
SURFACE MOUNT LED LAMP
COMPACT RIGHT ANGLE
FULL COLOR

QTLP614CRGB Red/Green/Blue

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 AllnGap 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

ABSOLUTE MAXIMUM RATINGS (T_A =25°C Unless otherwise specified)

Parameter	Symbol	Rating			Unit
		R	G	B	
Operating Temperature	T_{OPR}	-30 to +80			°C
Storage Temperature	T_{STG}	-40 to +85			°C
Lead Soldering Time	T_{SOL}	260 for 5 sec			°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 μA)	V_R	5			V
Power Dissipation	P_D	78	84	84	mW

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A =25°C)

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

TYPICAL PERFORMANCE CURVES

Fig. 1A Forward Current vs. Forward Voltage

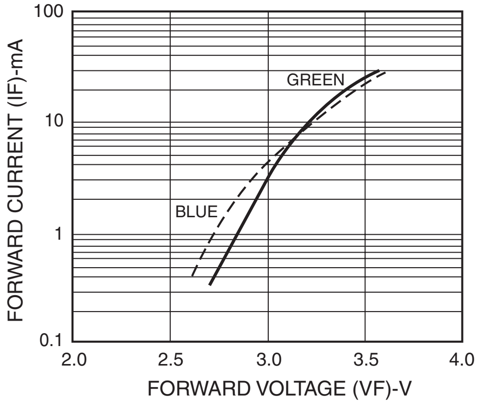


Fig. 1B Forward Current vs. Forward Voltage

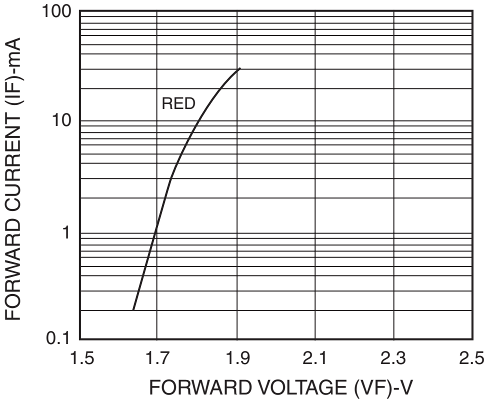


Fig. 2A Luminous Intensity vs. Forward Current

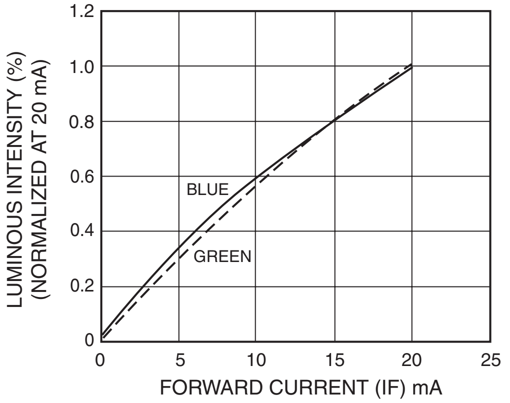


Fig. 2B Luminous Intensity vs. Forward Current

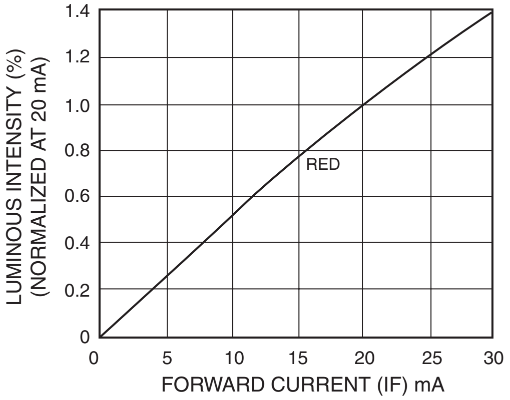


Fig. 3A Maximum Forward Current vs. Ambient Temperature

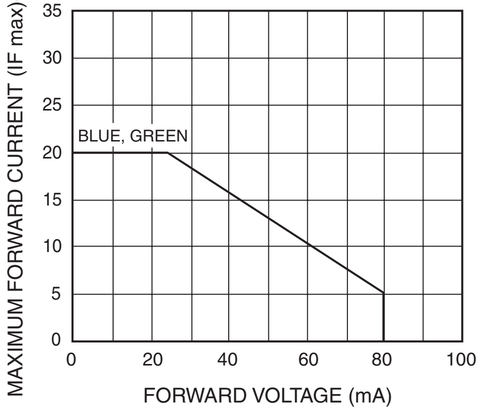
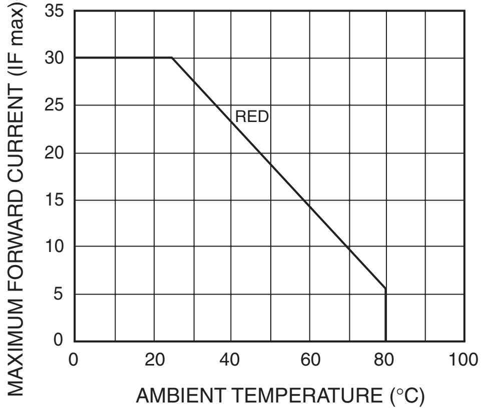


Fig. 3B Maximum Forward Current vs. Ambient Temperature



TYPICAL PERFORMANCE CURVES

Fig. 4 Relative Intensity vs. Peak Wavelength

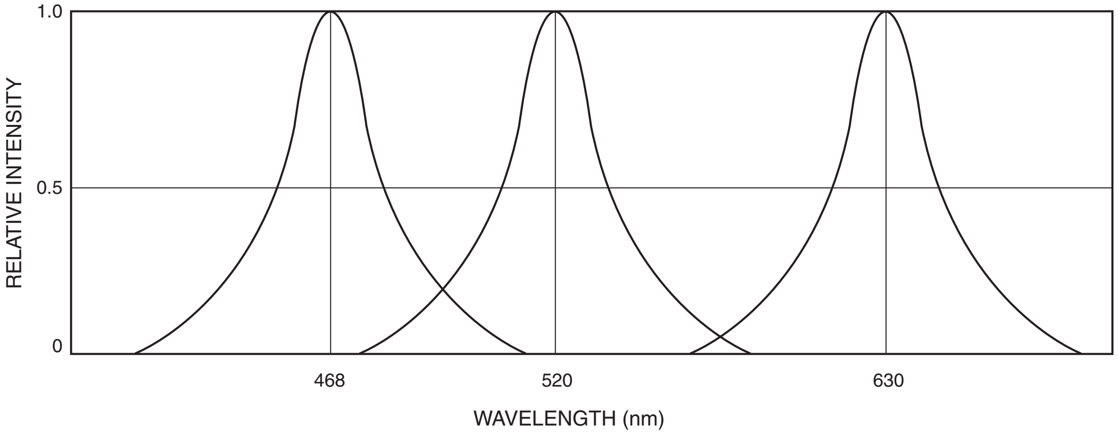
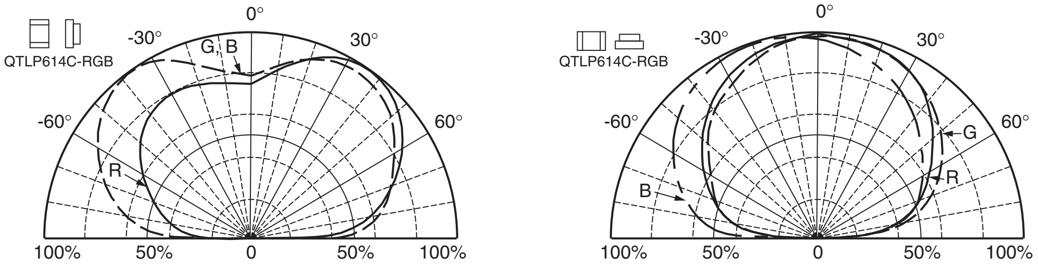


Fig. 5 Radiation Diagrams



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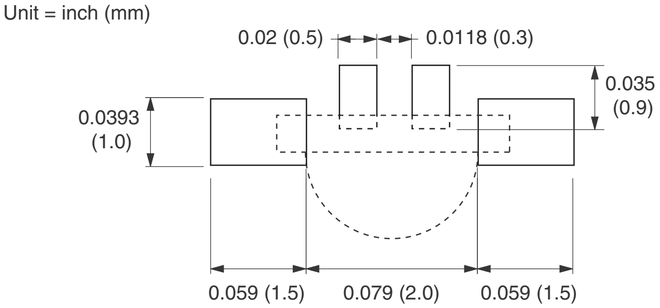
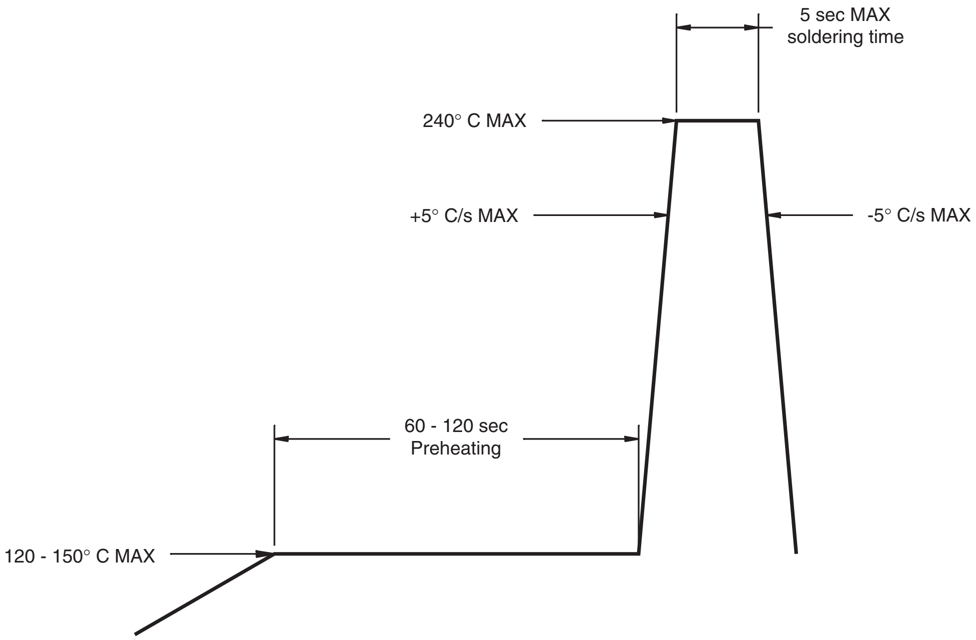
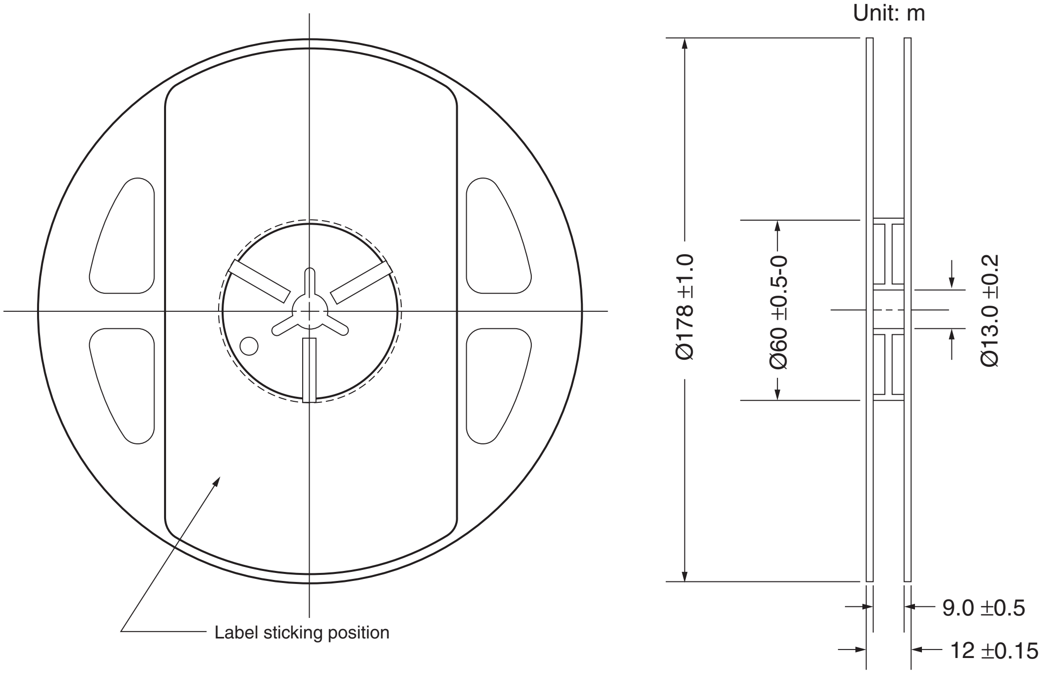
RECOMMENDED PRINTED CIRCUIT BOARD PATTERN

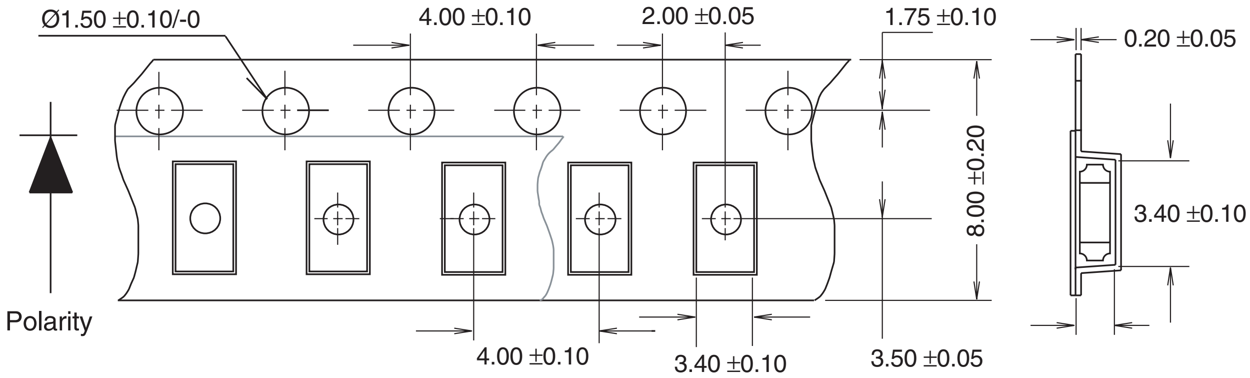


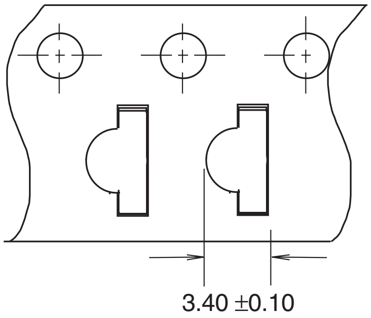
RECOMMENDED IR REFLOW SOLDERING PROFILE



TAPE AND REEL DIMENSIONS







DISCLAIMER

LIFE SUPPORT POLICY