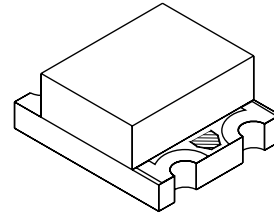
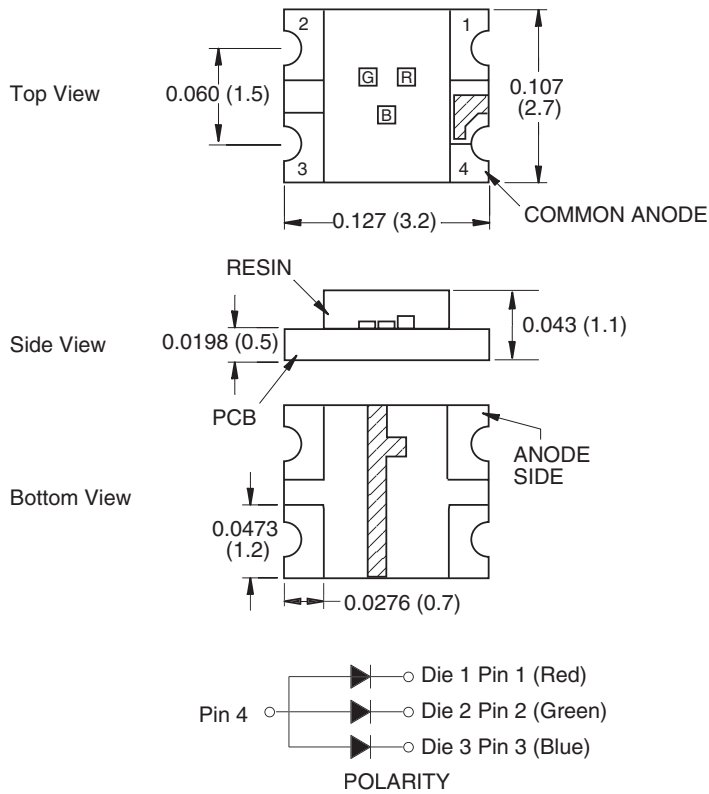


PACKAGE DIMENSIONS



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

APPLICATIONS

- Keypad backlighting
- Push-button backlighting
- LCD backlighting

DESCRIPTION

This full-color surface mount chip LED is designed to fit industry standard footprint. Small size, low profile and wide viewing angle make this LED ideal for backlighting applications and panel illumination.

FEATURES

- Miniature footprint - 3.2(L) X 2.7(W) X 1.1(H) mm
- AllnGaP and InGaN technology
- Wide viewing angle of 140°
- Diffused optics
- Moisture-proof packaging
- Available in 0.315" (8mm) width tape on 7" (178mm) diameter reel; 2,000 units per reel

QTLP650D-RGB Red/Green/Blue

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

Parameter	Symbol	R	G	B	Units
Continuous Forward Current	I_F	30	20	20	mA
Peak Forward Current ($f = 1.0 \text{ KHz}$, Duty Factor = 1/10)	I_{FM}	100	80	80	mA
Reverse Voltage ($I_R = 100 \mu\text{A}$)	V_R	5			V
Power Dissipation	P_D	72	78	78	mW
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			$^\circ\text{C}$

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

Parameter	Symbol	QTLP650D			Condition
		R	G	B	
Luminous Intensity (mcd)	min:	25	63	25	$I_F = 20\text{mA}$
	typ:	60	130	40	
Forward Voltage (V)	typ:	1.9	3.3	3.3	$I_F = 20\text{mA}$
	max:	2.4	3.9	3.9	
Wavelength (nm)	Peak:	630	520	468	$I_F = 20\text{mA}$
	Dominance:	624	525	470	
Typical Viewing Angle ($^\circ$)	2U1/2	140			$I_F = 20\text{mA}$

TYPICAL PERFORMANCE CURVES

Fig. 1A Forward Current vs. Forward Voltage

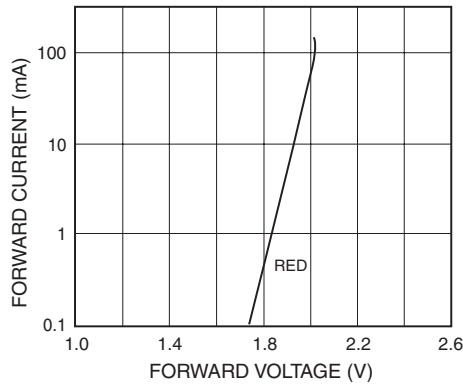


Fig. 1B Forward Current vs. Forward Voltage

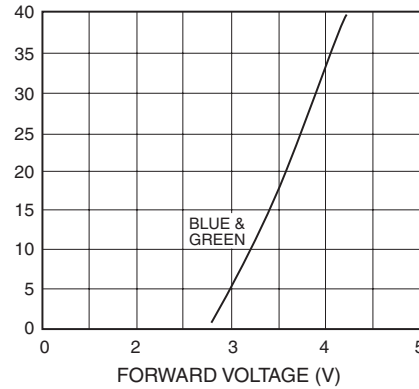


Fig. 2 Relative Intensity vs. Forward Current

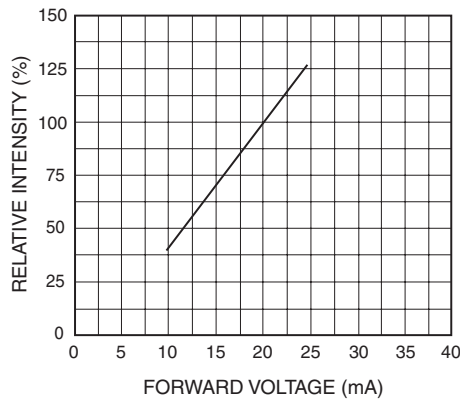


Fig. 3 Forward Current vs. Ambient Temperature

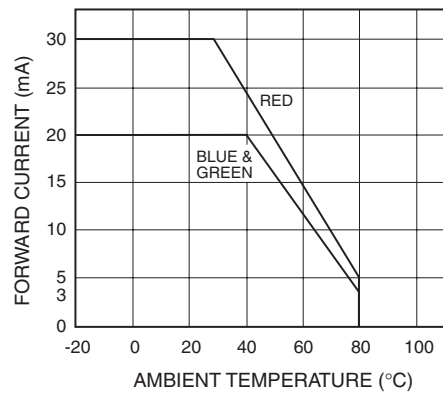
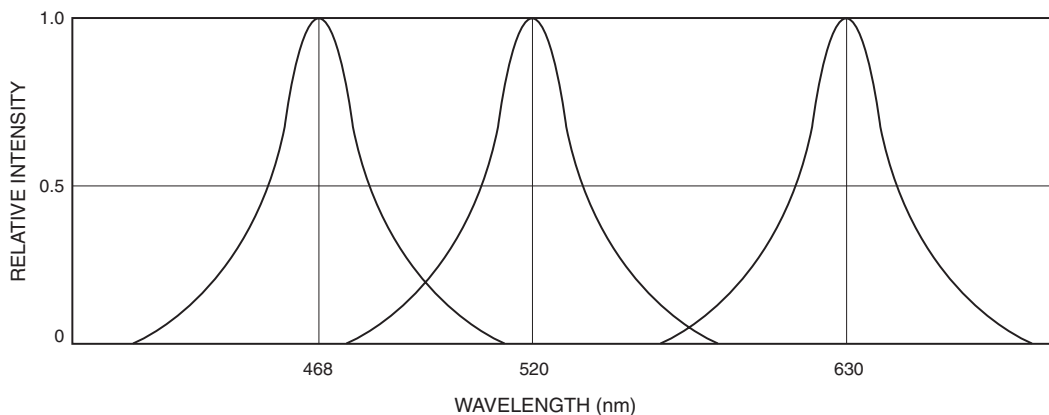
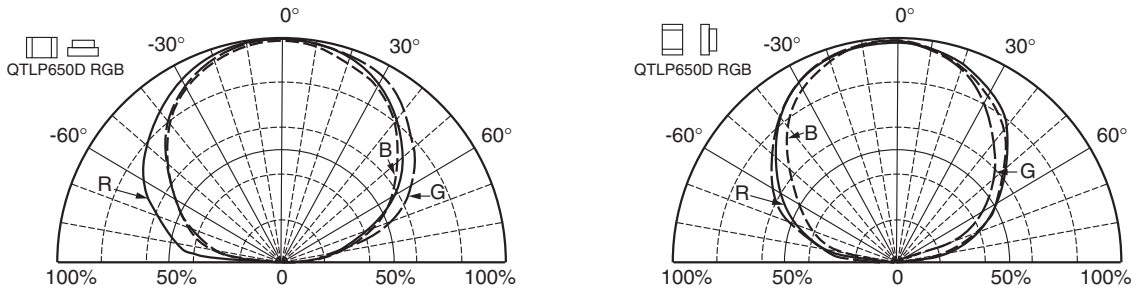


Fig. 4 Relative Intensity vs. Peak Wavelength



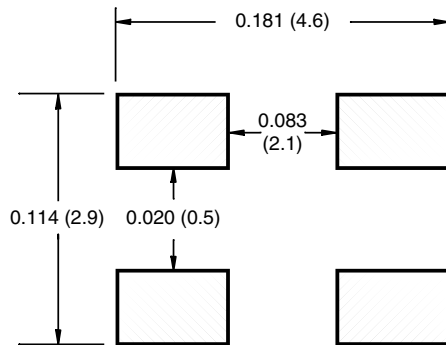
TYPICAL PERFORMANCE CURVES

Fig.5 Radiation Diagrams

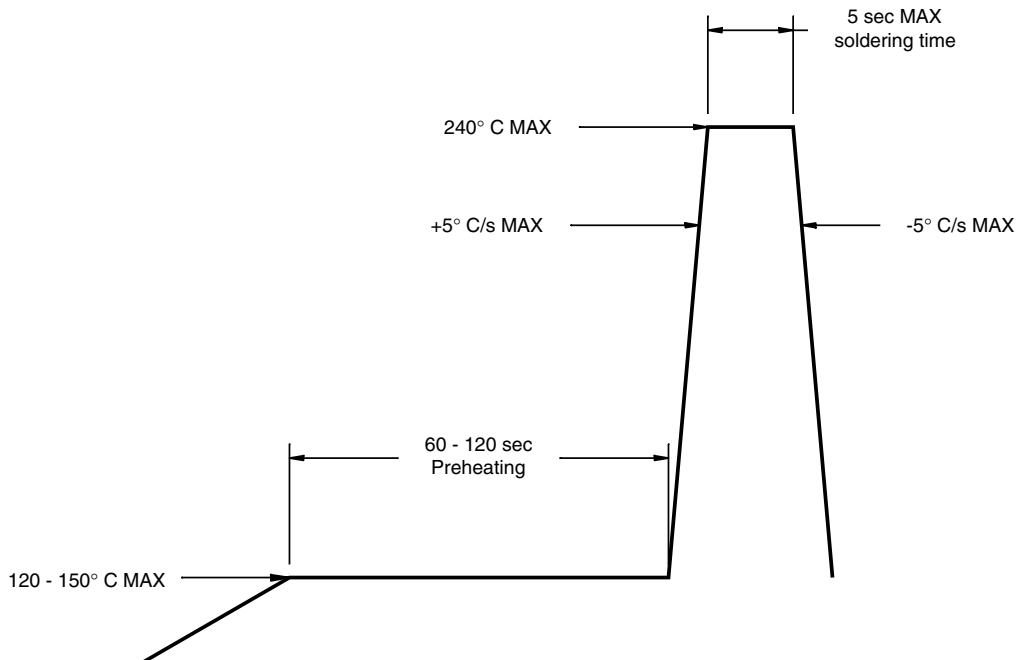


QTLP650D-RGB Red/Green/Blue

RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE



QTLP650D-RGB Red/Green/Blue

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