

QTLP690C-R Red

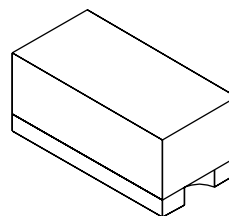
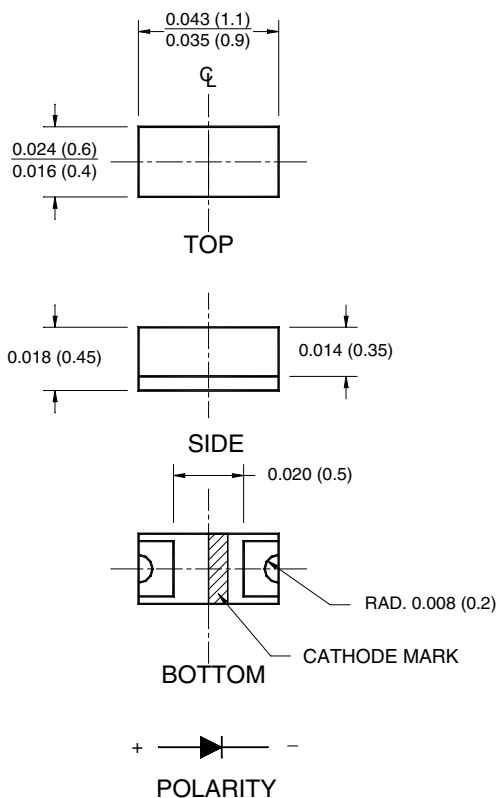
QTLP690C-E Orange

QTLP690C-O Yellow-Orange

QTLP690C-Y Yellow

QTLP690C-AG Yellow-Green

PACKAGE DIMENSIONS



NOTE:

Dimensions for all drawings are in inches (mm).

APPLICATIONS

- Keypad backlighting
- Push-button backlighting

DESCRIPTION

Extremely thin and compact, the 0402 chip LED is ideal for compact products. Ultra-miniature footprint, low profile and wide viewing angle make QTLP690C a perfect candidate for backlighting cell phone key pads.

FEATURES

- Ultra-miniature - 1.0(L) X 0.5(W) X 0.45(H) mm
- AllInGaP technology for -R, -E, -O, -Y and -AG
- Wide viewing angle of 100°
- Water clear optics
- Moisture-proof packaging
- Available in 0.315" (8mm) width tape on 7" (178mm) diameter reel; 2,000 units per reel

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

Parameter	Symbol	QTLP690C					Units
		-R	-E	-O	-Y	-AG	
Continuous Forward Current	I _F	30	30	30	25	30	mA
Peak Forward Current (f = 1.0 KHz, Duty Factor = 1/10)	I _{FM}	160	160	160	120	160	mA
Reverse Voltage	V _R	5	5	5	5	5	V
Power Dissipation	P _D	72	72	72	60	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)

Part Number	Symbol	QTLP690C					Condition
		-R	-E	-O	-Y	-AG	
Luminous Intensity (mcd)	I _V						I _F = 20mA
Minimum		15	15	15	15	10	
Typical		35	35	35	35	15	
Forward Voltage (V)	V _F						I _F = 20mA
Maximum		2.4	2.4	2.4	2.4	2.4	
Typical		2.0	2.0	2.0	2.0	2.0	
Wavelength (nm)	λ _P						I _F = 20mA
Peak		630	620	610	590	575	
Dominant	λ _D	624	615	605	589	573	
Spectral Line Half Width (nm)	Δλ	20	18	18	15	20	I _F = 20mA
Viewing Angle (°)	2Θ _{1/2}	120	120	120	120	120	I _F = 20mA

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TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

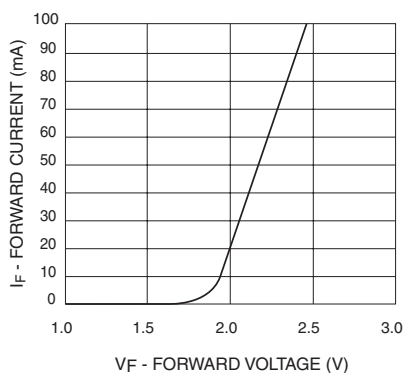


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

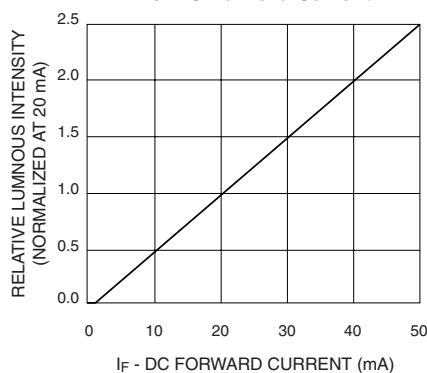


Fig. 3 Relative Intensity vs. Peak Wavelength

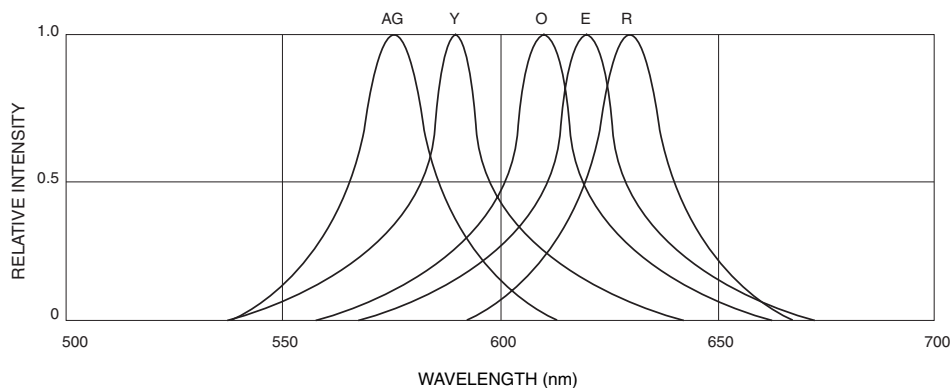


Fig. 4 Radiation Diagram

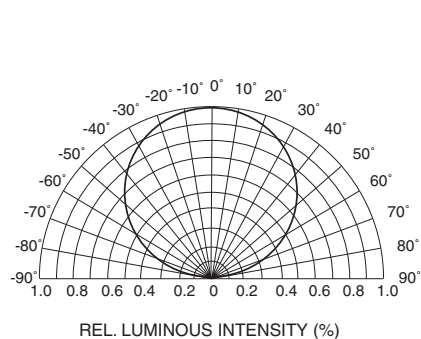
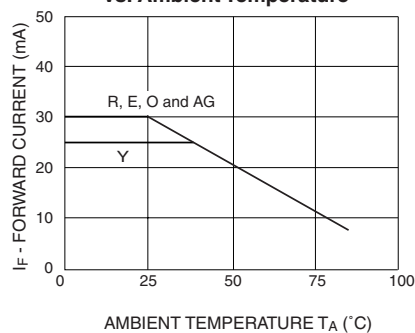


Fig. 5 Maximum Forward Current vs. Ambient Temperature



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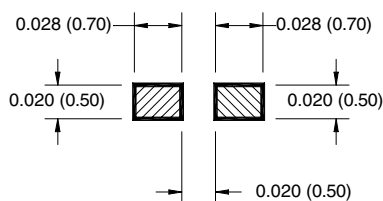
QTLP690C-E Orange

QTLP690C-O Yellow-Orange

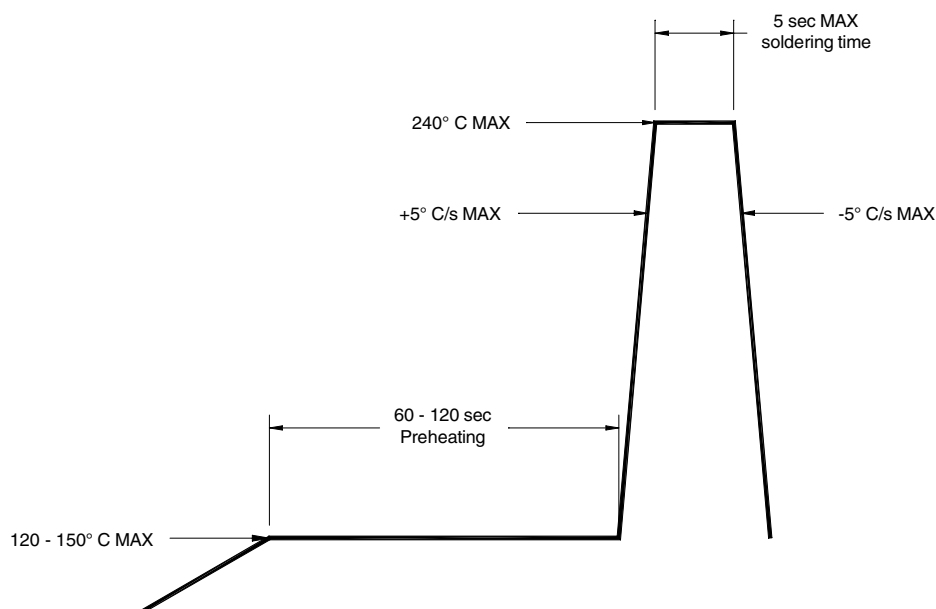
QTLP690C-Y Yellow

QTLP690C-AG Yellow-Green

RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE



QTL P690C-O Yellow-Orange

QTLP690C-AG Yellow-Green

TAPE AND REEL DIMENSIONS



Dimensional tolerance is $\pm 0.1\text{mm}$ unless otherwise specified

Unit = mm

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QTLP690C-E Orange

QTLP690C-O Yellow-Orange

QTLP690C-Y Yellow

QTLP690C-AG Yellow-Green

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