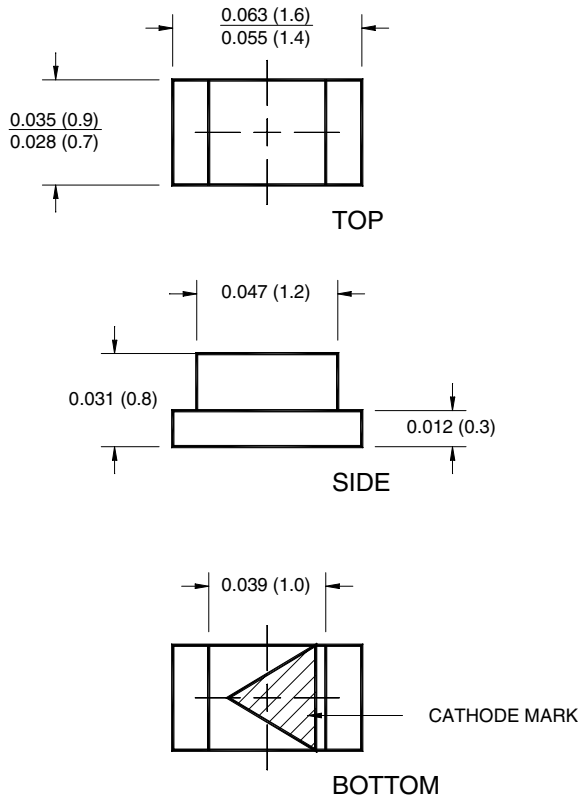


# SURFACE MOUNT LED LAMP

## Super Bright (0603) Chip Type - Water Clear

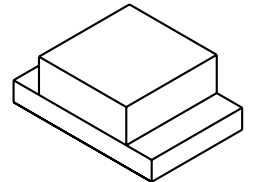
### PACKAGE DIMENSIONS



**NOTE:**

Dimensions for all drawings are in inches (mm).

SUPER BRIGHT RED	QTLP600C-R
SUPER BRIGHT ORANGE	QTLP600C-E
SUPER BRIGHT YELLOW	QTLP600C-Y



### FEATURES

- AllInGaP technology
- Ultra-miniature
- Industrial standard footprint
- Water clear optics
- Moisture-proof packaging
- Available in 0.315" (8mm) width tape on 7" (178mm) diameter

### DESCRIPTION

These surface mount lamps are designed to fit industry standard profile and footprint for the ultra-miniature chip type 0603. The low profile package and 100° viewing angle make this chip type LED ideal for panel illumination, push button lighting and membrane switch applications.

### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	RED QTLP600C-R	ORANGE QTLP600C-E	YELLOW QTLP600C-Y	Units
Continuous Forward Current - I <sub>F</sub>	30	30	20	mA
Peak Forward Current - I <sub>F</sub> (f = 1.0 KHz, Duty Factor = 1/10)	160	160	200	mA
Reverse Voltage - V <sub>R</sub> (I <sub>R</sub> = 10 μA)	5	5	5	V
Power Dissipation - P <sub>D</sub>	85	100	100	mW
Operating Temperature - T <sub>OPR</sub>	-40 to +85			°C
Storage Temperature - T <sub>STG</sub>	-40 to +100			°C
Lead Soldering Time - T <sub>SOL</sub>				°C
Wave	260 for 5 sec			
Reflow	260 for 10 sec			

SUPER BRIGHT RED	QTLP600C-R
SUPER BRIGHT ORANGE	QTLP600C-E
SUPER BRIGHT YELLOW	QTLP600C-Y

### ELECTRICAL / OPTICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)

Part Number	RED QTLP600C-R	ORANGE QTLP600C-E	YELLOW QTLP600C-Y	Condition
Luminous Intensity (mcd)				I <sub>F</sub> = 20mA
Minimum	20	20	20	
Typical	40	40	40	
Forward Voltage (V)				I <sub>F</sub> = 20mA
Maximum	2.4	2.8	2.8	
Typical	2.0	2.1	2.1	
Peak Wavelength (nm)	630	620	590	I <sub>F</sub> = 20mA
Spectral Line Half Width (nm)	20	18	15	I <sub>F</sub> = 20mA
Viewing Angle (°)	100	100	100	I <sub>F</sub> = 20mA

### TYPICAL PERFORMANCE CURVES

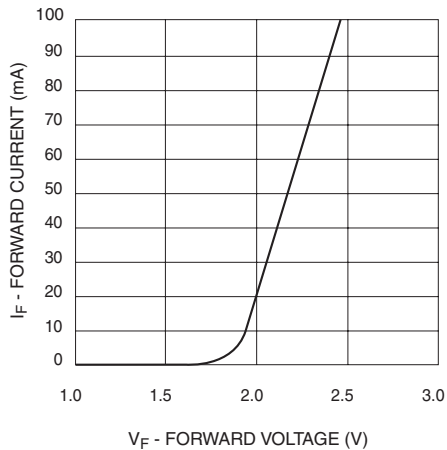


Fig. 1 Forward Current vs. Forward Voltage

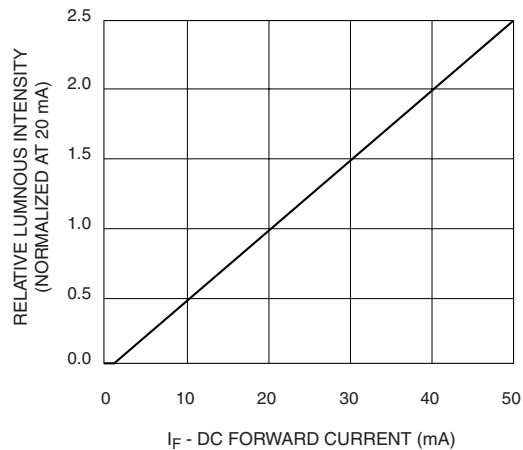
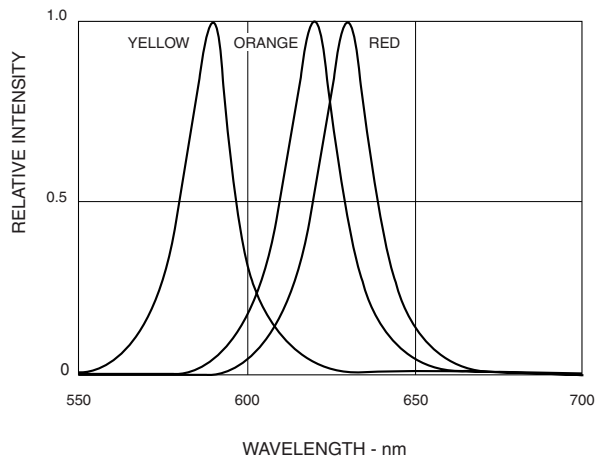


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

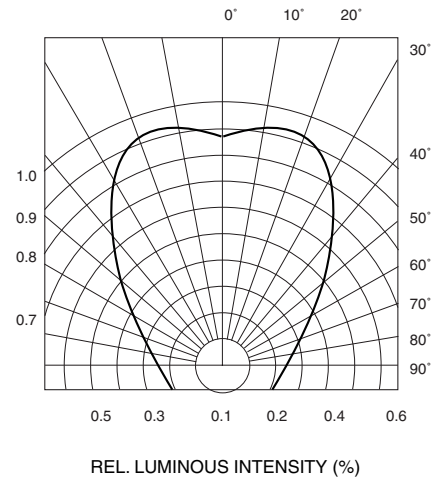
# SURFACE MOUNT LED LAMP

## Super Bright (0603) Chip Type - Water Clear

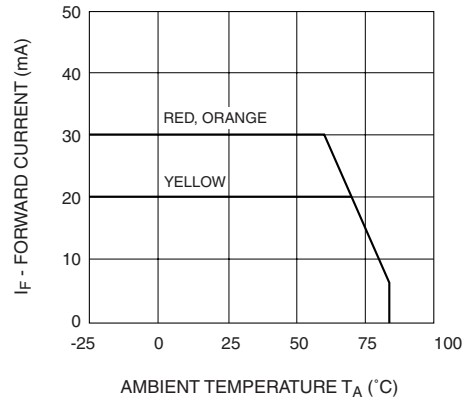
SUPER BRIGHT RED	QTLP600C-R
SUPER BRIGHT ORANGE	QTLP600C-E
SUPER BRIGHT YELLOW	QTLP600C-Y



**Fig. 3 Relative Intensity vs Peak Wavelength**



**Fig. 4 Radiation Diagram**



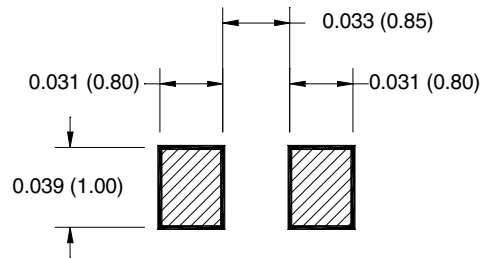
**Fig.5 Forward Current vs. Ambient Temperature**

# SURFACE MOUNT LED LAMP

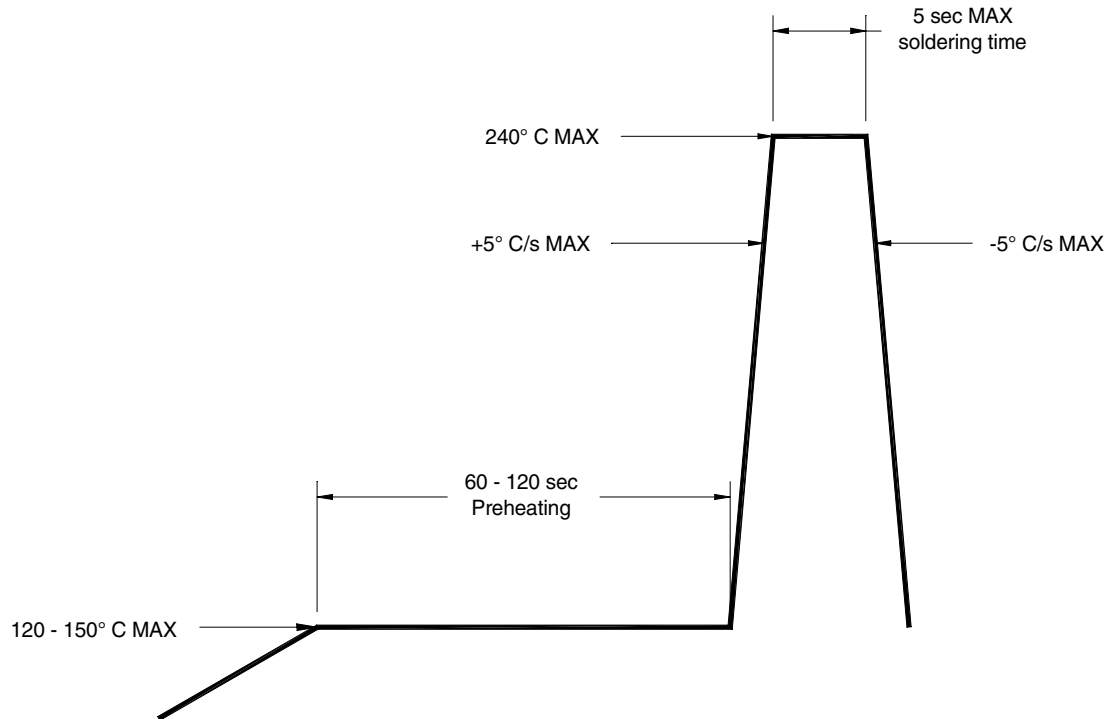
## Super Bright (0603) Chip Type - Water Clear

SUPER BRIGHT RED	QTL600C-R
SUPER BRIGHT ORANGE	QTL600C-E
SUPER BRIGHT YELLOW	QTL600C-Y

### RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



### RECOMMENDED IR REFLOW SOLDERING PROFILE



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