

**FAIRCHILD**  
SEMICONDUCTOR®

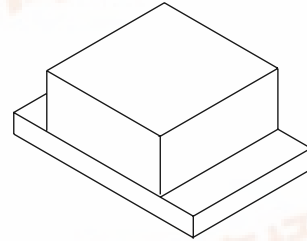
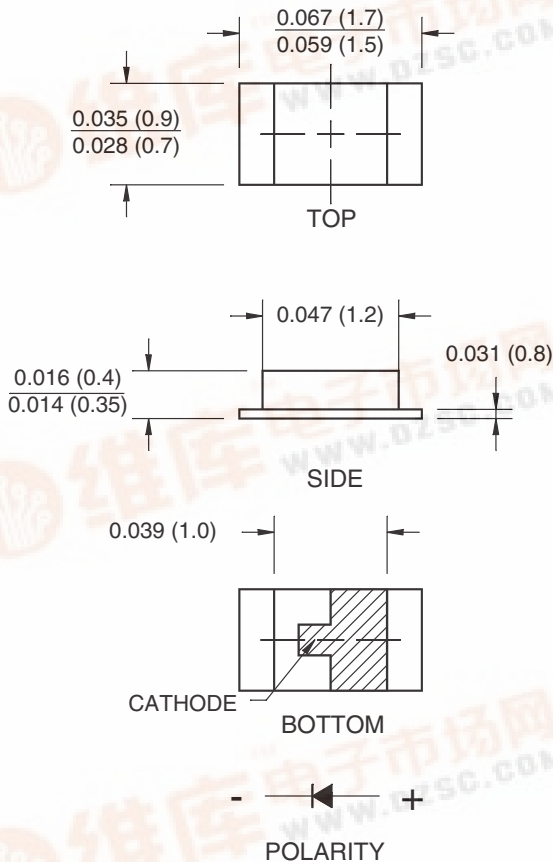
# SURFACE MOUNT LED LAMP

## 0603 (0.35 mm Height)

**QTLP603C-EB**

**Blue**

### PACKAGE DIMENSIONS



**NOTE:**

Dimensions for all drawings are in inches (mm).

### APPLICATIONS

- Keypad backlighting
- Push-button backlighting
- LCD backlighting

### DESCRIPTION

This surface mount chip LED is designed to fit industry standard footprint. Small size, low profile and wide viewing angle make this LED an ideal choice for backlighting applications and panel illumination. This device utilizes an InGaN/Sapphire blue LED.

### FEATURES

- Miniature footprint - 1.6(L) X 0.8(W) X 0.4(H) mm
- Wide viewing angle of 120°
- Water clear optics
- Moisture proof packaging
- Available in 0.315" (8mm) width tape on 7" (178mm) diameter reel; 2,000 units per reel



**QTLP603C-EB**

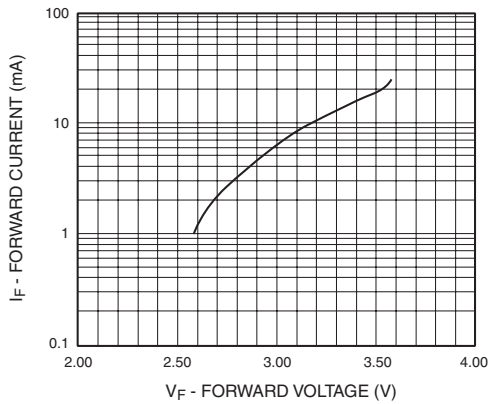
**Blue**

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise specified)			
Parameter	Symbol	Rating	Unit
Operating Temperature	$T_{OPR}$	-40 to +85	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-40 to +90	$^\circ\text{C}$
Lead Soldering Time	$T_{SOL}$	260 for 5 sec	$^\circ\text{C}$
Continuous Forward Current	$I_F$	30	mA
Peak Forward Current ( $f = 1.0 \text{ KHz}$ , Duty Factor = 1/10)	$I_{FM}$	100	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation	$P_D$	80	mW

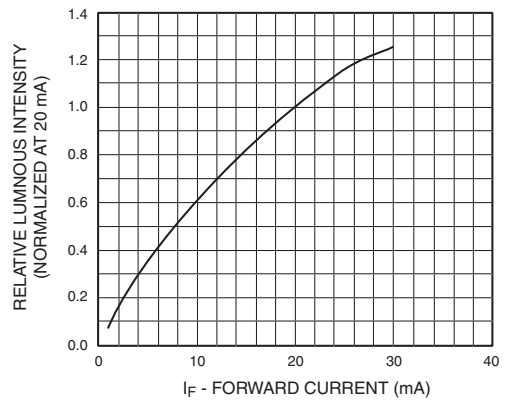
<b>ELECTRICAL / OPTICAL CHARACTERISTICS</b> ( $T_A = 25^\circ\text{C}$ )		
Part Number	QTLP603C-EB.7800D	Condition
Luminous Intensity (mcd)		
Bin I1	8 - 16	$I_F = 5 \text{ mA}$
Bin I2	13 - 26	
Forward Voltage (V)		
Bin V1	2.75 - 2.95	$I_F = 5 \text{ mA}$
Bin V2	2.95 - 3.15	
Dominant Wavelength (nm)		
Bin W1	465 - 470	$I_F = 5 \text{ mA}$
Bin W2	470 - 475	
Spectral Line Half Width (nm)	35	$I_F = 20 \text{ mA}$
Viewing Angle ( $^\circ$ )	120	$I_F = 20 \text{ mA}$

**TYPICAL PERFORMANCE CURVES**

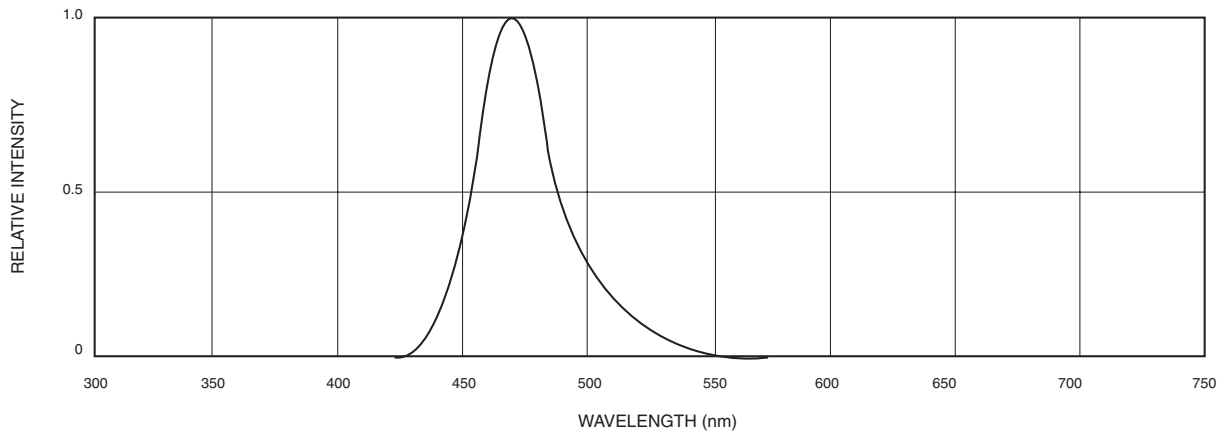
**Fig. 1 Forward Current vs. Forward Voltage**



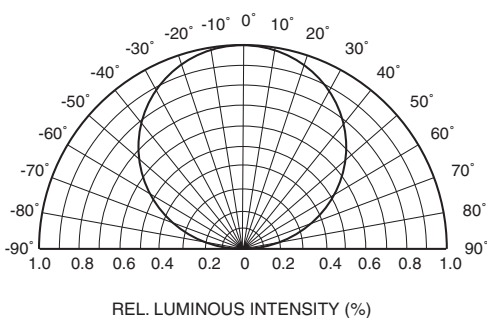
**Fig. 2 Relative Luminous Intensity vs. DC Forward Current**



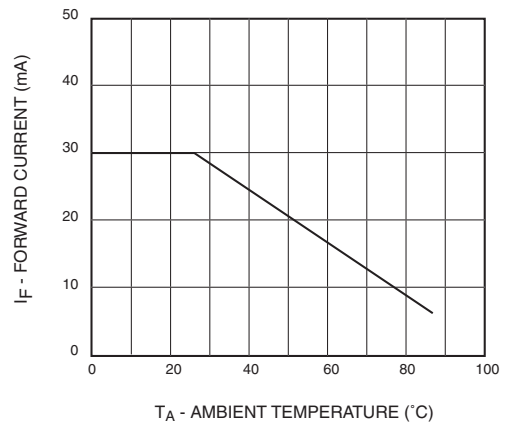
**Fig. 3 Relative Intensity vs. Peak Wavelength**



**Fig.4 Radiation Diagram**



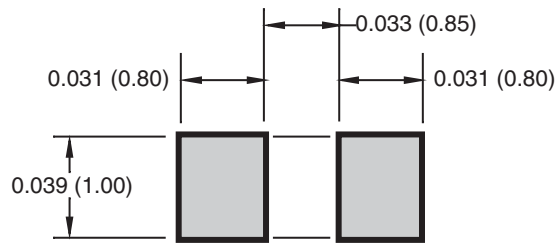
**Fig.5 Maximum Forward Current vs. Ambient Temperature**



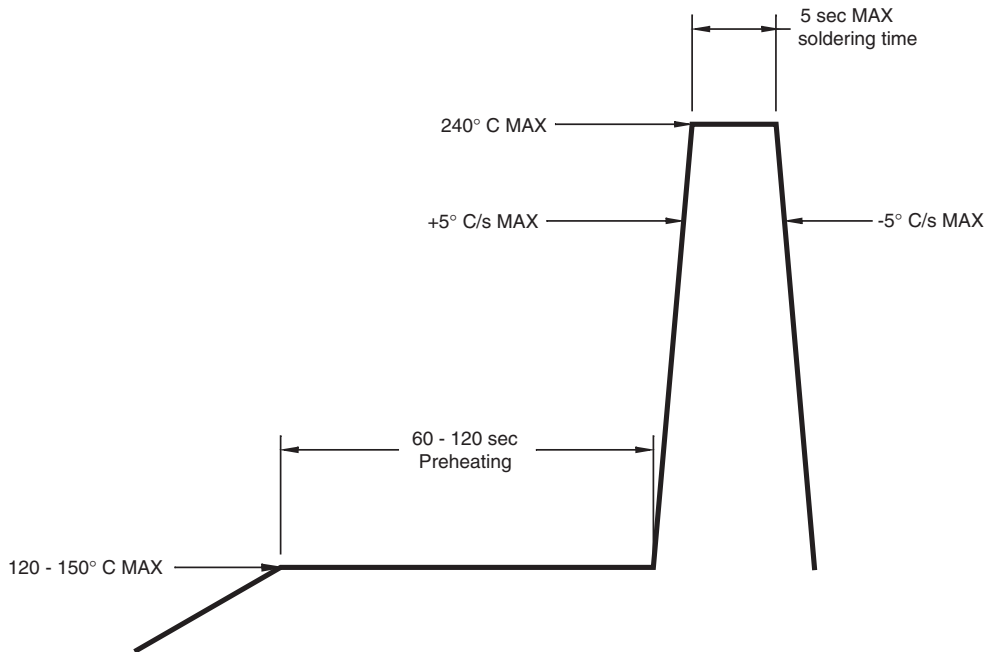
**QTLP603C-EB**

**Blue**

**RECOMMENDED PRINTED CIRCUIT BOARD PATTERN**



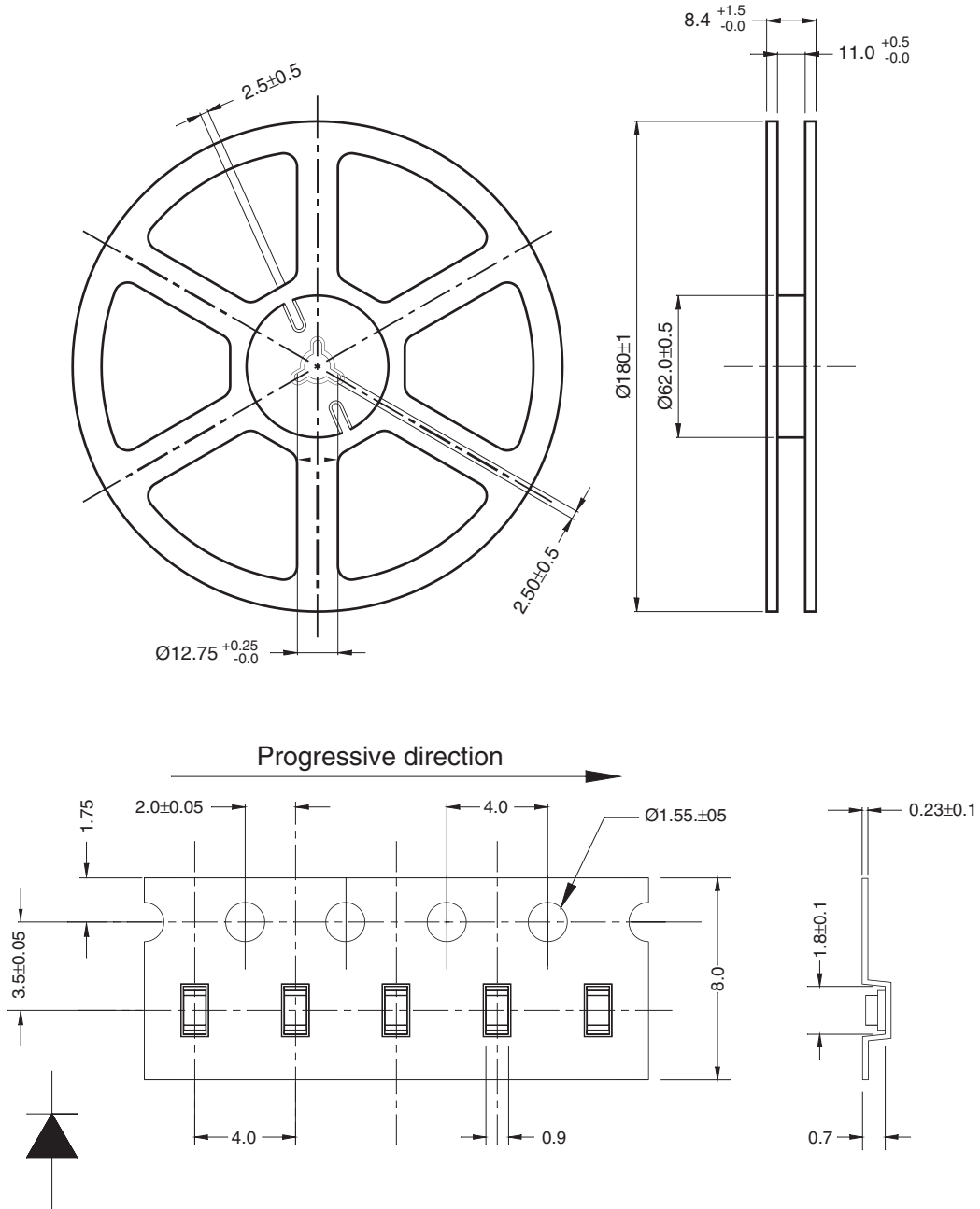
**RECOMMENDED IR REFLOW SOLDERING PROFILE**



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**TAPE AND REEL DIMENSIONS**



Dimensional tolerance is  $\pm 0.1\text{mm}$  unless otherwise specified  
 Angle:  $\pm 0.5$   
 Unit: mm

Polarity



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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.