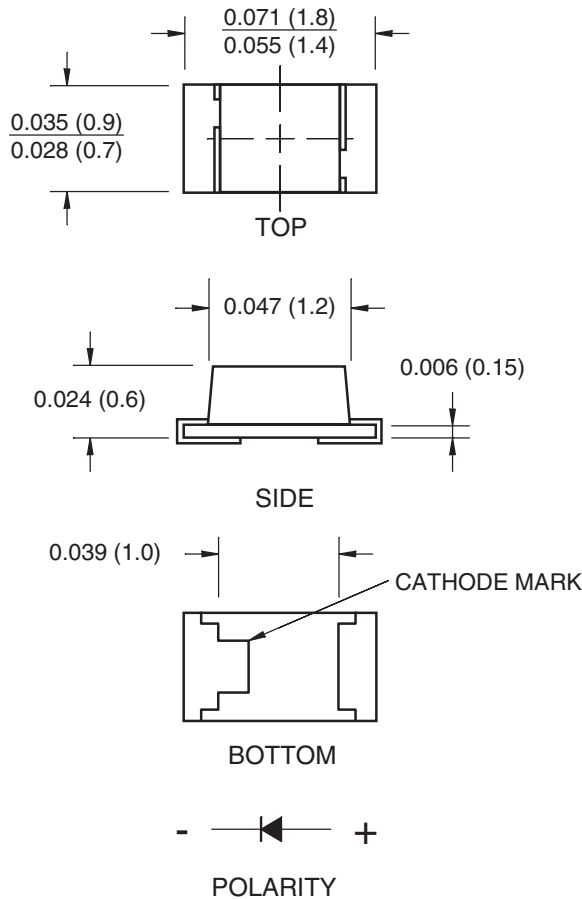


**Low  $V_F$  Blue**

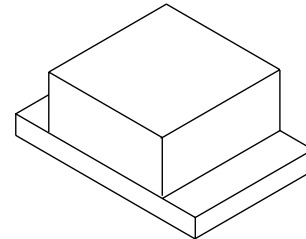
**QTLP601CEBTR**

**PACKAGE DIMENSIONS**



**NOTE:**

- Dimensions for all drawings are in inches (mm).
- Tolerance is  $\pm 0.1$ mm unless otherwise noted.



**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 0.6(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

**Low  $V_F$  Blue**

**QTLP601CEBTR**

**ABSOLUTE MAXIMUM RATINGS** ( $T_A = 25^\circ\text{C}$  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

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

Part Number	QTLP601CEBTR	Condition
Luminous Intensity (mcd)		
Bin I1	8 - 16	$I_F = 5 \text{ mA}$
Bin I2	13 - 26	
Forward Voltage (V)		
Bin V0	2.55 - 2.75	$I_F = 5 \text{ mA}$
Bin V1	2.75 - 2.95	
Bin V2	2.95 - 3.15	
Bin V3	3.15 - 3.35	
Bin V4	3.35 - 3.55	
Bin V5	3.55 - 3.75	
Dominant Wavelength (nm)		
Bin W1	465 - 470	$I_F = 5 \text{ mA}$
Bin W2	470 - 475	
Bin W3	475 - 480	
Reverse Current ( $I_R$ ) max:	50 $\mu\text{A}$	$V_R = 5 \text{ V}$
Spectral Line Half Width (nm)	35	$I_F = 5 \text{ mA}$
Viewing Angle ( $^\circ$ )	120	$I_F = 5 \text{ mA}$

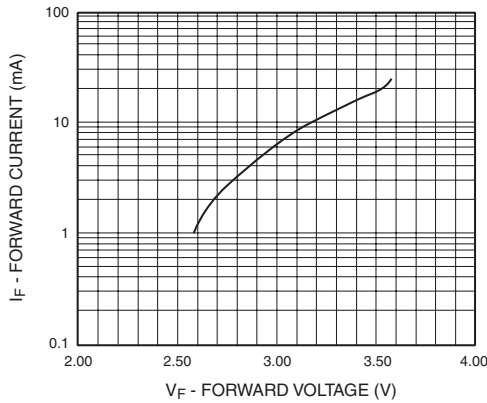
Measurement uncertainty of luminous intensity is  $\pm 11\%$

**Low  $V_F$  Blue**

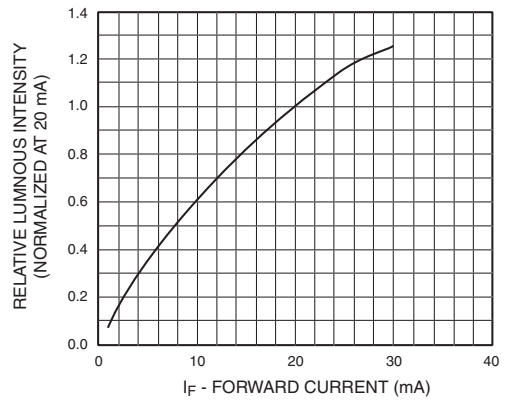
**QTLP601CEBTR**

**TYPICAL PERFORMANCE CURVES**

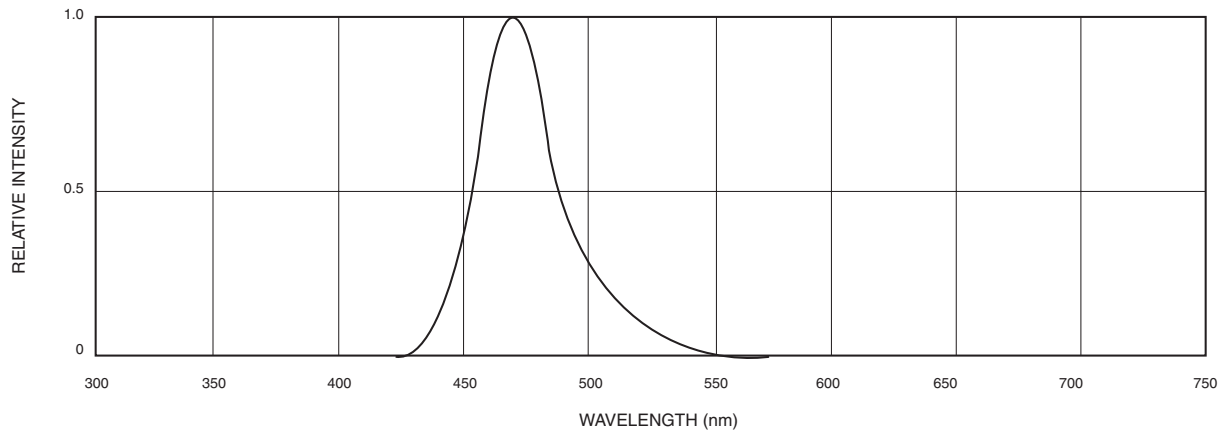
**Fig. 1 Forward Current vs. Forward Voltage**



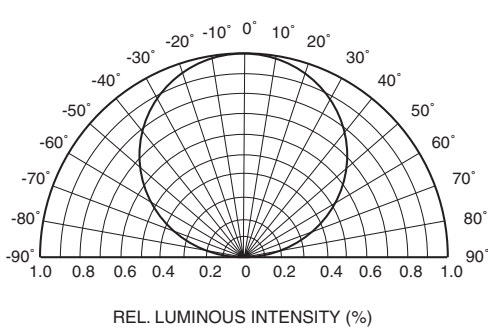
**Fig. 2 Relative Luminous Intensity vs. DC Forward Current**



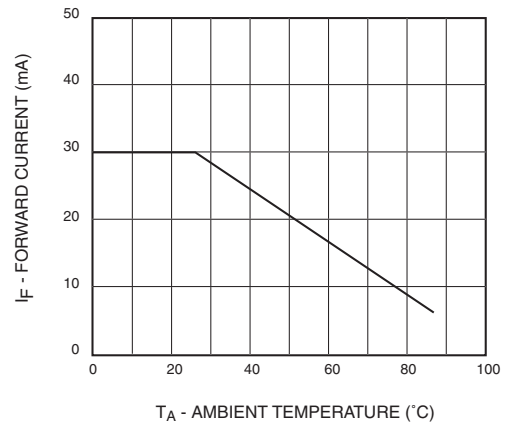
**Fig. 3 Relative Intensity vs. Peak Wavelength**



**Fig.4 Radiation Diagram**



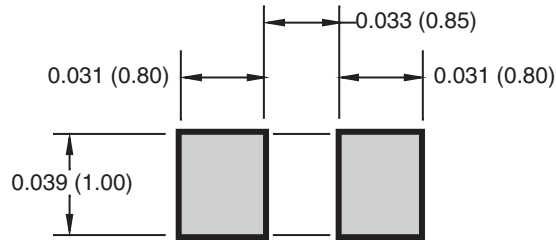
**Fig.5 Maximum Forward Current vs. Ambient Temperature**



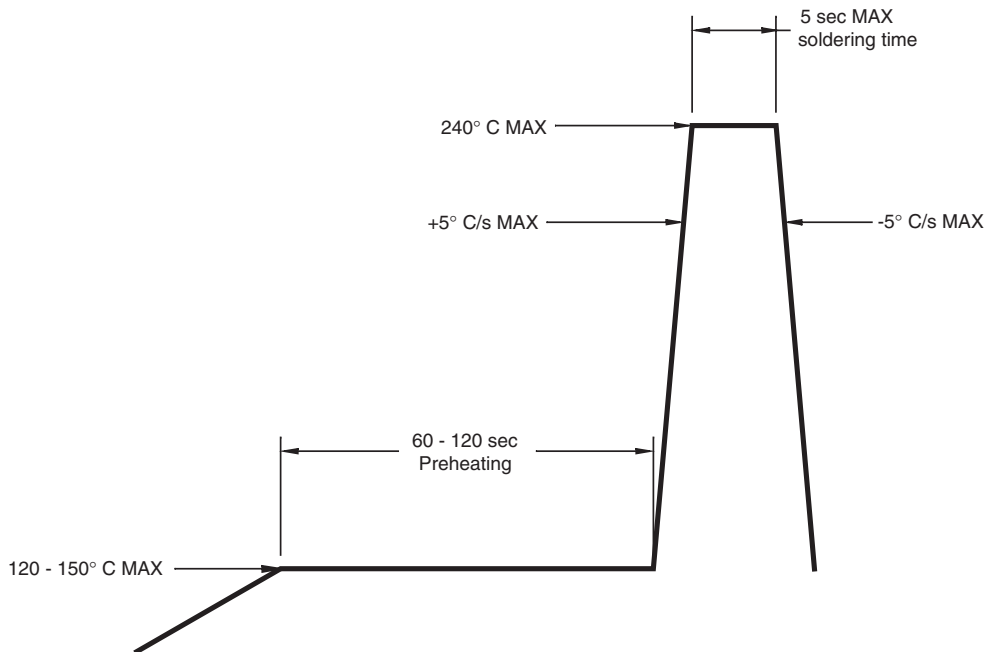
Low  $V_F$  Blue

QTLP601CEBTR

**RECOMMENDED PRINTED CIRCUIT BOARD PATTERN**



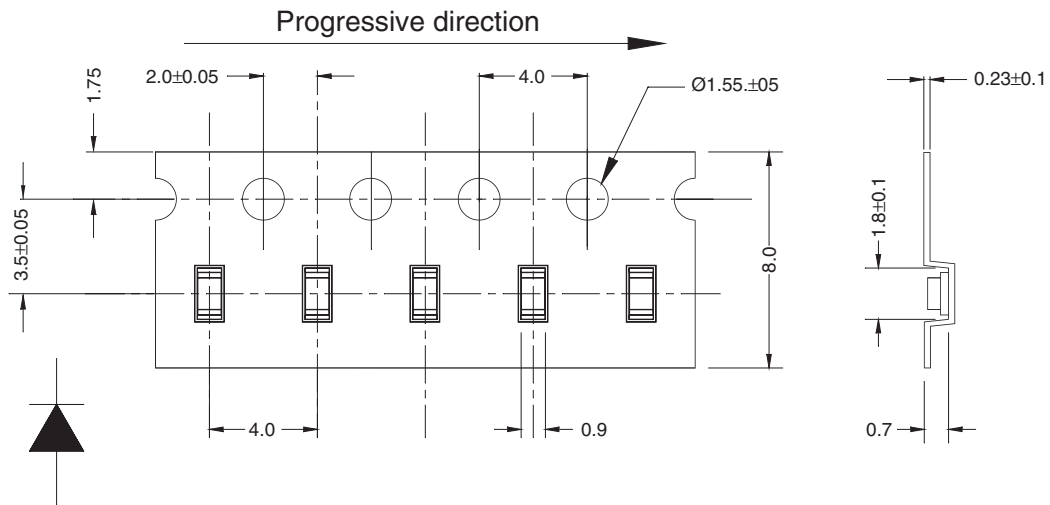
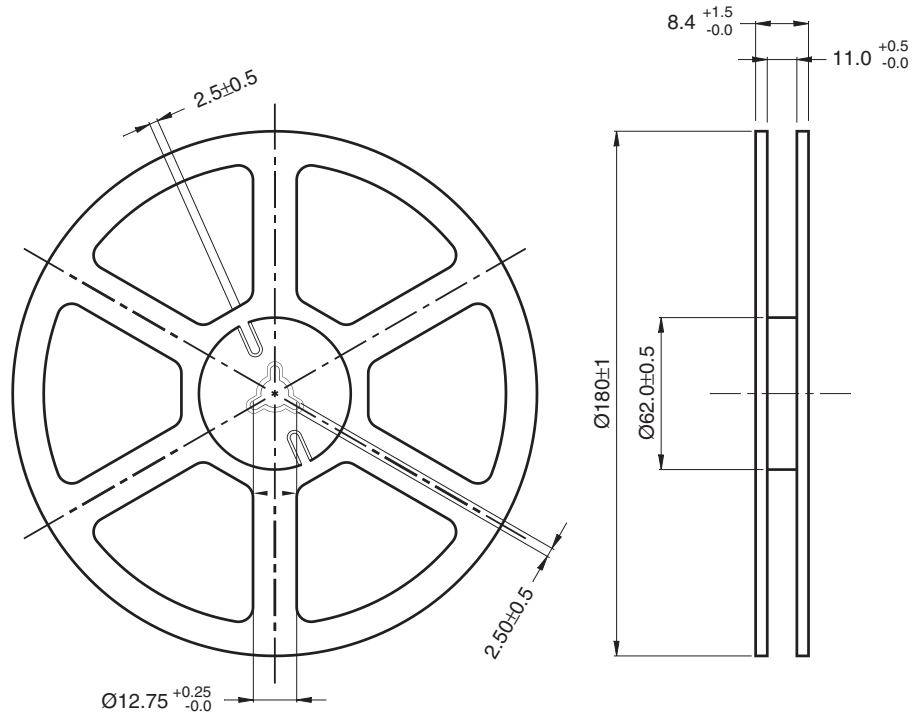
**RECOMMENDED IR REFLOW SOLDERING PROFILE**



**Low  $V_F$  Blue**

**QTLP601CEBTR**

**TAPE AND REEL DIMENSIONS**



Polarity

Dimensional tolerance is  $\pm 0.1$  mm unless otherwise specified

Angle:  $\pm 0.5$

Unit: mm

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**Low  $V_F$  Blue**

**QTLP601CEBTR**

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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.

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