



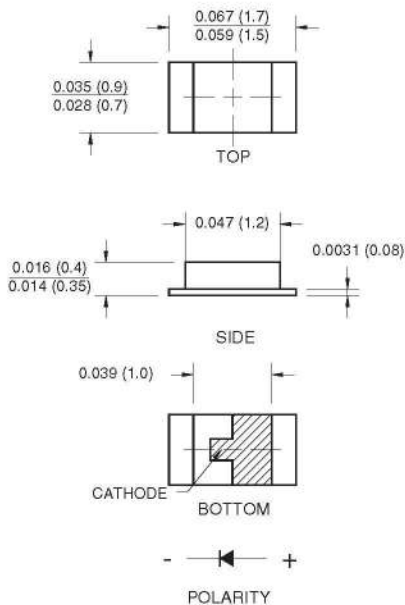
SURFACE MOUNT LED LAMP

0603 (0.35 mm Height)

QTLP603CIWTR

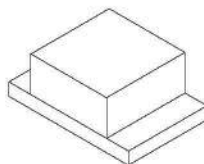
White

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 0.35(H) mm
- Wide viewing angle of 120°
- Diffused 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 ($T_A = 25^\circ\text{C}$ 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	25	mA
Peak Forward Current ($f = 1.0$ KHZ, Duty Factor = 1/10)	I_{FM}	100	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	110	mW

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

Part Number	QTLP603CIWTR	Condition
Luminous Intensity (mcd)		
Bin I3	21 - 42	$I_F = 5$ mA
Bin I4	30 - 60	
Bin I5	45 - 90	
Forward Voltage (V)		
Bin V0	2.55 - 2.75	$I_F = 5$ mA
Bin V1	2.75 - 2.95	
Bin V2	2.95 - 3.15	
Bin V3	3.15 - 3.35	
Chromaticity Coordinate	See page 3	$I_F = 5$ mA
Reverse Current (μA) - max	10	$V_R = 5$ V
Spectral Line Half Width (nm)	35	$I_F = 5$ mA
Viewing Angle ($^\circ$)	120	$I_F = 5$ mA

Notes:

- Forward Voltage Tolerance = $\pm 0.1\text{V}$
- Luminous Intensity Tolerance = $\pm 15\%$



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Color Ranks

($I_f = 5\text{mA}$, $T_a = 25^\circ\text{C}$)

		Bin a0			
x		0.280	0.264	0.283	0.296
y		0.248	0.267	0.305	0.276

		Bin b5			
x		0.296	0.311	0.307	0.287
y		0.276	0.294	0.315	0.295

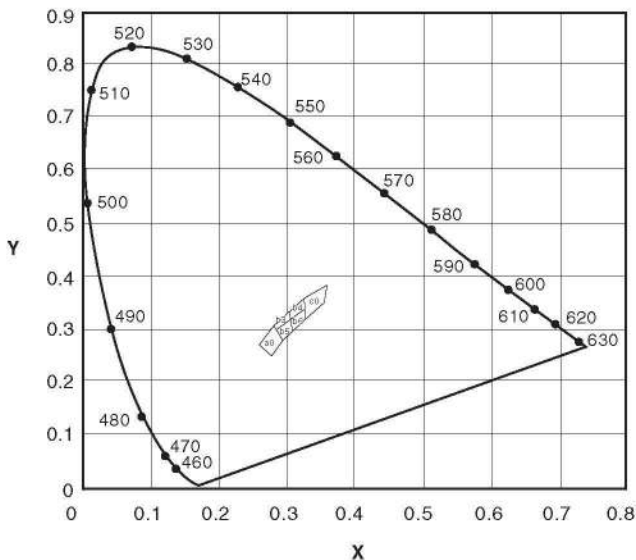
		Bin b3			
x		0.307	0.287	0.304	0.283
y		0.315	0.295	0.330	0.305

		Bin b6			
x		0.311	0.307	0.330	0.330
y		0.294	0.315	0.318	0.339

		Bin b4			
x		0.307	0.330	0.330	0.304
y		0.315	0.339	0.360	0.330

		Bin c0			
x		0.330	0.330	0.361	0.356
y		0.318	0.360	0.385	0.351

Chromaticity Diagram





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TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

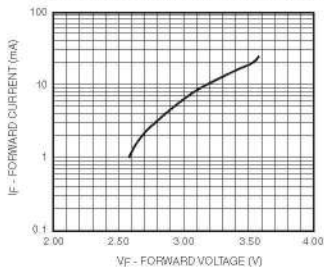


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

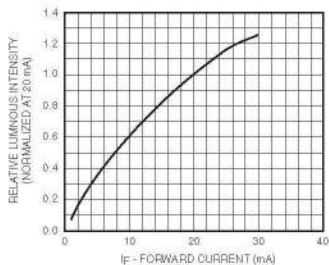


Fig. 3 Relative Intensity vs. Peak Wavelength

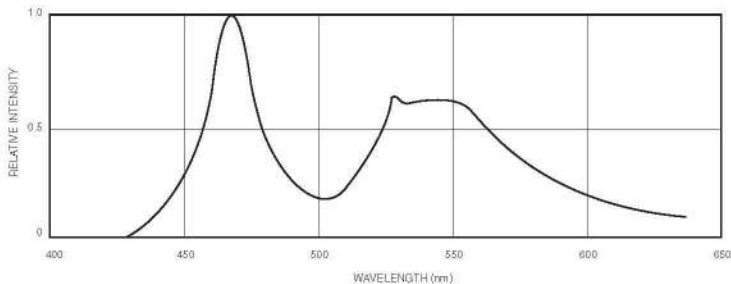


Fig.5 Maximum Forward Current vs. Ambient Temperature

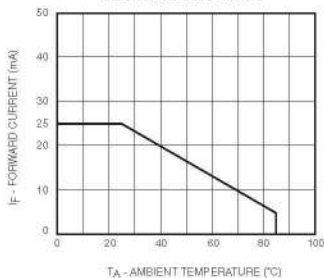
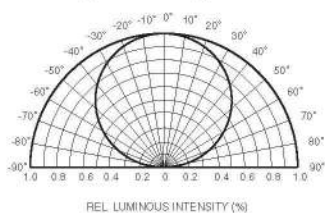


Fig.4 Radiation Diagram





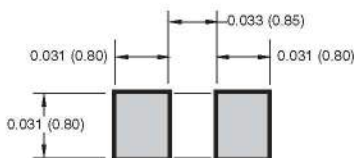
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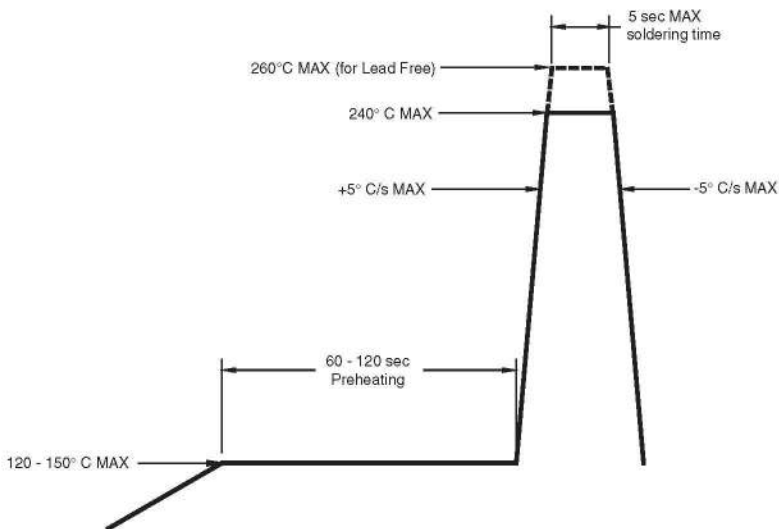
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RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE





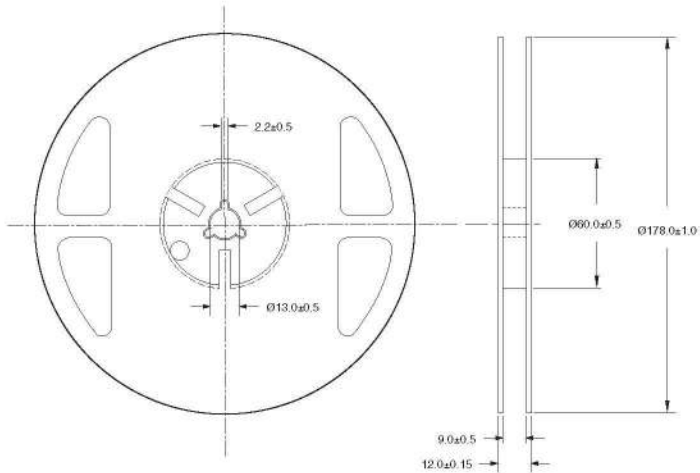
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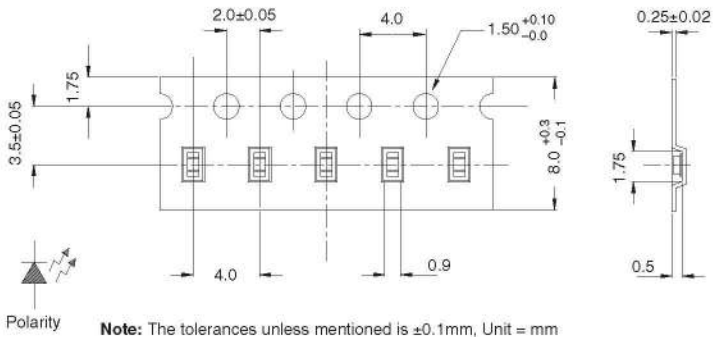
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TAPE AND REEL DIMENSIONS



Progressive direction





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