

SURFACE MOUNT LED LAMP SUPER BRIGHT 1.8 mm (Dome Lens)

QTLP660C-R Red

QTLP660C-E Orange

QTLP660C-O Yellow-Orange

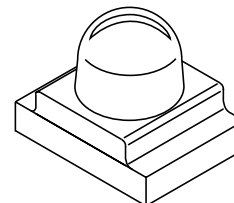
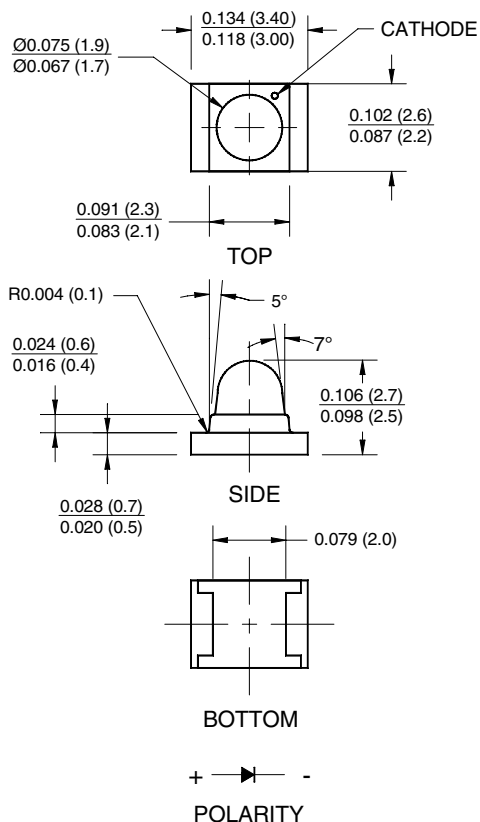
QTLP660C-Y Yellow

QTLP660C-AG Yellow-Green

QTLP660C-IG True Green

QTLP660C-IB Blue

PACKAGE DIMENSIONS



NOTE:

Dimensions for all drawings are in inches (mm).

APPLICATIONS

- Backlighting
- Status indication for consumer electronics and other equipment

DESCRIPTION

These super bright surface mount chip LEDs are designed with a 1.8 mm dome lens that focuses the light output.

FEATURES

- Small footprint - 3.2(L) X 2.4(W) X 2.6(H) mm
- AlInGaP technology for -R, -E, -O, -Y and -AG
- InGaN/SiC technology for -IG and -IB
- Narrow viewing angle of 30°
- 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	QTLP660C					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

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

Parameter	Symbol	QTLP660C		Units
		-IB	-IG	
Continuous Forward Current	I _F	30	30	mA
Peak Forward Current (f = 1.0 KHz, Duty Factor = 1/10)	I _{FM}	100	100	mA
Reverse Voltage	V _R	5	5	V
Power Dissipation	P _D	120	120	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

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ELECTRICAL / OPTICAL CHARACTERISTICS (T_A = 25°C)

Part Number	Symbol	QTLP660C					Condition
		-R	-E	-O	-Y	-AG	
Luminous Intensity (mcd)	I _V						I _F = 20mA
Minimum		150	150	150	150	110	
Typical		400	400	400	400	160	
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}	30	30	30	30	30	I _F = 20mA

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A = 25°C)

Part Number	Symbol	QTLP660C		Condition
		-IB	-IG	
Luminous Intensity (mcd)	I _V			I _F = 20mA
Minimum		110	500	
Typical		150	900	
Forward Voltage (V)	V _F			I _F = 20mA
Maximum		4.0	4.0	
Typical		3.5	3.5	
Wavelength (nm)	λ _P			I _F = 20mA
Peak		465	520	
Dominant	λ _D	470	525	
Spectral Line Half Width (nm)	Δλ	25	35	I _F = 20mA
Viewing Angle (°)	2Θ _{1/2}	30	30	I _F = 20mA

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TYPICAL PERFORMANCE CURVES (QTLP660C-R, -E, -O, -Y and -AG)

Fig. 1 Forward Current vs. Forward Voltage

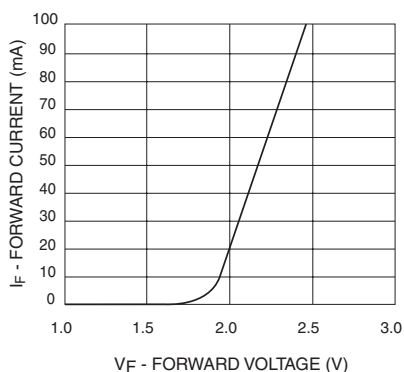


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

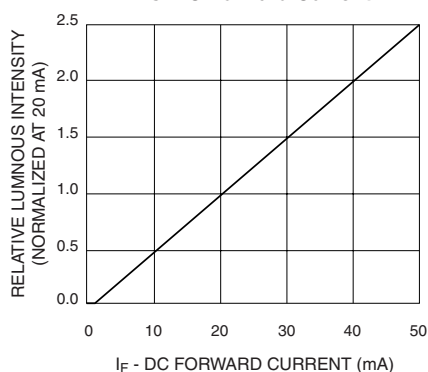


Fig. 3 Relative Intensity vs. Peak Wavelength

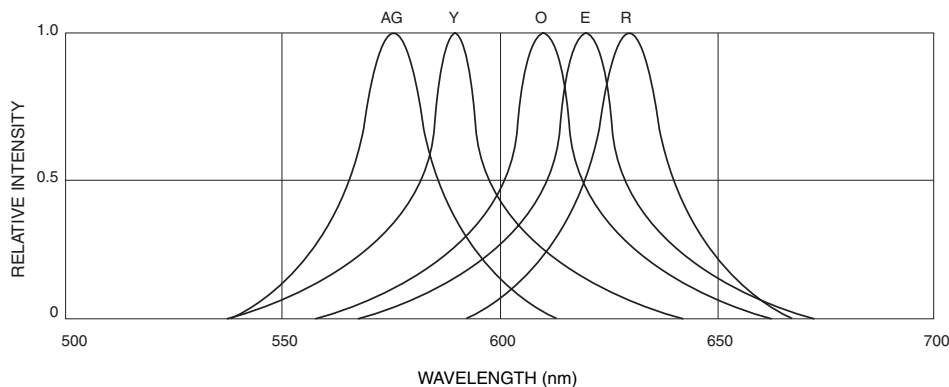


Fig.4 Radiation Diagram

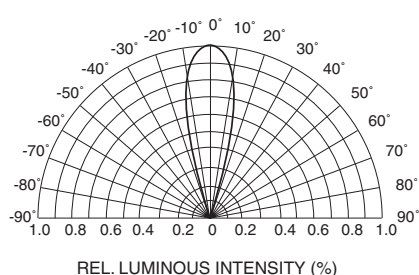
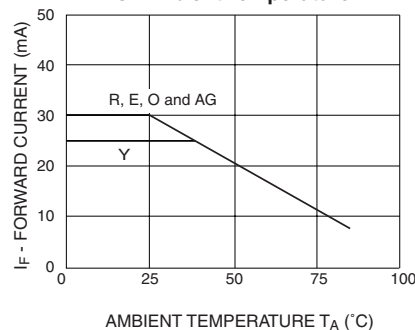


Fig.5 Maximum Forward Current vs. Ambient Temperature



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TYPICAL PERFORMANCE CURVES (QTLP660C-IG and IB)

Fig. 1 Forward Current vs. Forward Voltage

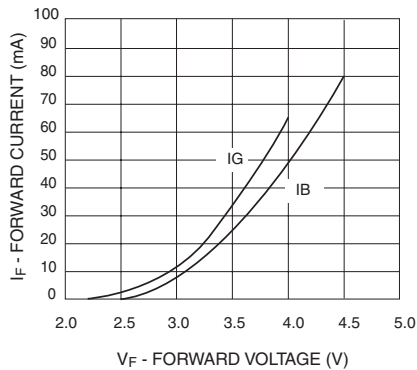


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

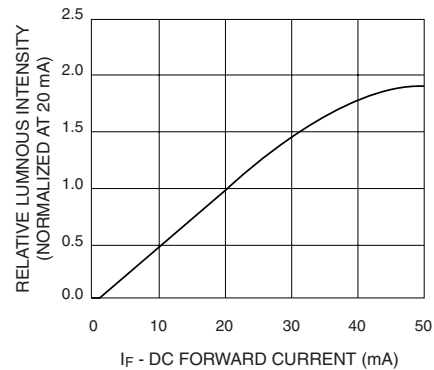


Fig. 3 Relative Intensity vs. Peak Wavelength

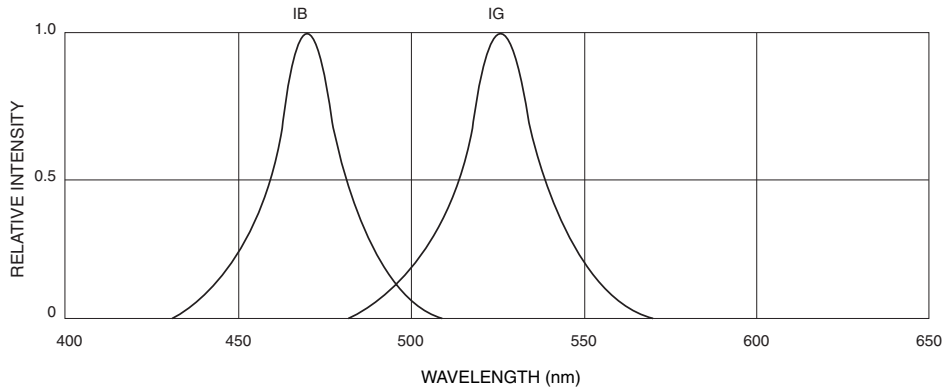


Fig.4 Radiation Diagram

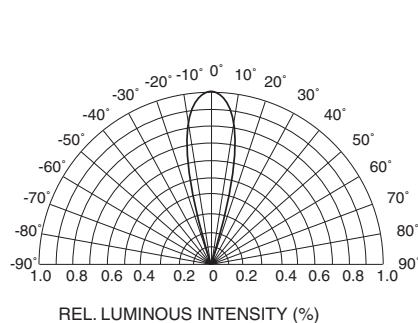
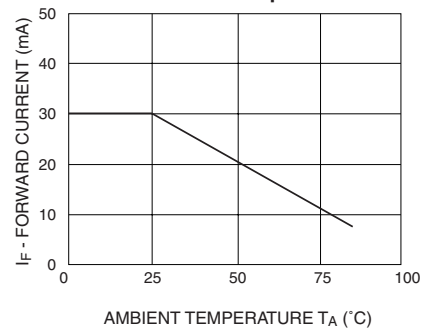


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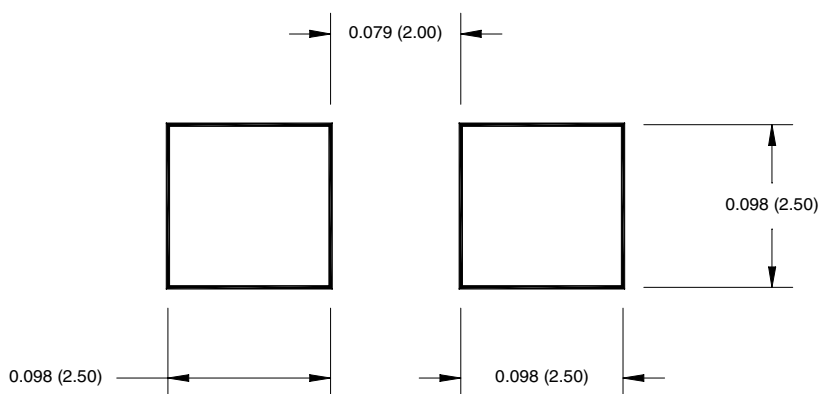
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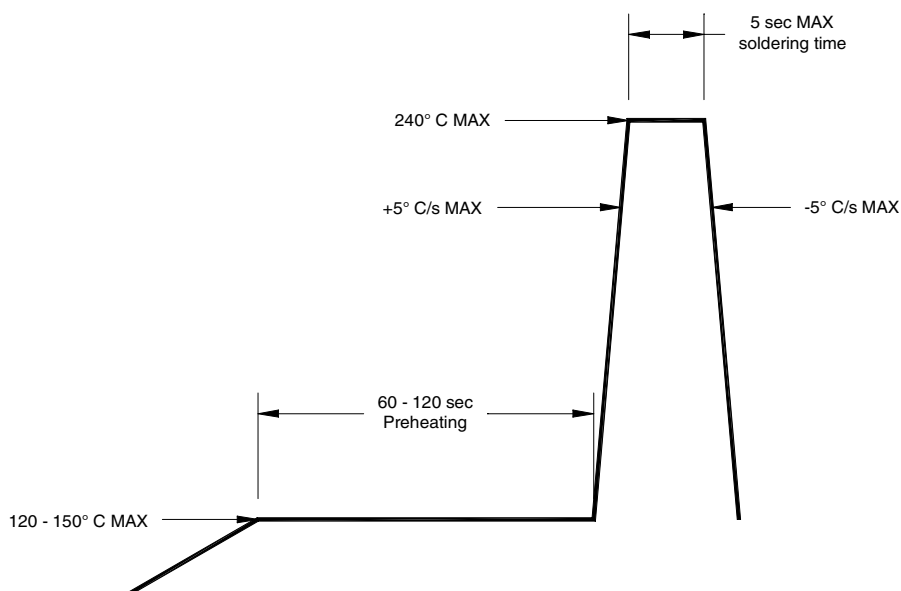
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RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE



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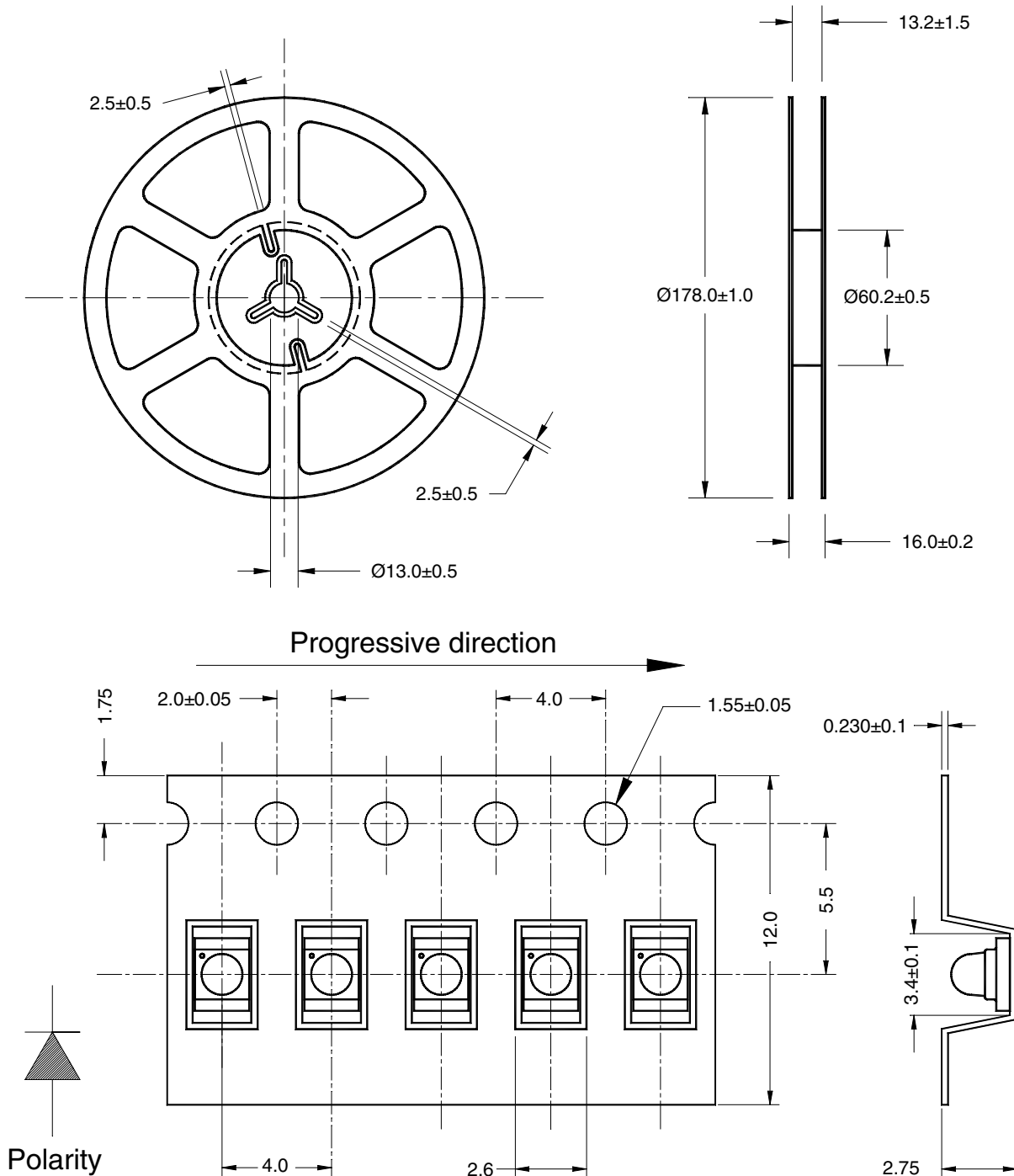
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TAPE AND REEL DIMENSIONS



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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.