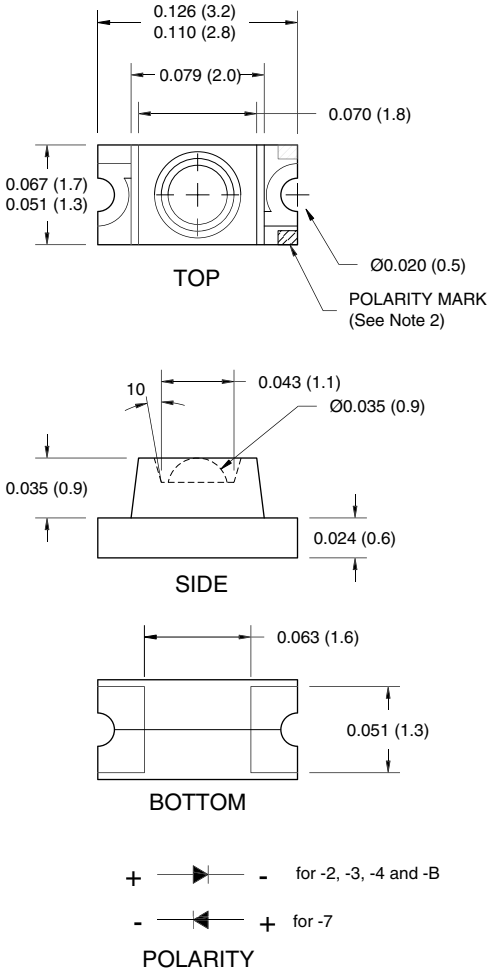
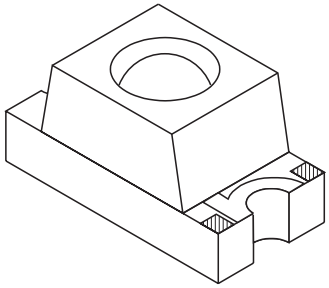
SURFACE MOUNT LED LAMP
STANDARD BRIGHT 1206 (Inner Lens)

QTLP651C-2 HER
QTLP651C-3 Yellow
QTLP651C-4 Green
QTLP651C-7 AlGaAs Red
QTLP651C-B Blue

PACKAGE DIMENSIONS



NOTE:
1. Dimensions for all drawings are in inches (mm).
2. Cathode for -2, -3, -4 and B. Anode for -7.



APPLICATIONS

- Keypad backlighting
- Push-button backlighting
- LCD backlighting

DESCRIPTION

These surface mount chip LEDs are designed to fit industry standard footprint. The package features a recessed, inner lens that focuses light output, offering greater luminous intensity for direct viewing.

FEATURES

- Small footprint - 3.0(L) X 1.5(W) X 1.5(H) mm
- Narrow viewing angle of 20°
- 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	QTLP651C					Units
		-2	-3	-4	-7	-B	
Continuous Forward Current	I_F	30	30	30	30	30	mA
Peak Forward Current (f = 1.0 KHz, Duty Factor = 1/10)	I_{FM}	160	160	160	180	100	mA
Reverse Voltage (I_R = 10 µA)	V_R	5	5	5	5	5	V
Power Dissipation	P_D	84	84	84	72	135	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

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A =25°C)

Part Number	Symbol	QTLP651C					Condition
		-2	-3	-4	-7	-B	
Luminous Intensity (mcd) Minimum	I_V	9	10	20	30	25	I_F = 20mA
Typical		15	18	35	50	35	
Forward Voltage (V) Maximum	V_F	2.8	2.8	2.8	2.4	4.5	I_F = 20mA
Typical		2.0	2.0	2.1	1.9	3.8	
Wavelength (nm) Peak	I_P	635	585	565	660	430	I_F = 20mA
Dominant	I_D	630	590	570	645	465	
Spectral Line Half Width (nm)	DI	45	35	30	20	65	I_F = 20mA
Viewing Angle (°)	2U1/2	20	20	20	20	20	I_F = 20mA

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TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

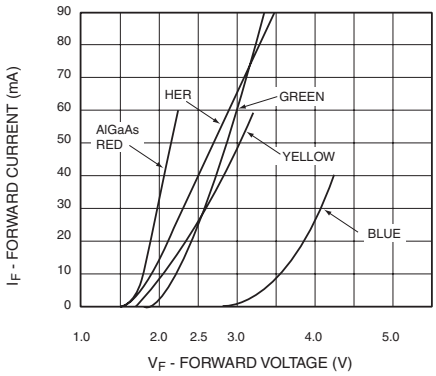


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

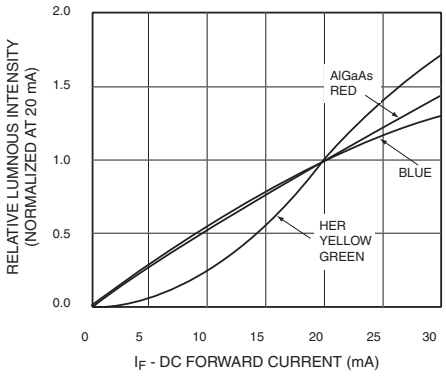


Fig. 3 Relative Intensity vs. Peak Wavelength

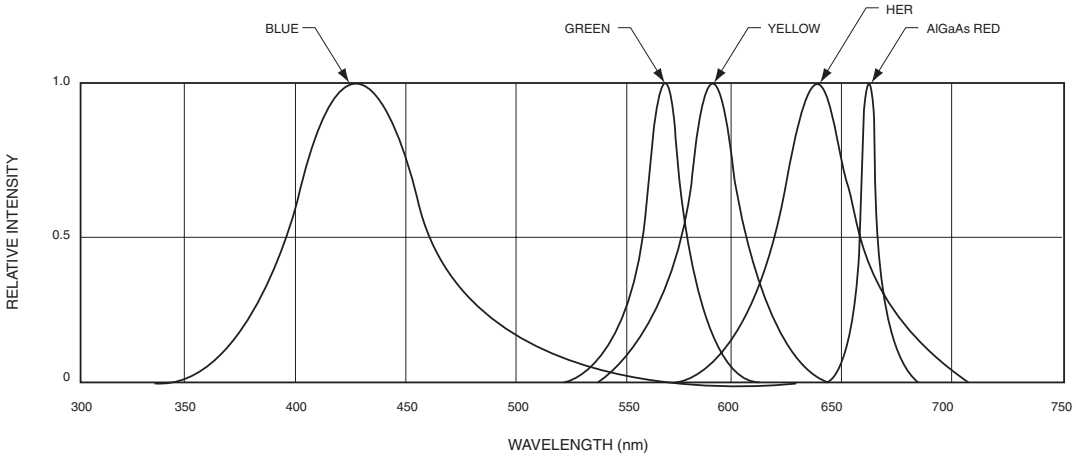


Fig.4 Radiation Diagram

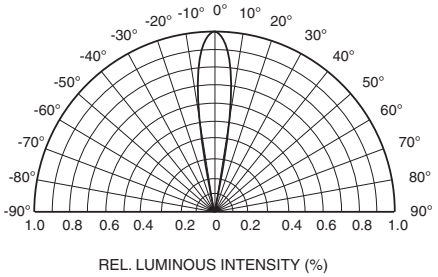
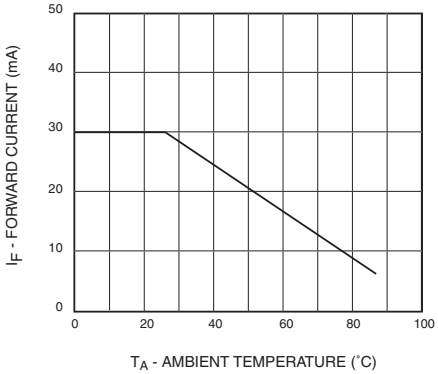


Fig.5 Maximum Forward Current vs. Ambient Temperature



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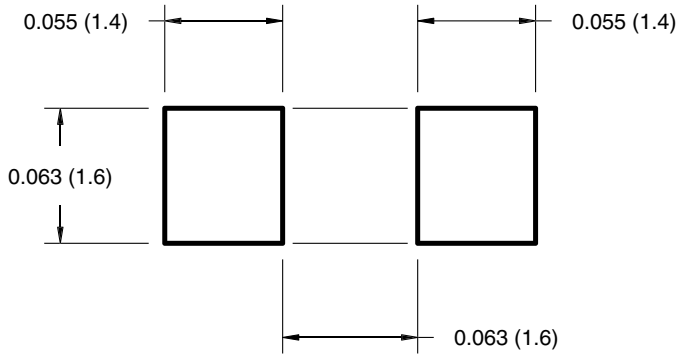
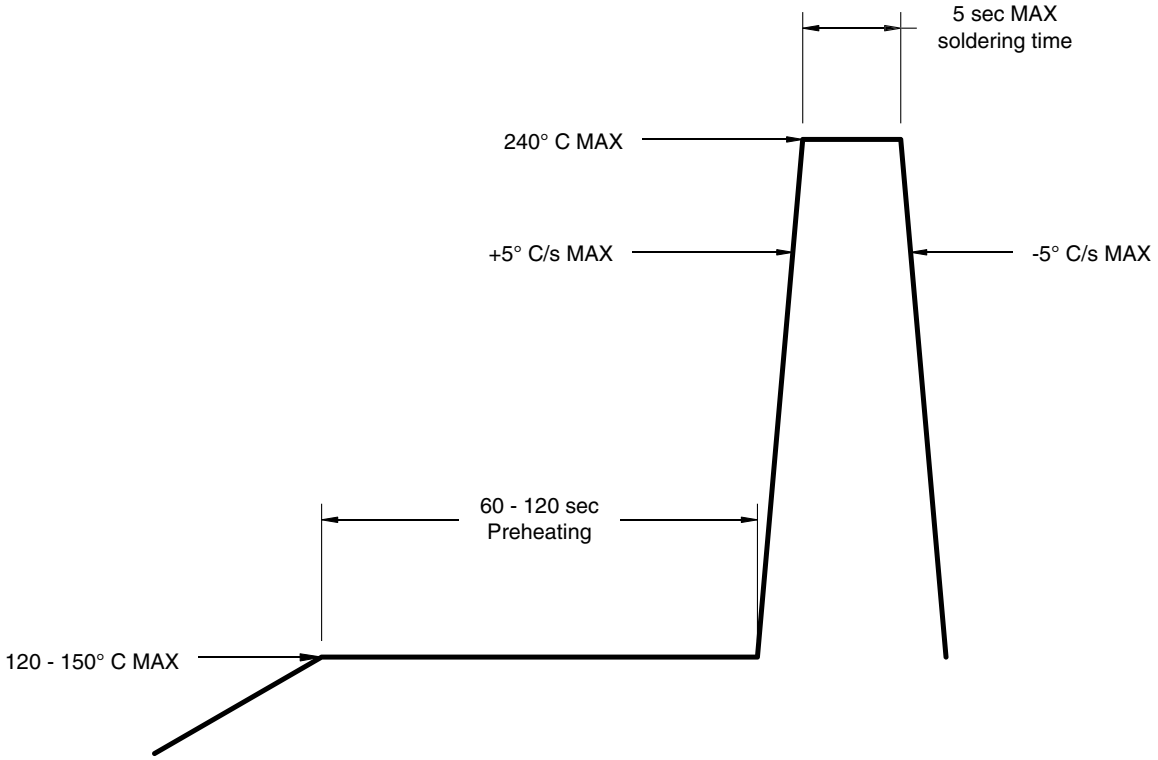
RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE



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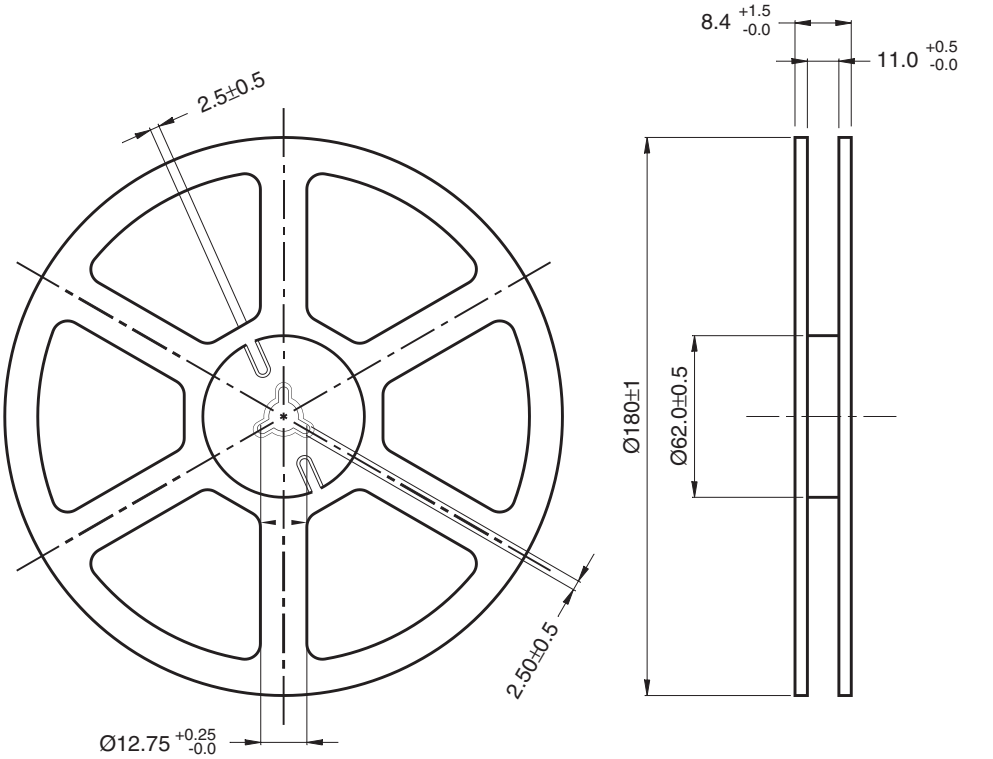
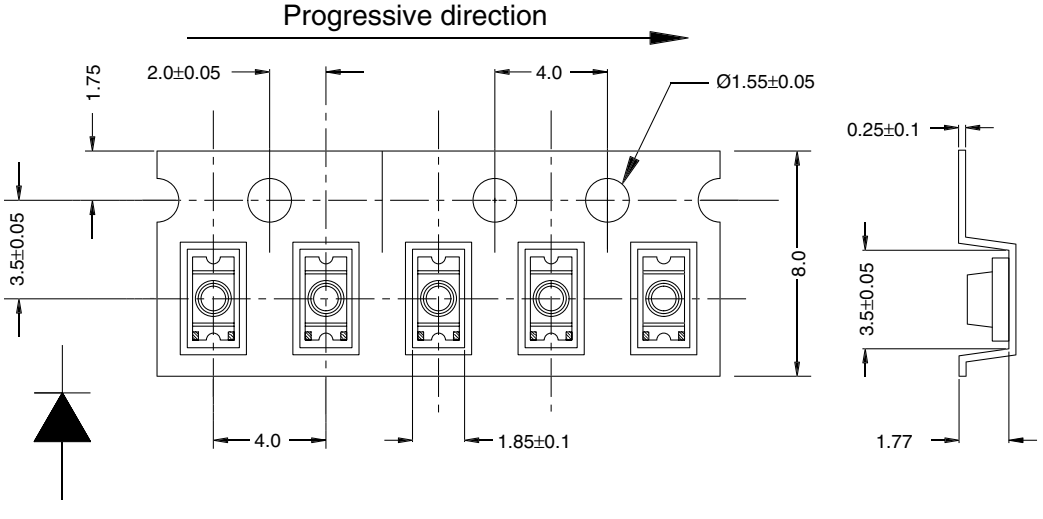
TAPE AND REEL DIMENSIONS





Dimensional tolerance is ± 0.1mm unless otherwise specified

Angle: ± 0.5

Unit: mm

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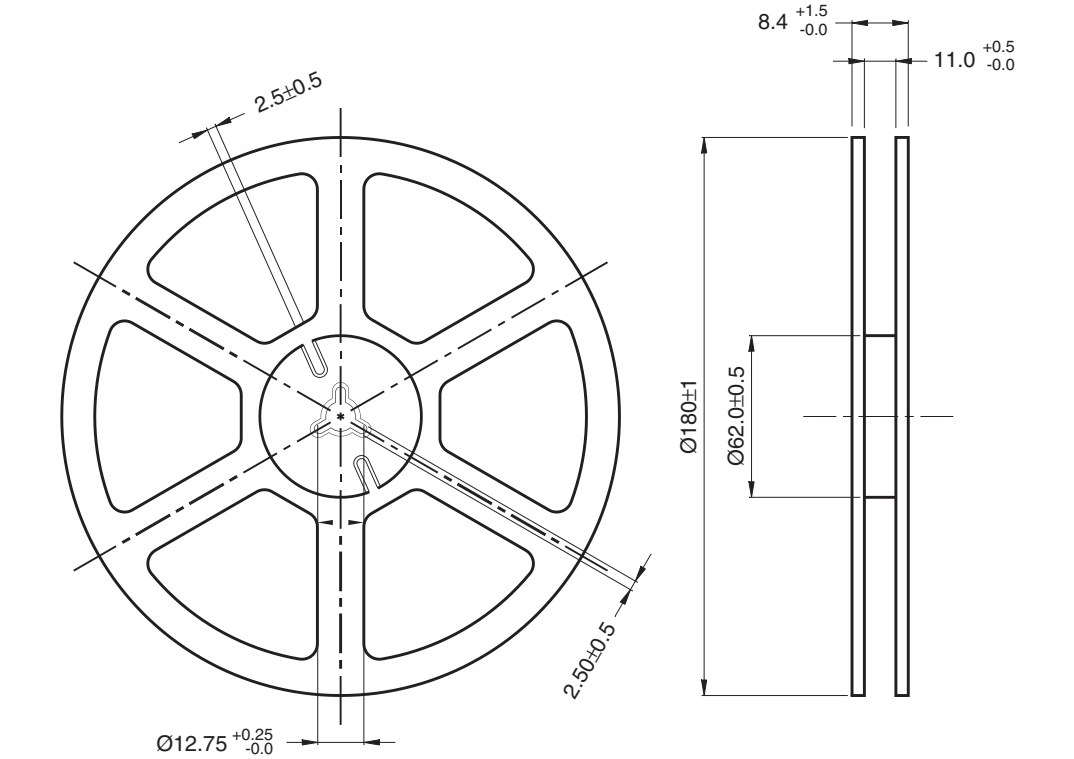

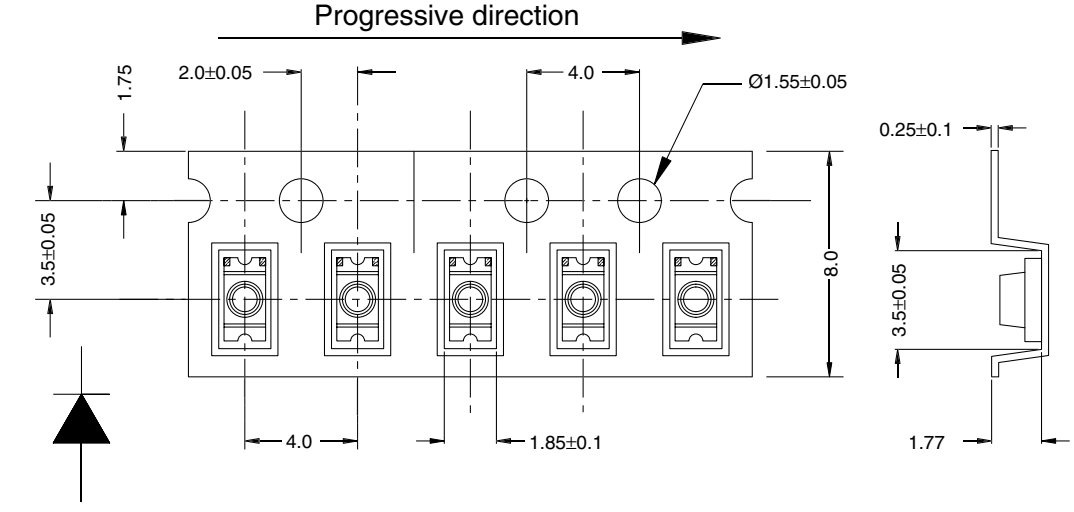

for -2, -3, -4 and -B

Polarity

Dimensional tolerance is ± 0.1mm unless otherwise specified

Angle: ± 0.5

Unit: mm

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DISCLAIMER

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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.