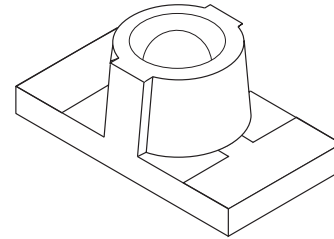
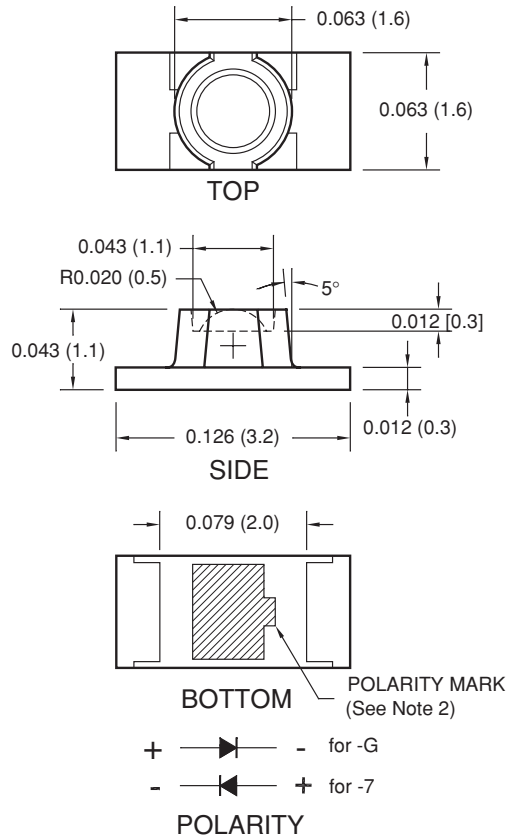


PACKAGE DIMENSIONS



NOTE:
1. Dimensions for all drawings are in inches (mm).
2. Cathode for -G. Anode for -7.

APPLICATIONS

- Keypad backlighting
- Push-button backlighting

DESCRIPTION

These surface mount chip LEDs are designed to fit industry standard footprint. They are reverse mountable and designed to emit light through a small cut-out hole in the PC board.

FEATURES

- Small footprint - 3.2(L) X 1.6(W) X 1.1(H) mm
- Wide viewing angle of 130°
- Water clear optics
- Moisture-proof packaging
- Available in 0.315" (8mm) width tape on 7" (178mm) diameter reel; 2,000 units per reel

SURFACE MOUNT LED LAMP

STANDARD BRIGHT 1206 (Reverse Mount with Inner Lens)

QTLP653C-7 AlGaAs Red

QTLP653C-G Green

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ Unless otherwise specified)

| Parameter | Symbol | QTLP653C | | Units |
|---|-----------|---------------|-----|------------------|
| | | -7 | -G | |
| Continuous Forward Current | I_F | 30 | 30 | mA |
| Peak Forward Current ($f = 1.0 \text{ KHz}$, Duty Factor = 1/10) | I_{FM} | 180 | 100 | mA |
| Reverse Voltage | V_R | 5 | 5 | V |
| Power Dissipation | P_D | 72 | 84 | mW |
| 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 | | $^\circ\text{C}$ |

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

| Part Number | Symbol | QTLP653C | | Condition |
|-------------------------------|-----------------|----------|-----|---------------------|
| | | -7 | -G | |
| Luminous Intensity (mcd) | I_V | 25 | 15 | $I_F = 20\text{mA}$ |
| Minimum | | | | |
| Typical | | 50 | 35 | |
| Forward Voltage (V) | V_F | 2.4 | 2.8 | $I_F = 20\text{mA}$ |
| Maximum | | | | |
| Typical | | 1.9 | 2.1 | |
| Wavelength (nm) | λ_P | 660 | 565 | $I_F = 20\text{mA}$ |
| Peak | | | | |
| Dominant | λ_D | 645 | 570 | |
| Spectral Line Half Width (nm) | $\Delta\lambda$ | 20 | 30 | $I_F = 20\text{mA}$ |
| Viewing Angle ($^\circ$) | $2\Theta_{1/2}$ | 130 | 130 | $I_F = 20\text{mA}$ |

QTLP653C-7 AlGaAs Red

QTLP653C-G Green

TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

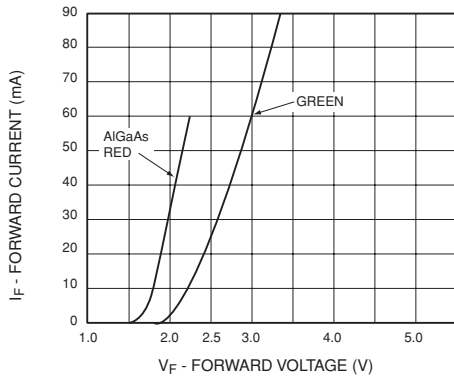


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

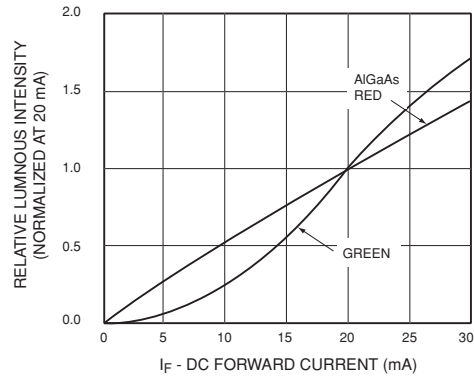


Fig. 3 Relative Intensity vs. Peak Wavelength

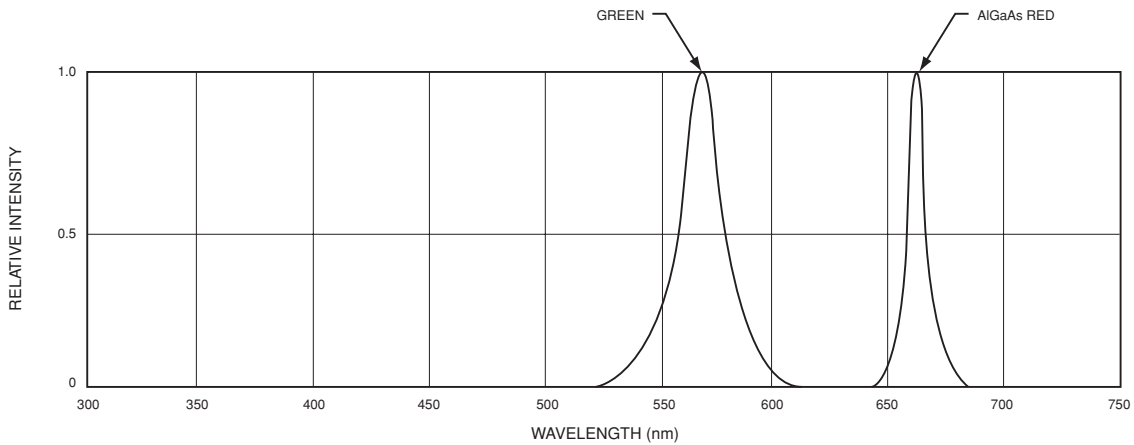


Fig.4 Radiation Diagram

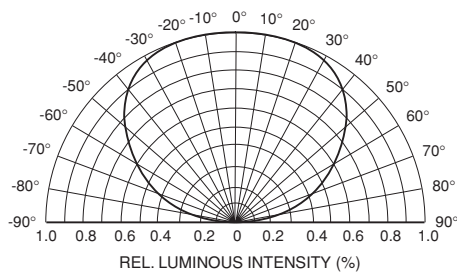
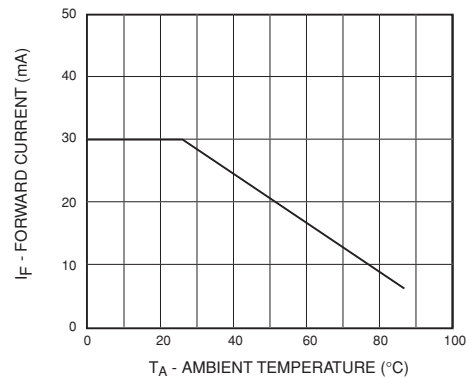


Fig.5 Maximum Forward Current vs. Ambient Temperature



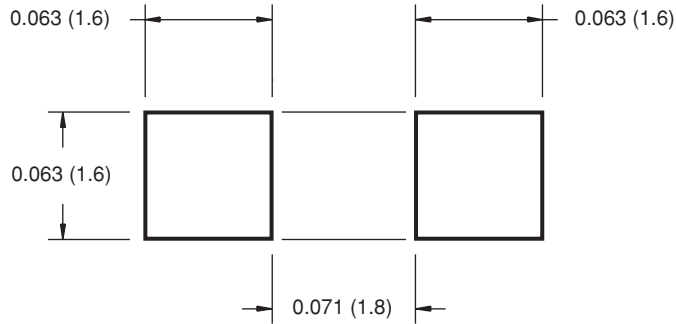
SURFACE MOUNT LED LAMP

STANDARD BRIGHT 1206 (Reverse Mount with Inner Lens)

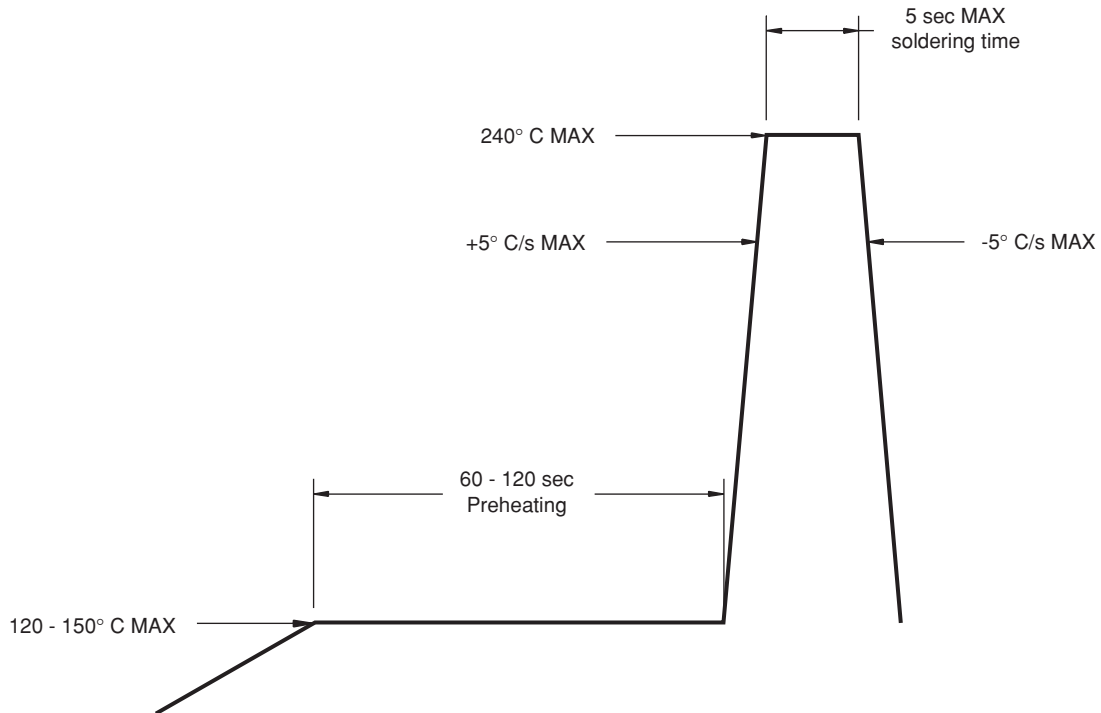
QTLP653C-7 AlGaAs Red

QTLP653C-G Green

RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE



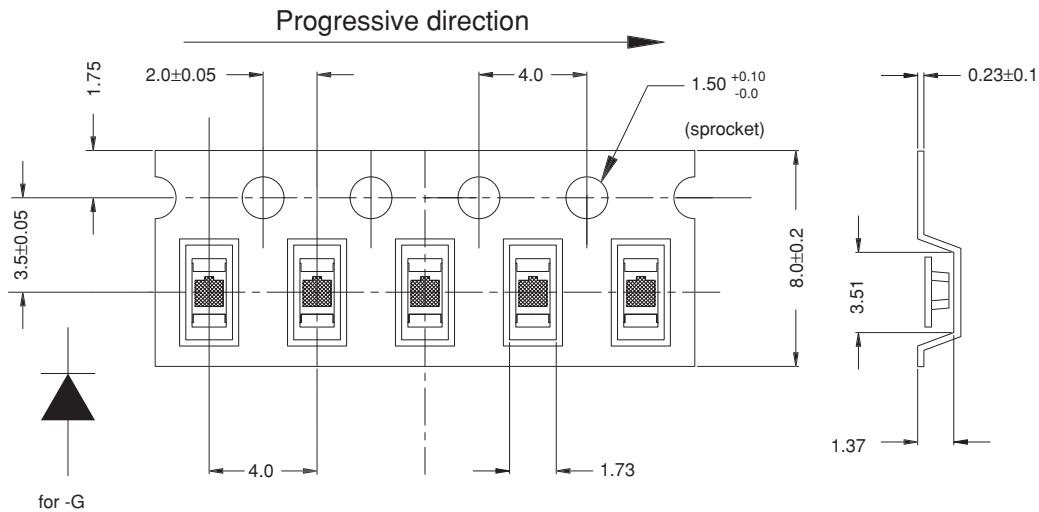
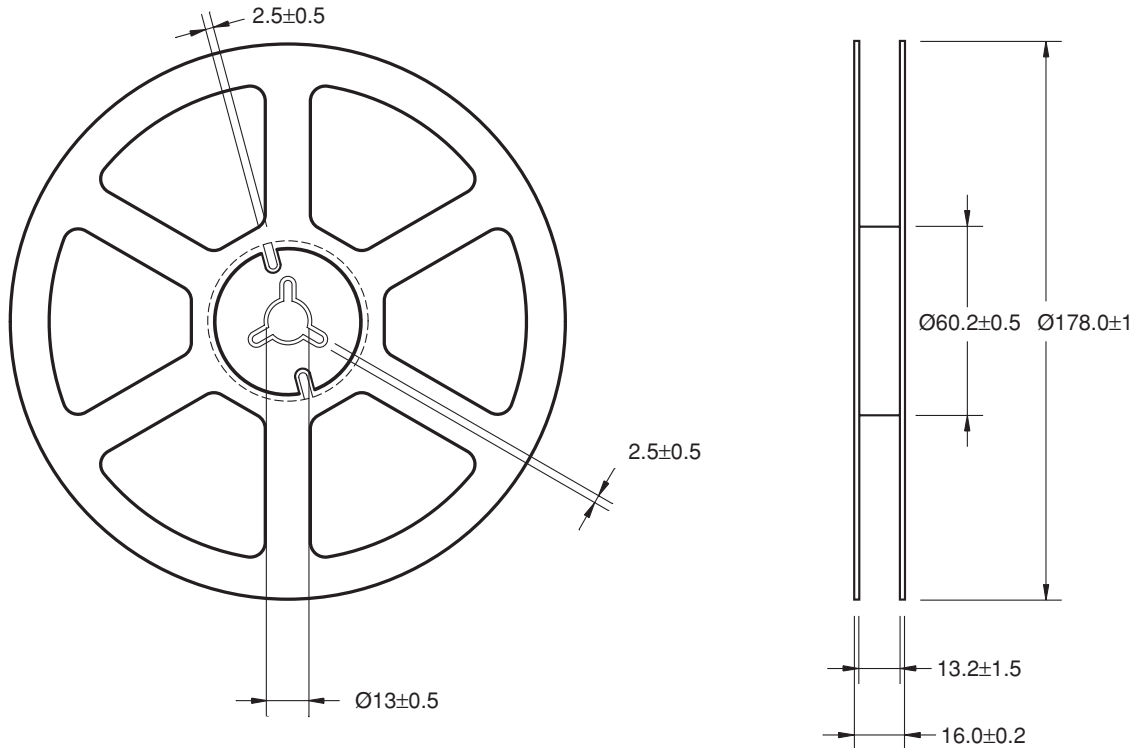
SURFACE MOUNT LED LAMP

STANDARD BRIGHT 1206 (Reverse Mount with Inner Lens)

QTLP653C-7 AlGaAs Red

QTLP653C-G Green

TAPE AND REEL DIMENSIONS



for -G
Polarity

Dimensional tolerance is ± 0.1 mm unless otherwise specified
Angle: ± 0.5
Unit: mm
Polarity marks on the sprocket side.

SURFACE MOUNT LED LAMP

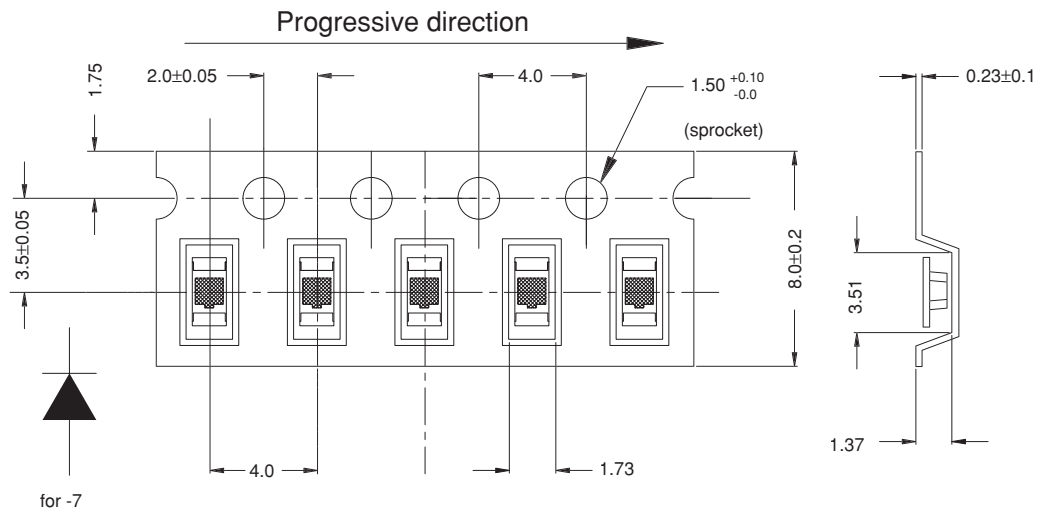
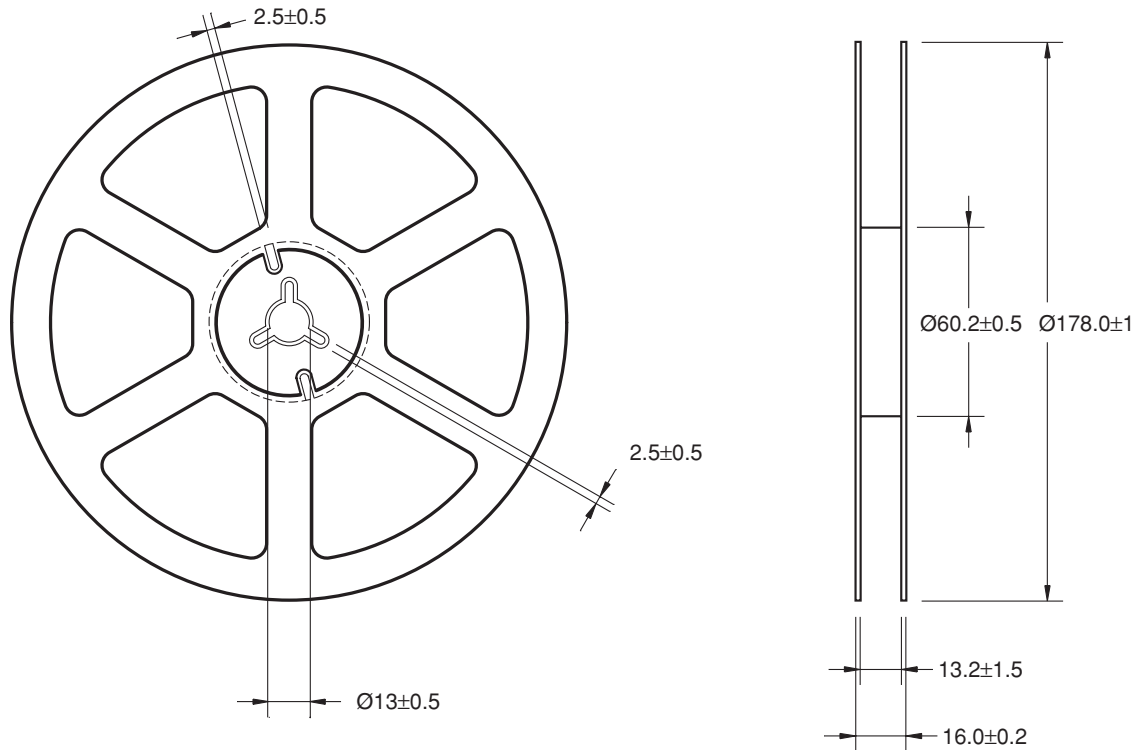
STANDARD BRIGHT 1206

(Reverse Mount with Inner Lens)

QTLP653C-7 AlGaAs Red

QTLP653C-G Green

TAPE AND REEL DIMENSIONS



Polarity

Dimensional tolerance is $\pm 0.1\text{mm}$ unless otherwise specified
 Angle: ± 0.5
 Unit: mm
 Polarity marks on the opposite sprocket side.

SURFACE MOUNT LED LAMP

STANDARD BRIGHT 1206

(Reverse Mount with Inner Lens)

QTLP653C-7 AlGaAs Red

QTLP653C-G Green

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