

SURFACE MOUNT LED LAMP

STANDARD BRIGHT PLCC-2

QTLP670C

QTLP670C-2 HER

QTLP670C-3 Yellow

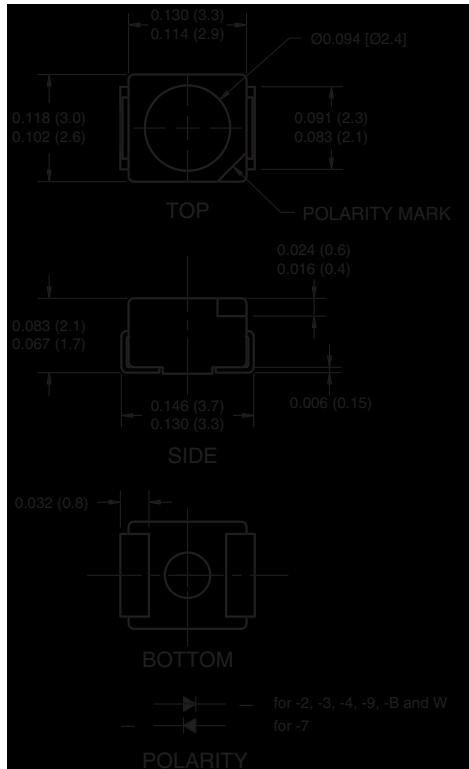
QTLP670C-4 Green

QTLP670C-7 AlGaAs Red

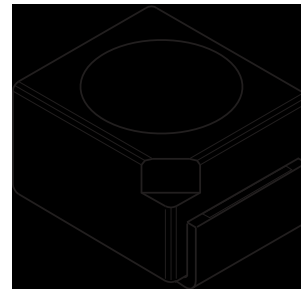
QTLP670C-B Blue

QTLP670C-W White

PACKAGE DIMENSIONS



NOTE:
Dimensions for all drawings are in inches (mm).



APPLICATIONS

- Automotive interior lighting
- Status indication for consumer electronics and office equipment

DESCRIPTION

These surface mount LEDs are designed with flat top and sides for the ease of pick-and-place by automatic placement equipment. They are compatible with convective IR and vapor phase reflow soldering. The package size and configuration conform to EIA-535 BAAC standard specification for case size 3528 tantalum capacitor. These LEDs are ideal for backlighting and optical coupling into light pipes.

FEATURES

- GaN/SIC technology for -B and -W
- 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

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| ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ Unless otherwise specified) | | | | | | | | |
|---|-----------|---------------|-----|-----|-----|-----|-----|------------------|
| Parameter | Symbol | QTLP670C | | | | | | Units |
| | | -2 | -3 | -4 | -7 | -B | -W | |
| Continuous Forward Current | I_F | 30 | 30 | 30 | 30 | 30 | 30 | mA |
| Peak Forward Current ($f = 1.0 \text{ KHz}$, Duty Factor = 1/10) | I_{FM} | 160 | 160 | 160 | 180 | 100 | 100 | mA |
| Reverse Voltage ($I_R = 10 \mu\text{A}$) | V_R | 5 | 5 | 5 | 5 | 5 | 5 | V |
| Power Dissipation | P_D | 84 | 84 | 84 | 72 | 135 | 135 | 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 | QTLP670C | | | | | | Condition |
| | | -2 | -3 | -4 | -7 | -B | -W | |
| Luminous Intensity (mcd) | I_V | 5 | 5 | 15 | 25 | 20 | 20 | $I_F = 20\text{mA}$ |
| Minimum | | 10 | 10 | 25 | 40 | 30 | 30 | |
| Forward Voltage (V) | V_F | 2.8 | 2.8 | 2.8 | 2.4 | 4.5 | 4.5 | $I_F = 20\text{mA}$ |
| Maximum | | 2.0 | 2.0 | 2.1 | 1.9 | 3.8 | 3.8 | |
| Wavelength (nm) | λ_P | 635 | 585 | 565 | 660 | 430 | — | $I_F = 20\text{mA}$ |
| Peak | | 630 | 590 | 570 | 645 | 465 | — | |
| Dominant | λ_D | 630 | 590 | 570 | 645 | 465 | — | $I_F = 20\text{mA}$ |
| Chromatic Coordinate | x,y | — | — | — | — | — | x = 0.26 y = 0.28 | $I_F = 20\text{mA}$ |
| Spectral Line Half Width (nm) | $\Delta\lambda$ | 45 | 35 | 30 | 20 | 65 | — | $I_F = 20\text{mA}$ |
| Viewing Angle ($^\circ$) | $2\theta_{1/2}$ | 120 | 120 | 120 | 120 | 120 | 120 | $I_F = 20\text{mA}$ |

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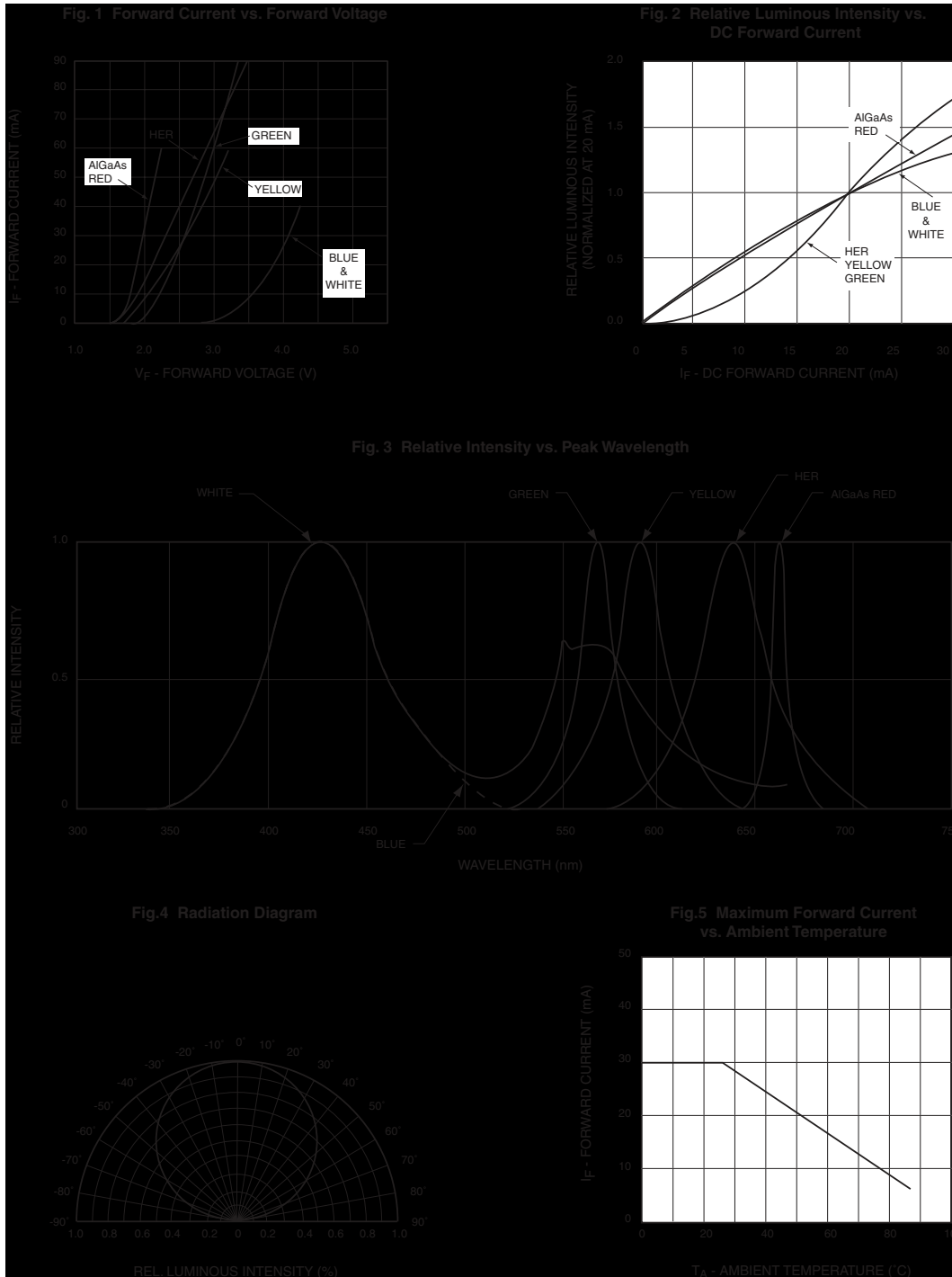
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TYPICAL PERFORMANCE CURVES



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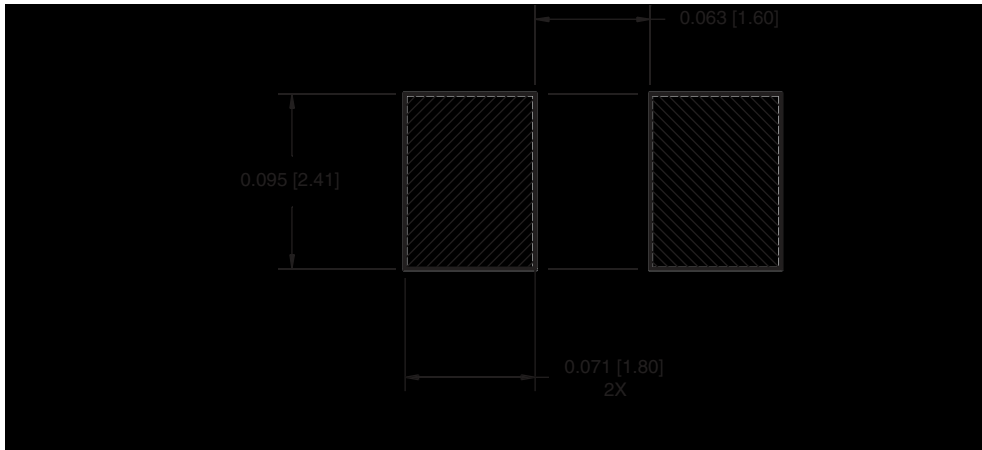
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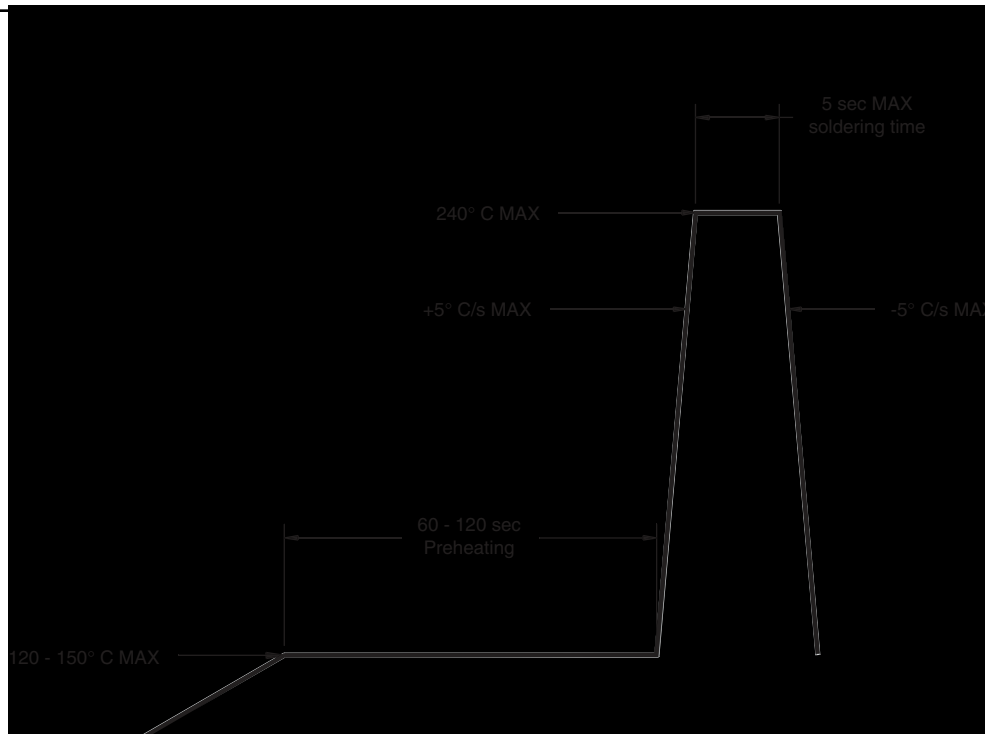
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RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE





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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.