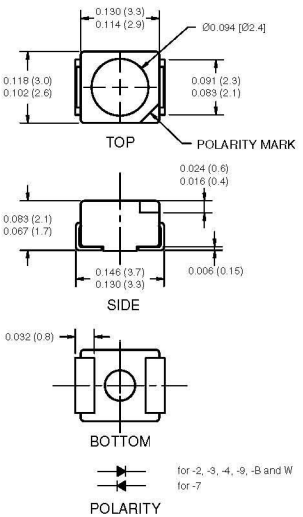
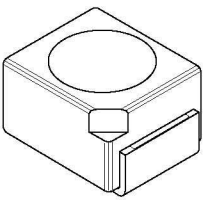
SURFACE MOUNT LED LAMP
STANDARD BRIGHT PLCC-2

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°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 KHz, Duty Factor = 1/10)	I_{FM}	160	160	160	180	100	100	mA
Reverse Voltage (I_R = 10 μA)	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						°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	QTLP670C						Condition
		-2	-3	-4	-7	-B	-W	
Luminous Intensity (mcd)								
Minimum	I_V	5	5	15	25	20	20	I_F = 20mA
Typical		10	10	25	40	30	30	
Forward Voltage (V)								
Maximum	V_F	2.8	2.8	2.8	2.4	4.5	4.5	I_F = 20mA
Typical		2.0	2.0	2.1	1.9	3.8	3.8	
Wavelength (nm)								
Peak	λ_P	635	585	565	660	430	—	I_F = 20mA
Dominant	λ_D	630	590	570	645	465	—	
Chromatic Coordinate	x,y	—	—	—	—	—	x = 0.26 y = 0.28	I_F = 20mA
Spectral Line Half Width (nm)	$\Delta\lambda$	45	35	30	20	65	—	I_F = 20mA
Viewing Angle (°)	$2\Theta_{1/2}$	120	120	120	120	120	120	I_F = 20mA

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TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Current vs. Forward Voltage

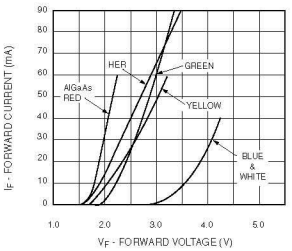


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

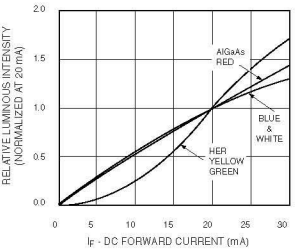


Fig. 3 Relative Intensity vs. Peak Wavelength

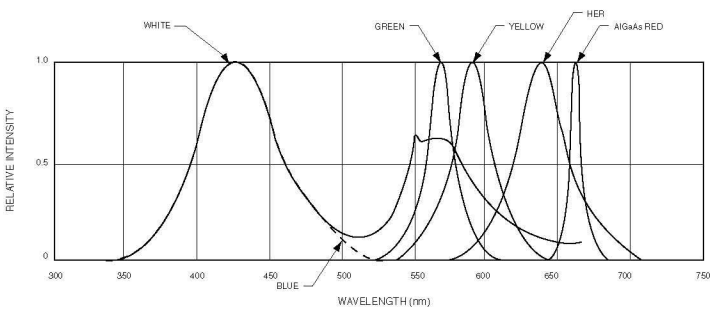


Fig.4 Radiation Diagram

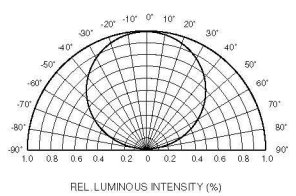
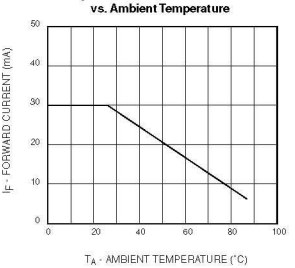


Fig.5 Maximum Forward Current vs. Ambient Temperature



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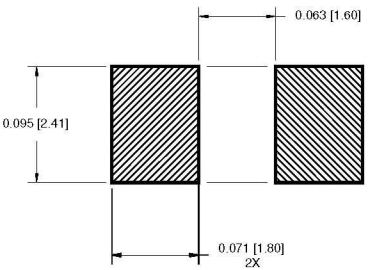
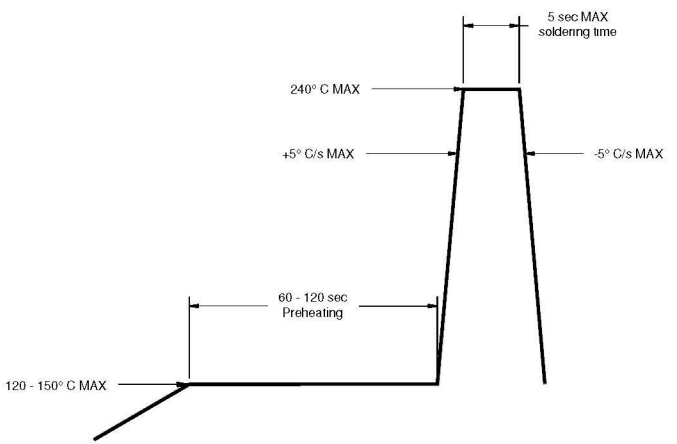
RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE



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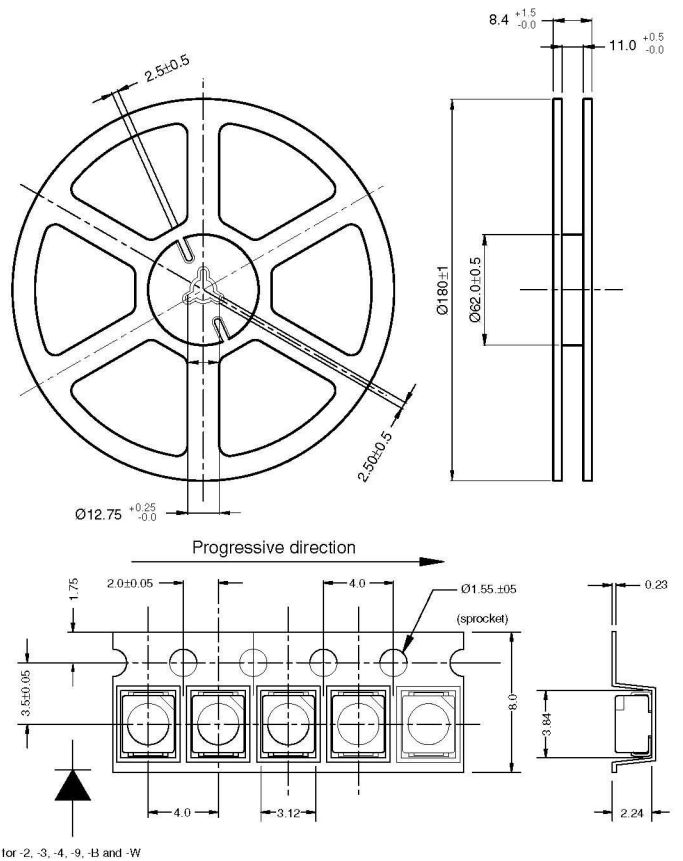
TAPE AND REEL DIMENSIONS



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

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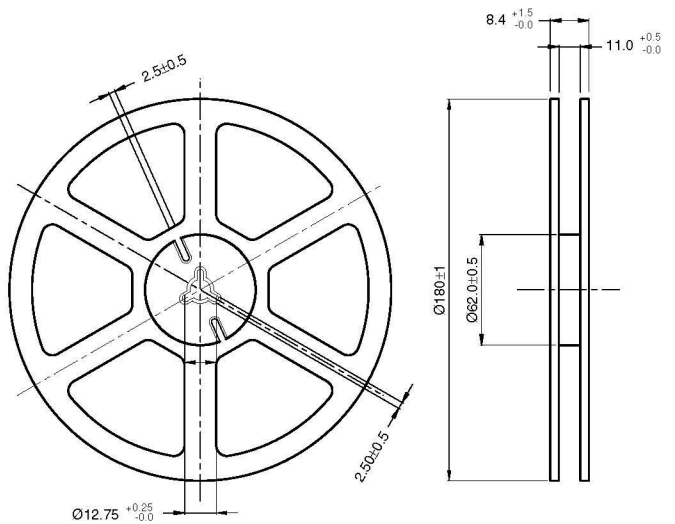

Polarity

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