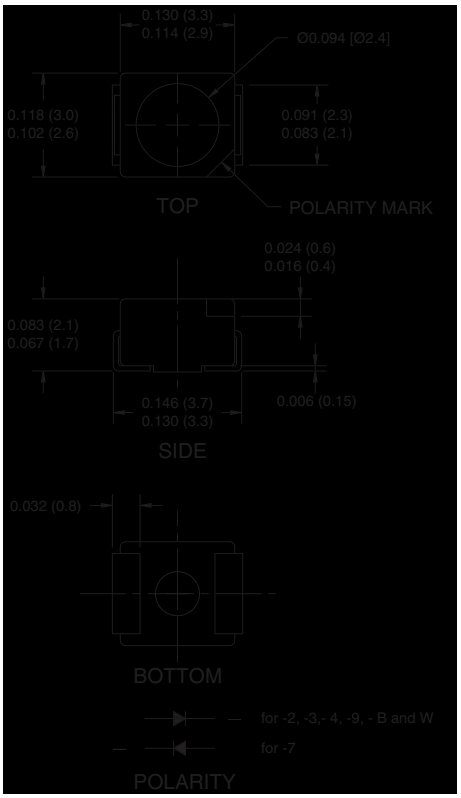
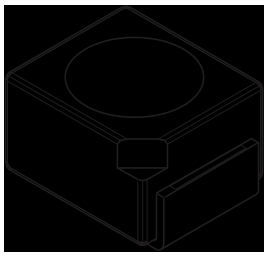
SURFACE MOUNT LED LAMP
STANDARD BRIGHT PLCC-2

QTLP670C-2 HER
QTLP670C-3 Yellow
QTLP670C-4 Green
QTLP670C-7/-9 AlGaAs Red
QTLP670C-B Blue
QTLP670C-W White

PACKAGE DIMENSIONS



NOTE:
Dimensions fo 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 amd -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/-9	-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/-9	-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	I_F = 20mA
							y = 0.28	
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

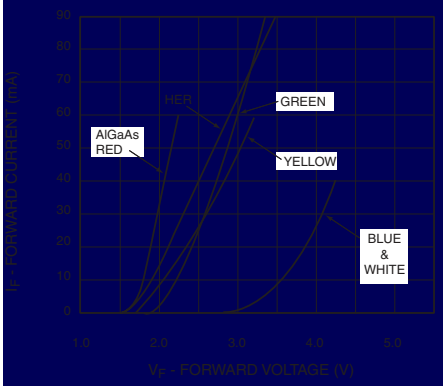


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

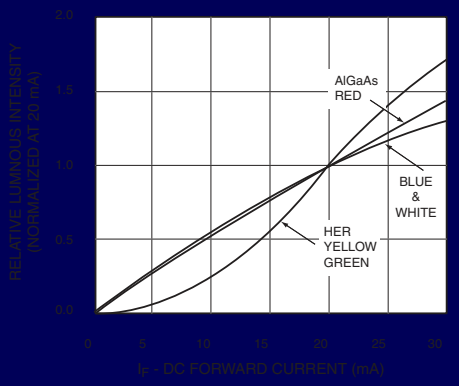


Fig. 3 Relative Intensity vs. Peak Wavelength

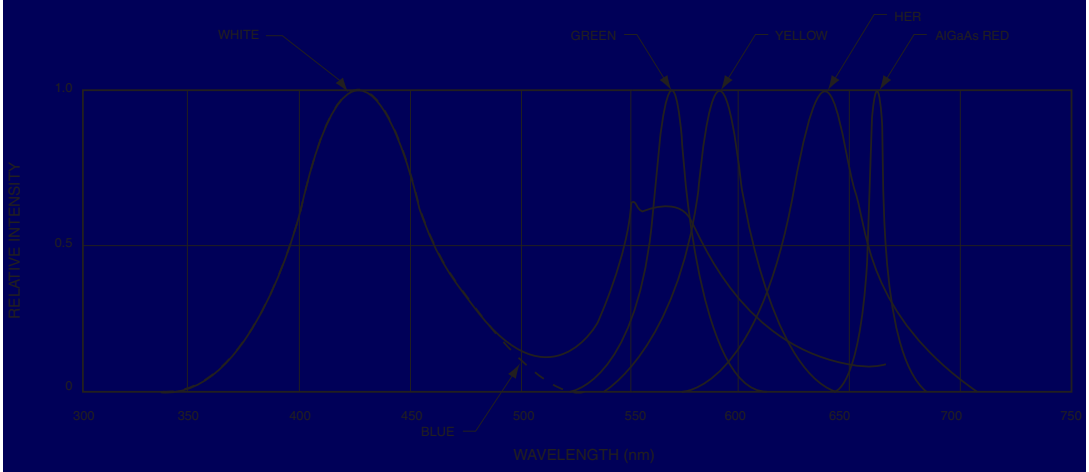


Fig.4 Radiation Diagram

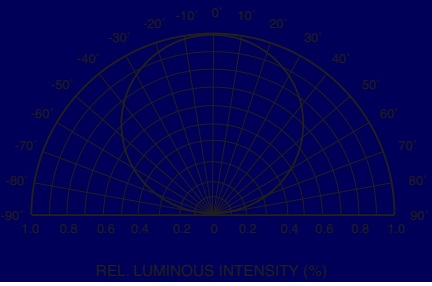
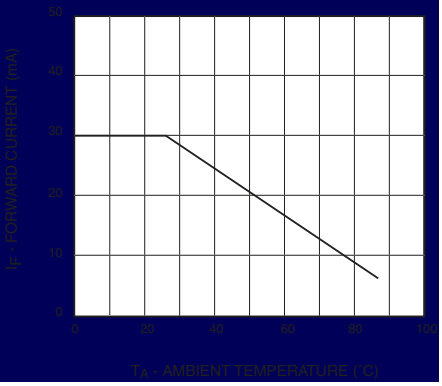


Fig.5 Maximum Forward Current vs. Ambient Temperature



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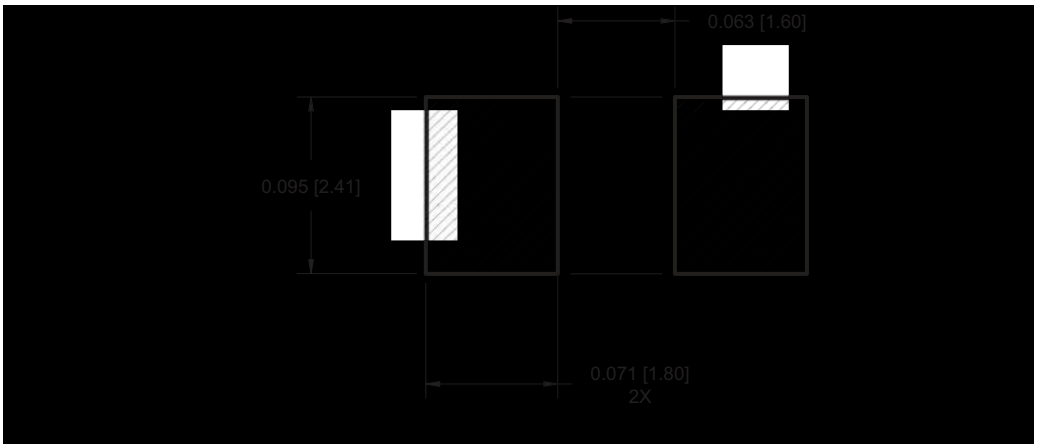
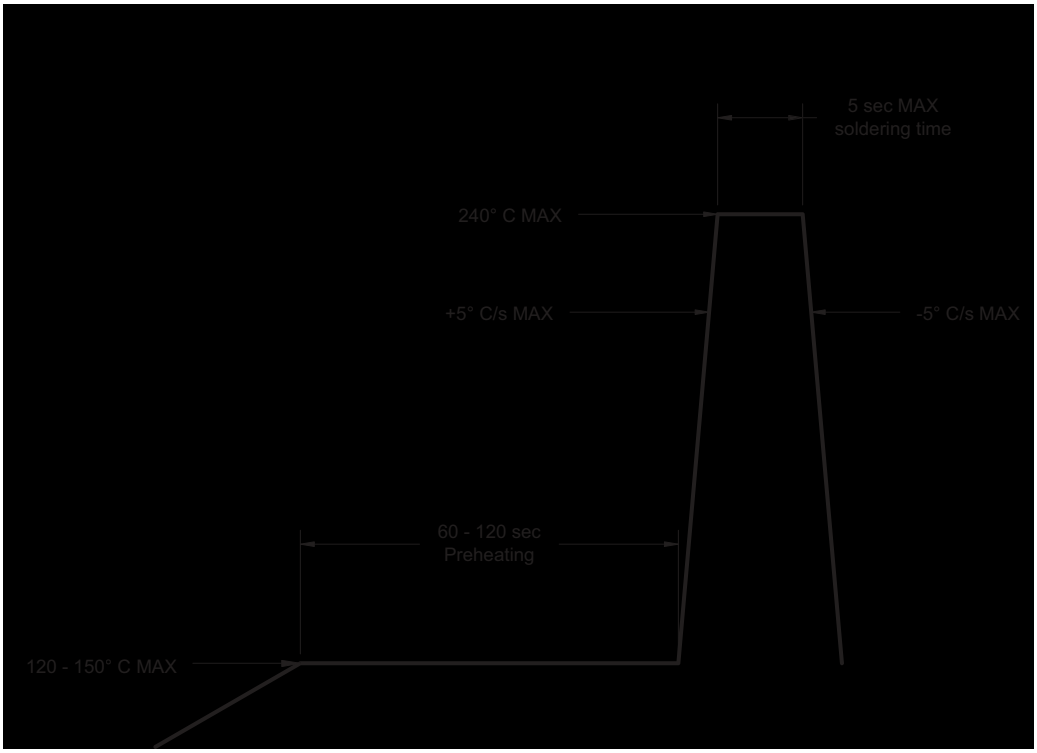
RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED REFLOW SOLDERING PROFILE



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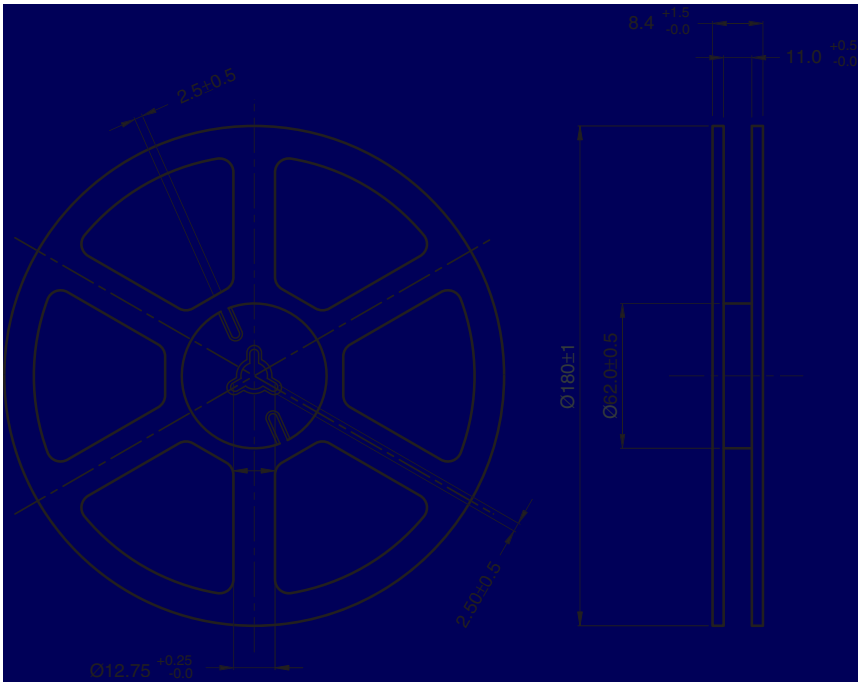
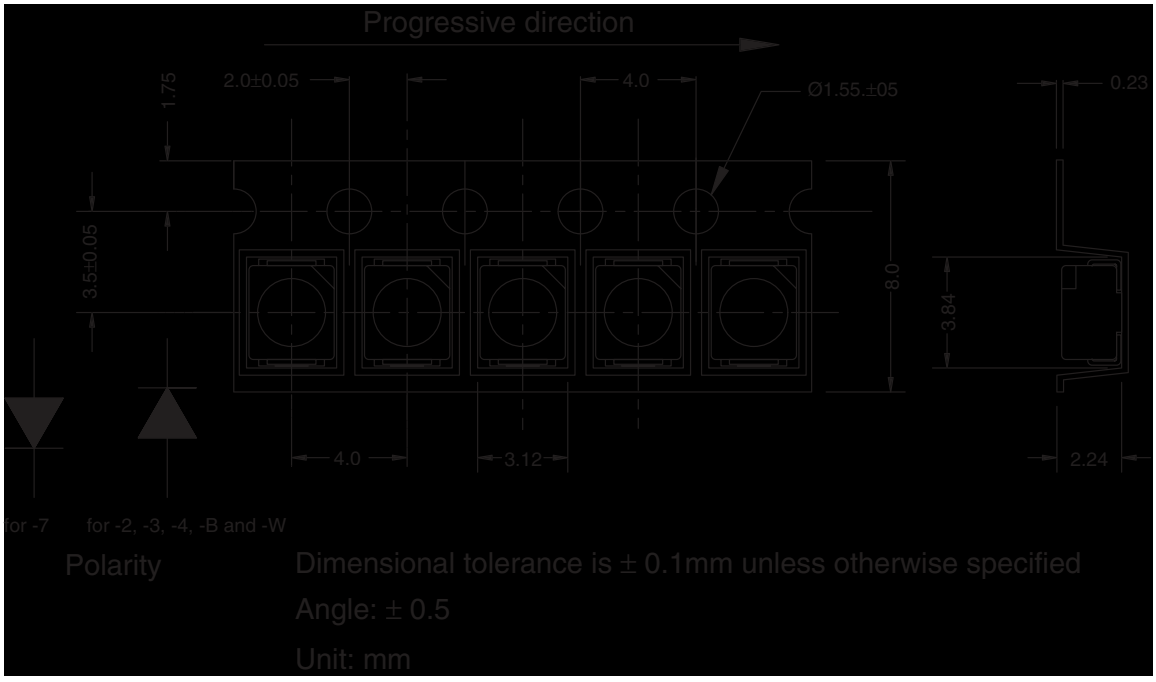
TAPE AND REEL DIMENSIONS





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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.