Technical Data

Super Flux LEDs

GaN

LTL911TBKS	**Blue**
LTL912TBKS	**Blue**
LTL911TGKS	**Green**
LTL912TGKS	**Green**

Benefits

- Fewer LEDs required due to GaN technology
- Lower lighting system cost
- Higher luminous efficiency than incandescent

Feature

- High current operation / High flux output
- Low thermal resistance / Low profile
- Wide viewing angle
- Tube package for automatic loading and insertion process

Application

- Signal board
- Exterior Lighting

Description

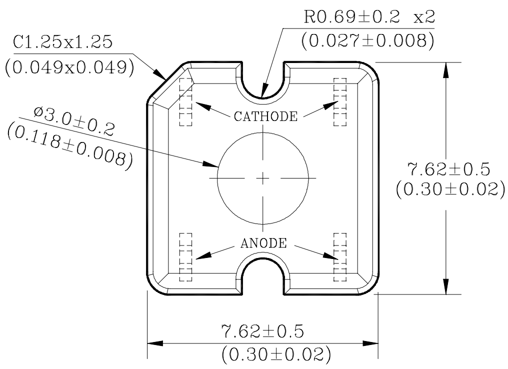
These parts are designed for high current operation and high flux output applications. In order to solve the high temperature produced by the higher current operation, the package's design features better thermal management characteristics than other LED solutions coupled with an efficient optical design.

This package design allows the lighting designer to reduce the number of LEDs required as well as the overall lighting system cost. The low profile package can be easily coupled to reflectors or lenses to efficiently distribute light and provide the desired illuminated appearance. This product family employs the world's brightest blue and green LED materials, which allow designers to match the color of popular lighting applications, such as signal board, exterior lighting, and traffic lighting.

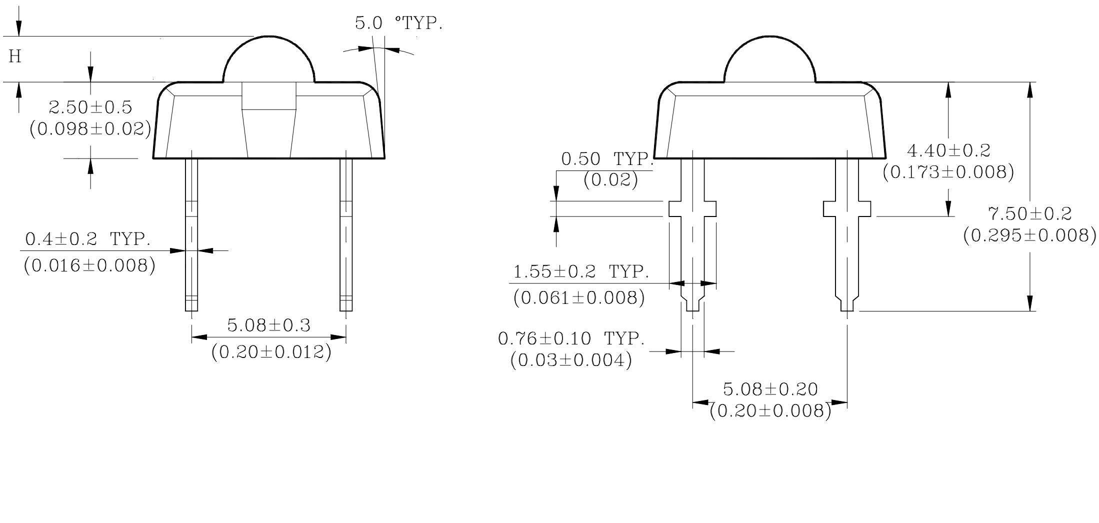
Devices

Part No. LTL*	Lens		Source	
	Color	Diffusion	Dice Source	Color
911TBKS/912TBKS	Water Clear	Non-Diffused	GaN on Sapphire	Blue
911TGKS/912TGKS	Water Clear	Non-Diffused	GaN on Sapphire	Green

Package Dimensions



Part No.	H
LTL911XXXXX	1.50(0.059)
LTL912XXXXX	1.90(0.075)



NOTES:
1. All dimensions are in millimeters (inches).
2. Protruded resin is 1.0mm(.04") max.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject change to without notice.

Absolute Maximum Ratings at T_A=25℃

Parameter	Blue	Green	Unit
Power Dissipation	190	190	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	100	100	mA
Continuous Forward Current	50	50	mA
Derating Linear From 45℃	0.91	0.91	mA/℃
Reverse Voltage (IR =100 μA)	5	5	V
Operating Temperature Range	-40℃ to + 100℃		
Storage Temperature Range	-55℃ to + 100℃		
LED Junction Temperature	125℃		
Soldering Preheat Temperature Lead Soldering Temperature	100℃ for 30 Seconds 260℃ for 5 Seconds [1.5mm (.06”) From Seating Plane]		

Notes:

1. Operation at currents below 10mA is not recommended.
2. Derating linear as shown in Fig. 3

Electrical / Optical Characteristics at T_A=25℃

Parameter	Symbol	Part No. LTL*	Min.	Typ.	Max.	Unit	Test Condition
Total Flux	ØV	LTL91xTBKS LTL91xTGKS		450 1000		mlm	IF = 50mA Note 1
Luminous Intensity / Total Flux	Iv / ØV	LTL911TxKS LTL912TxKS		0.8 1.2		mcd /mlm	
Viewing Angle	$2\theta 1/2$	LTL911TxKS LTL912TxKS		75 60		deg	Note 2 (Fig.5)
Peak Emission Wavelength	λP	LTL91xTBKS LTL91xTGKS		465 518		nm	Measurement @Peak (Fig.1)
Dominant Wavelength	λd	LTL91xTBKS LTL91xTGKS		470 525		nm	Note 3
Spectral Line Half-Width	$\Delta\lambda$	LTL91xTBKS LTL91xTGKS		25 35			
Forward Voltage	VF	LTL91xTBKS LTL91xTGKS		3.6	4.2	V	IF = 50mA
Reverse Voltage	VR		5	10		V	IR = 100 μA

Note: 1. ØV is the total luminous flux output as measured with an integrating sphere.

2. $\theta 1/2$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

3. The dominant wavelength, λd is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

Typical Electrical / Optical Characteristics Curves

(25℃ Ambient Temperature Unless Otherwise Noted)

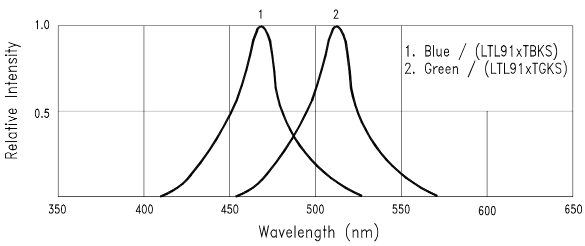


Fig.1 Relative Intensity v.s Wavelength

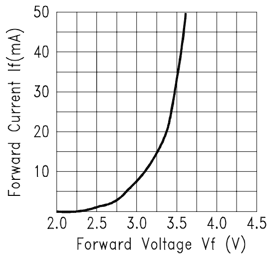


Fig.2 Forward Current v.s Forward Voltage

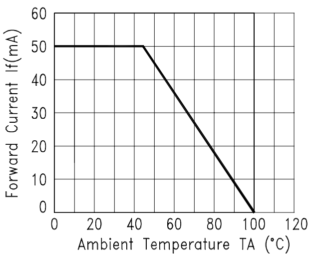


Fig.3 Forward Current v.s Ambient Temperature

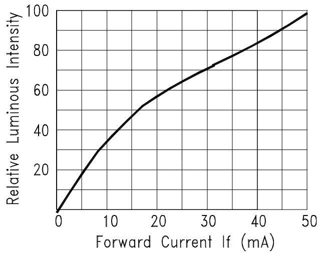


Fig.4 Relative Luminous Intensity v.s Forward Current

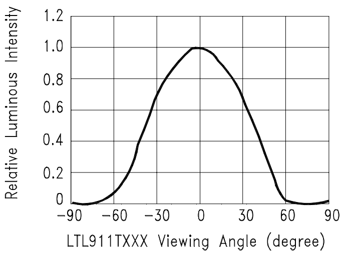


Fig.5−1 Relative Luminous Intensity v.s Off Axis Angle

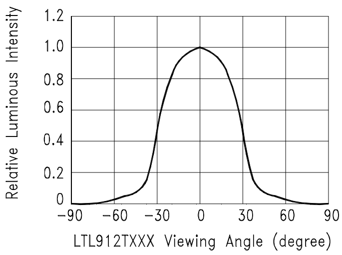


Fig.5−2 Relative Luminous Intensity v.s Off Axis Angle