



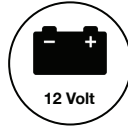
# LTH3MM12V Series

## 3mm (T-1) Through Hole LED

### Built in Resistor for 12VDC



#### LTH3MM12VFR4600 - Blue Water-Clear T-1 (3 mm) LED



### Applications

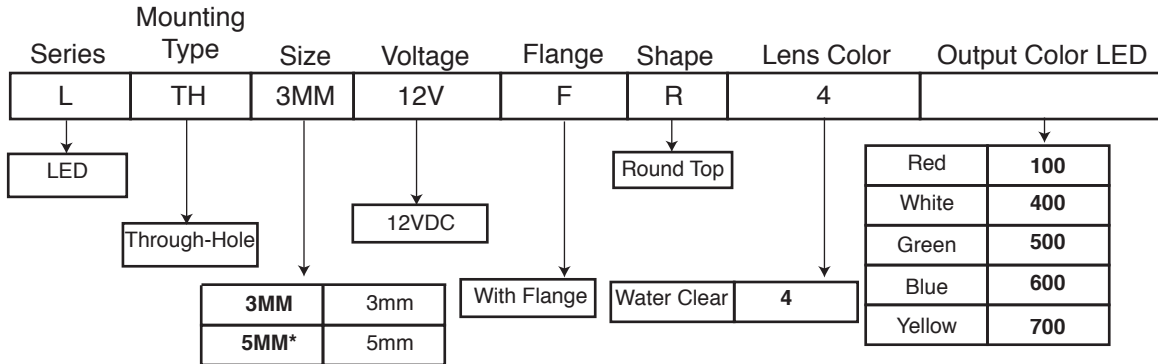
- Automotive
- Indoor and Outdoor Indication
- Industrial
- Appliances and Consumer Equipments
- Storage Servers
- Boats
- Railway
- Electronic Devices
- Residential and Landscape Lighting
- Infrastructure

### Key Features

- Made with AlInGaP (Blue)
- Through-hole technology
- Integrated resistor for 12VDC operation
- With Flange
- Water-Clear Lens
- LED Bulb Size: 3mm (T-1), also available in 5mm (T-1 3/4)
- RoHS and REACH Compliant
- High-Brightness LED
- Available in 5 colors (red, green, white, blue and yellow)
- Viewing Angle: 30° (red, green, blue, yellow) and 35° (white)
- Moisture Sensitive Level (MSL): 2

## Ordering Data

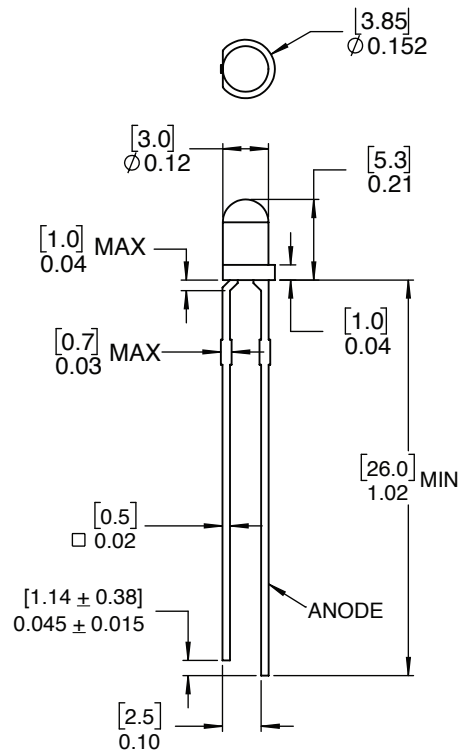
The LTH3MM12V Series is available in a range of standard features and options. To specify your LED, simply choose one option from each column.



Part Numbers	Color
LTH3MM12VFR4100	Red
LTH3MM12VFR4400	White
LTH3MM12VFR4500	Green
LTH3MM12VFR4600	Blue
LTH3MM12VFR4700	Yellow

\*For 5mm option, please consult LTH5MM12V Series' datasheet

## Product Dimensions



### Notes:

1. All dimensions are in [millimeters] inches
2. Tolerance is  $\pm[0.25]$  0.01 unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice

## Product Dimensions

### ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

Parameter	Symbol	Ratings	Unit
Peak Forward Current (duty 1/10 @ 1KHz)	I <sub>FP</sub>	100	mA
Recommended Operating Current	I <sub>F(REC)</sub>	20	mA
Power Dissipation	P <sub>D</sub>	85	mW
Reverse Voltage	V <sub>R</sub>	5	V
Electrostatic Discharge	ESD	200	V
Operating Temperature Range	T <sub>OPR</sub>	-40~+85	°C
Storage Temperature Range	T <sub>STG</sub>	-40~+100	°C
Lead Soldering Temperature Range 1.6mm (1/16 inch) from body	T <sub>SOL</sub>	260°C for 5 seconds	

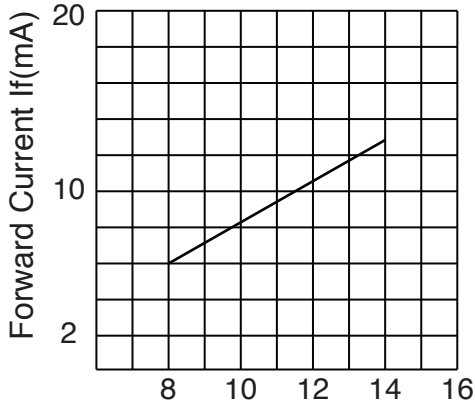
### OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

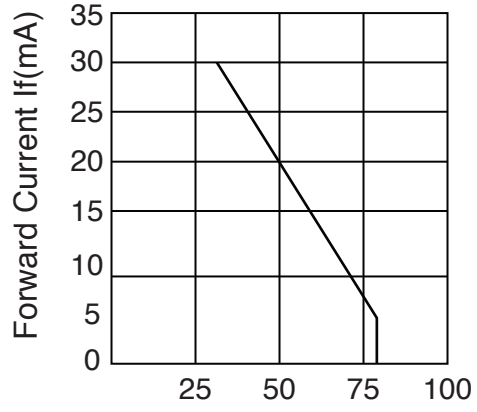
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> =12mA	800	1200	2000	mcd
Peak Emission Wavelength	λ <sub>P</sub>		--	470	--	nm
Dominant Wavelength	λ <sub>D</sub>		465	467	470	nm
Forward Voltage	V <sub>F</sub>		11	12	13	V
Spectral Line Half-Width	Δλ		--	45	--	nm
Viewing Angle	2θ <sub>1/2</sub>		--	30	--	deg
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	--	--	10	μA

# Product Specifications

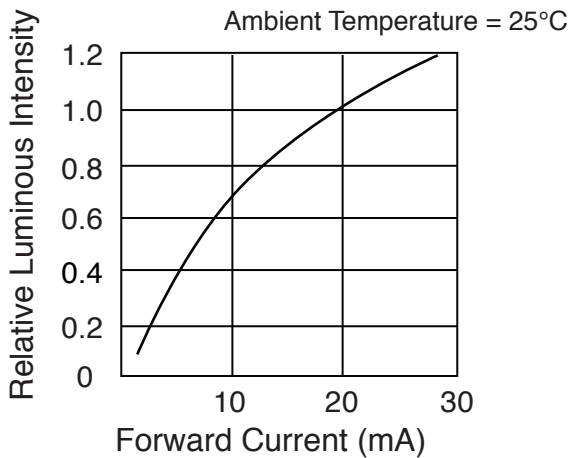
## Typical Electrical-Optical Characteristic Curves



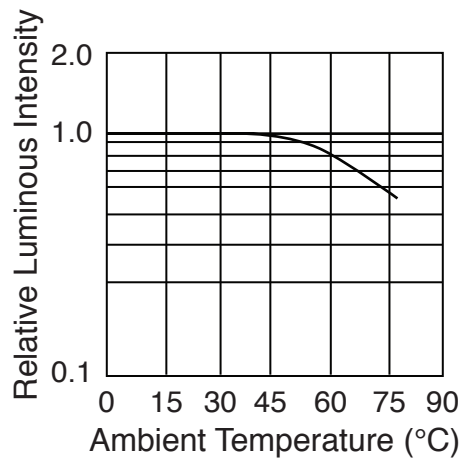
Forward Current vs. Forward Voltage



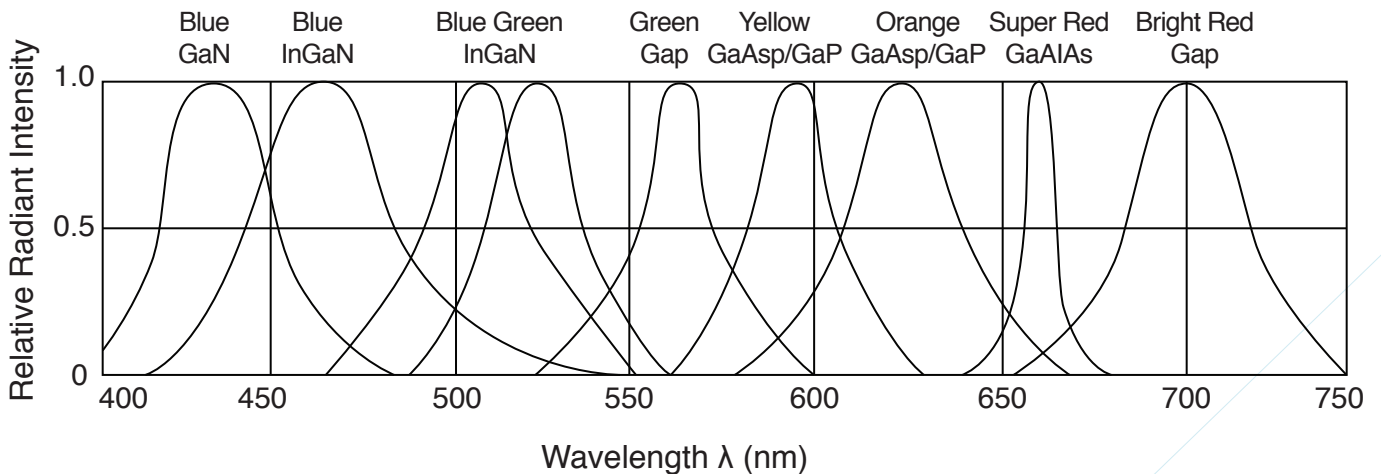
Forward Current Derating Curve



Luminous Intensity vs. Forward Current



Luminous Intensity vs. Ambient Temperature



Relative Intensity vs. Wavelength

## Application Notes

### 1. Storage

The Storage Temperature and RH are: 5°C ~ 30°C, RH 60% or less.

We suggest our customers use our products within a year.

If the moisture absorbent material (silica gel) has faded away or the LEDs exceeded the storage time, bake treat more than 24 hours at 60°C ±5°C.

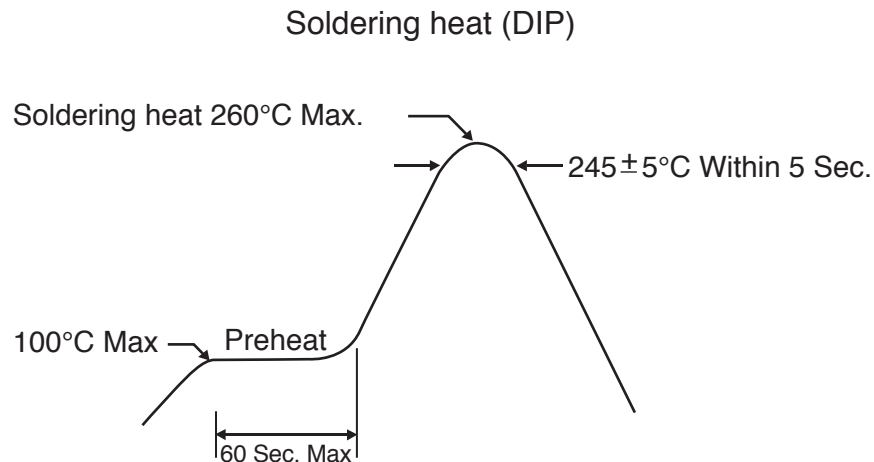
### 2. Electrostatic Discharge (ESD)

Static electricity or surge voltage will damage the LEDs.

Recommendations: Use a conductive wrist band or anti-electrostatic glove when handling these LEDs. All devices, equipment and machinery must be properly grounded.

Work tables, storage racks, etc. should be properly grounded. In the event of a manual working in process, make sure the devices are well protected from ESD at any time.

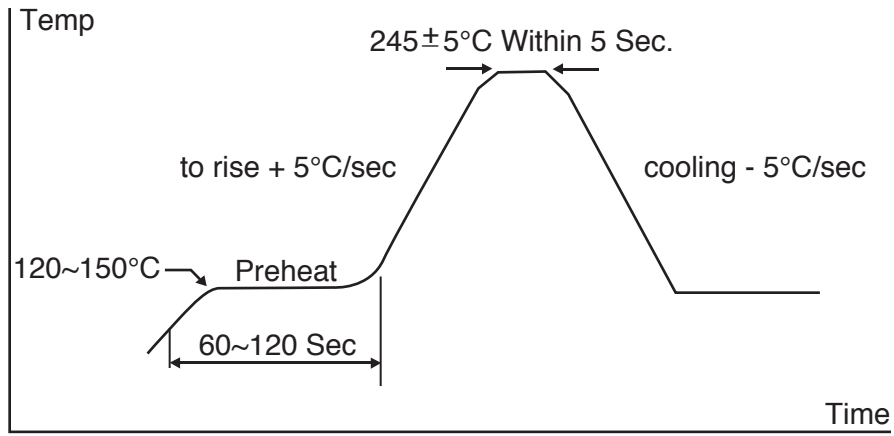
### 3. Recommended Soldering Condition



Temperature at tip of soldering iron: 350°C Max  
Soldering time: 3 sec ±1 sec (once only)

## Application Notes

### 4. Reflow Profile



## Compliances and Approvals



## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for* [Standard LEDs - Through Hole category:](#)

*Click to view products by* [Visual Communications Company manufacturer:](#)

Other Similar products are found below :

[LTL-10254W](#) [LTL-1214A](#) [LTL-3251A](#) [LTL-4262N](#) [LTL-433P](#) [LTL-5234](#) [LTL87HTBK](#) [LTL-87HD4B](#) [HLMP-EL30-PS0DD](#)  
[1L0532V23G0TD001](#) [NSPW500CS](#) [NTE30036](#) [NTE30044](#) [NTE30059](#) [NTE3020](#) [LD CQDP-1U3U-W5-1-K](#) [LO566UHR3-70G-A3](#)  
[LP379PPG1C0G0300001](#) [SLX-LX3044GD](#) [SLX-LX3044ID](#) [SLX-LX3044YD](#) [1.90690.3330000](#) [SSS-LX4673ID-410B](#) [1L0532Y24I0TD001](#)  
[264-7SYGD/S530-E2](#) [HLMP-1301-G00FG](#) [HLMP1385](#) [LTL-10224W](#) [LTL-1224A](#) [LTL-1234A](#) [LTL-2251AT](#) [LTL-403HR](#) [LTL-4222](#)  
[LU7-E-B](#) [4380H1](#) [TLHY44K1L2](#) [484-10SYGT/S530-E2](#) [HLMP-3962-F0002](#) [HLMP-GG15-R0000](#) [323-2SURD/S530-A3](#) [L53SRC/E-Z](#) [L-](#)  
[7679C1ZGC](#) [4302T1-5V](#) [4306D23](#) [4363D1/5](#) [WP1503SRC/J4](#) [WP153GDT](#) [WP153YDT](#) [WP1543SGC](#) [WP1543SURC](#)