LTH5MM12V Series
5mm (T-1 3/4) Through Hole LED Built in Resistor for 12VDC

LTH5MM12VFR4600 - Blue Water-Clear T-1 3/4 (5 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 InGaN (Blue)
- Through-hole technology
- Integrated resistor for 12VDC operation
- With Flange
- Water-Clear Lens
- LED Bulb Size: 5mm (T-1 3/4), also available in 3mm (T-1)
- RoHS and REACH Compliant
- High-Brightness LED
- Available in 5 colors (red, green, white, blue and yellow)
- Viewing Angle: 16º (red, green, yellow) and 20º (blue, white)
- Moisture Sensitive Level (MSL): 2

Ordering Data

The LTH5MM12V Series is available in a range of standard features and options.
To specify your LED, simply choose one option from each column.

Series	Mounting Type	Size	Voltage	Flange	Shape	Package Color	Output Color LED
L	TH	5MM	12V	F	R	4	

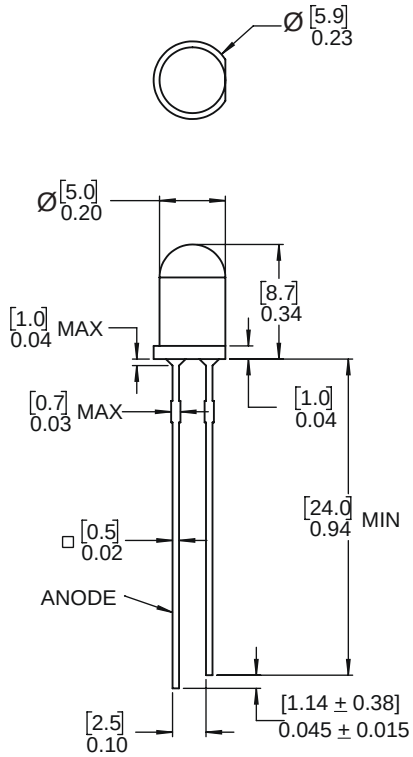
- Series: L → LED
- Mounting Type: TH → Through-Hole
- Size: **3MM*** → 3mm; **5MM** → 5mm
- Voltage: 12V
- Flange: F → With Flange
- Shape: R → Round Top
- Package Color: 4 → Water-Clear
- Output Color LED:

Red	**100**
White	**400**
Green	**500**
Blue	**600**
Yellow	**700**

*For 3mm option, please consult LTH3MM12V Series' datasheet

Part Numbers	Color
LTH5MM12VFR4100	Red
LTH5MM12VFR4400	White
LTH5MM12VFR4500	Green
LTH5MM12VFR4600	Blue
LTH5MM12VFR4700	Yellow

Product Dimensions



Notes:
1. All dimensions are in [millimeters] inches.
2. Tolerance is ±[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)

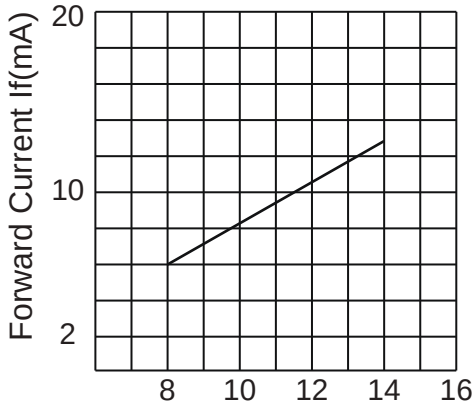
Parameter	Symbol	Ratings	Unit
Peak Forward Current (duty 1/10 @ 1KHz)	I_{FP}	100	mA
Recommended Operating Current	$I_{F(REC)}$	20	mA
Power Dissipation	P_D	85	mW
Reverse Voltage	V_R	5	V
Electrostatic Discharge	ESD	200	V
Operating Temperature Range	T_{OPR}	-40~+85	°C
Storage Temperature Range	T_{STG}	-40~+100	°C
Lead Soldering Temperature Range 1.6mm (1/16 inch) from body	T_{SOL}	260°C for 5 seconds	

OPTICAL-ELECTRICAL CHARACTERISTICS (Ta=25°C)

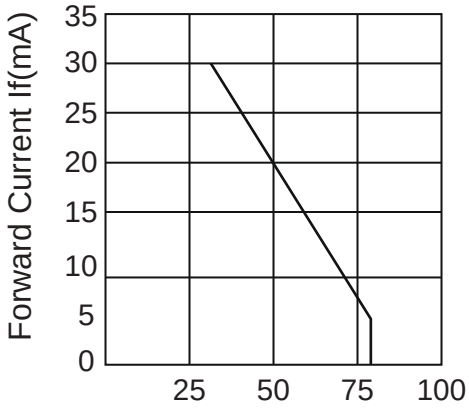
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Luminous Intensity	I_V	I_F=12mA	1500	2000	3000	mcd
Peak Emission Wavelength	λ_P		--	470	--	nm
Dominant Wavelength	λ_D		465	467	470	nm
Forward Voltage	V_F		11	12	13	V
Spectral Line Half-Width	$\Delta\lambda$		--	45	--	nm
Viewing Angle	$2\Theta_{1/2}$		--	20	--	deg
Reverse Current	I_R	V_R=5V	--	--	10	μA

Product Specifications

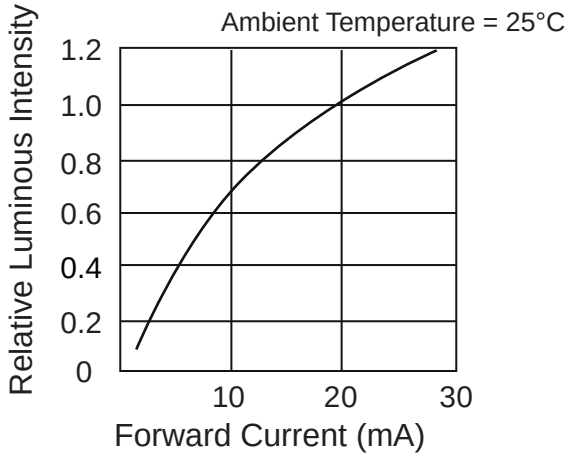
Typical Electrical-Optical Characteristic Curves



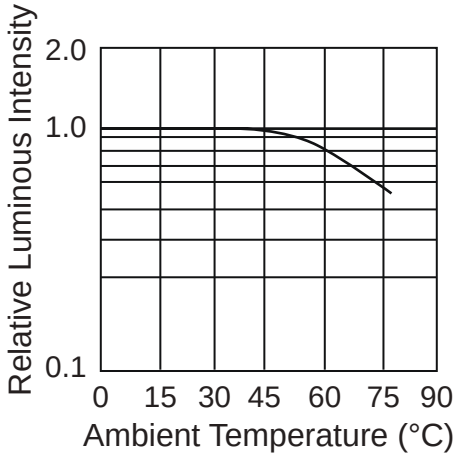
Forward Current vs. Forward Voltage



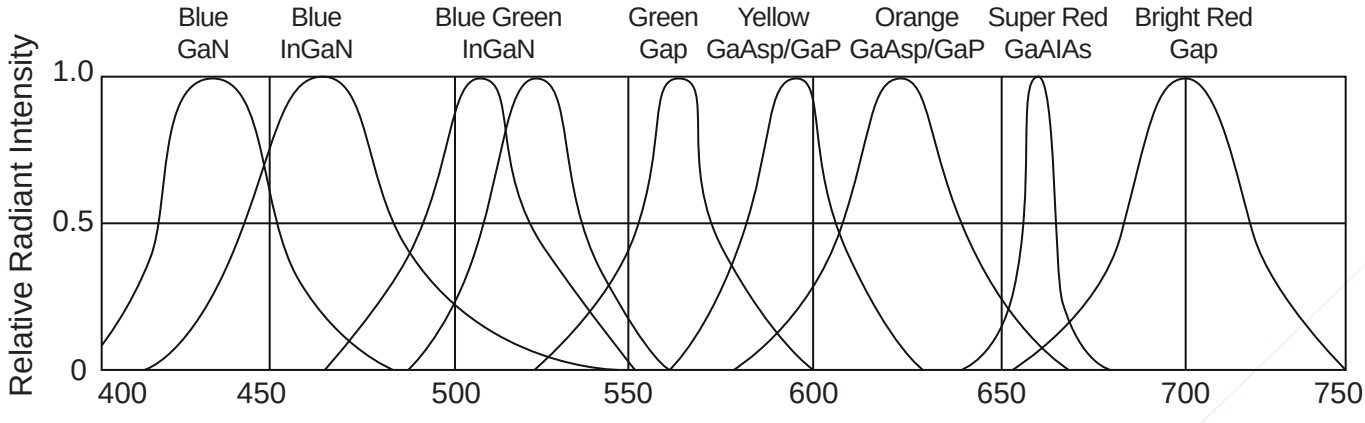
Forward Current Derating Curve



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)

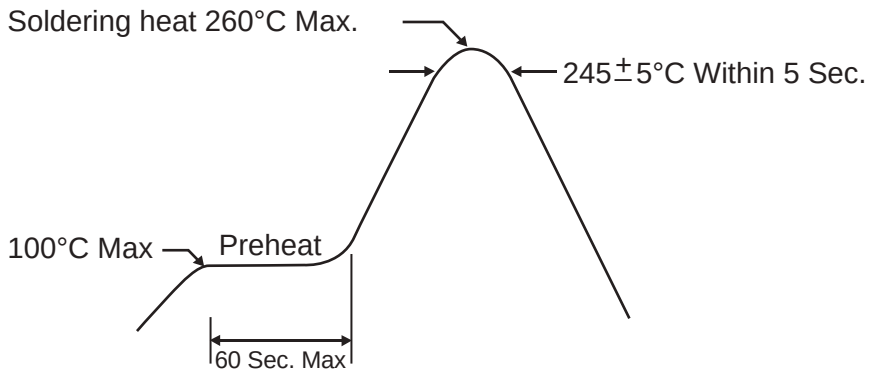
Static electricity or surge voltage will damage the LEDs.

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

Soldering heat (DIP)

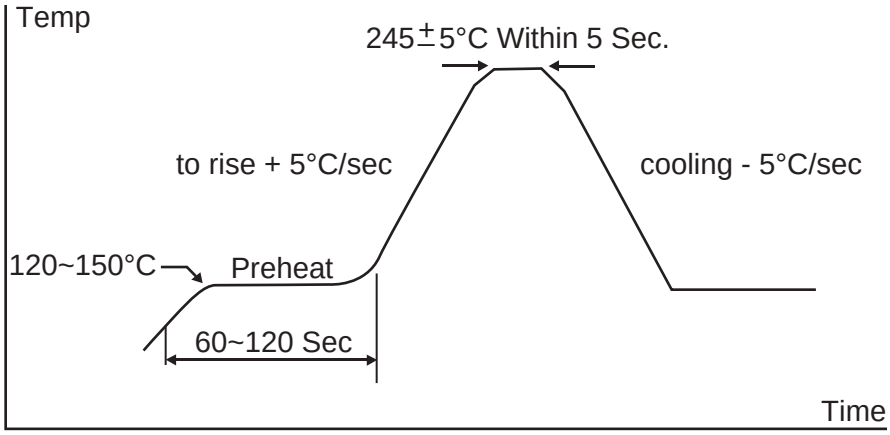


Temperature at tip of soldering iron: 350°C Max

Soldering time: 3 sec ±1 sec (once only)

Application Notes

4. Reflow Profile



Compliances and Approvals