

# Kingbright

## T-1 3/4 (5mm) ROUND LED LAMP



### ATTENTION

OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC DISCHARGE SENSITIVE DEVICES

W7113MBDK

BLUE

### Features

- LOW POWER CONSUMPTION.
- POPULAR T-1 3/4 DIAMETER PACKAGE.
- GENERAL PURPOSE LEADS.
- RELIABLE AND RUGGED.
- LONG LIFE - SOLID STATE RELIABILITY.
- AVAILABLE ON TAPE AND REEL.

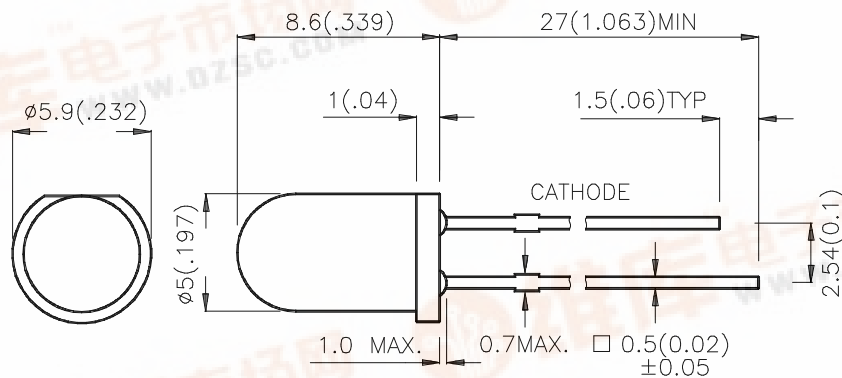
### Description

The Blue source color devices are made with GaN on SiC Light Emitting Diode.

Static electricity and surge damage the LEDs. It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

### Package Dimensions



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25(0.01)$  unless otherwise noted.
3. Lead spacing is measured where the lead emerge package.
4. Specifications are subject to change without notice.





### Selection Guide

Part No.	Dice	Lens Type	I <sub>v</sub> (mcd) @ 20 mA		Viewing Angle
			Min.	Typ.	2θ1/2
W7113MBDK	BLUE (GaN)	BLUE DIFFUSED	10	40	20°

Note:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

### Electrical / Optical Characteristics at T<sub>A</sub>=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ <sub>peak</sub>	Peak Wavelength	Blue	430		nm	I <sub>F</sub> =20mA
λ <sub>D</sub>	Dominate Wavelength	Blue	466		nm	I <sub>F</sub> =20mA
Δλ <sub>1/2</sub>	Spectral Line Half-width	Blue	60		nm	I <sub>F</sub> =20mA
C	Capacitance	Blue	100		pF	V <sub>F</sub> =0V;f=1MHz
V <sub>F</sub>	Forward Voltage	Blue	4.0	5.2	V	I <sub>F</sub> =20mA
I <sub>R</sub>	Reverse Current	Blue		10	uA	V <sub>R</sub> = 5V

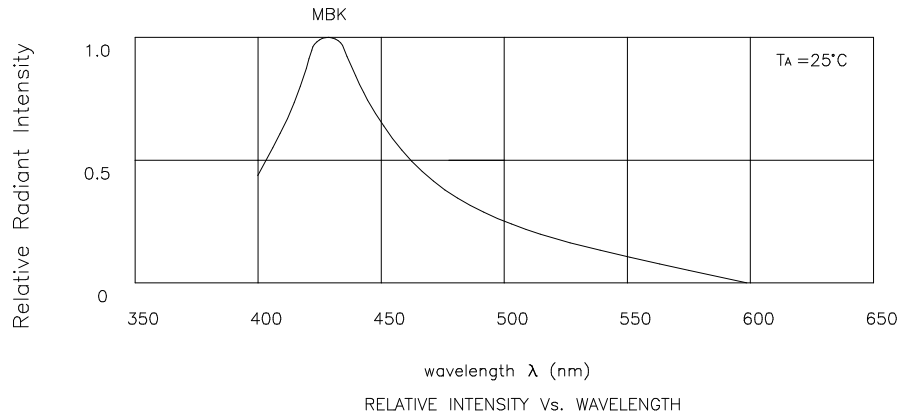
### Absolute Maximum Ratings at T<sub>A</sub>=25°C

Parameter	Blue	Units
Power dissipation	105	mW
DC Forward Current	30	mA
Peak Forward Current [1]	150	mA
Reverse Voltage	5	V
Operating / Storage Temperature	-40°C To +85°C	
Lead Solder Temperature [2]	260°C For 5 Seconds	

Notes:

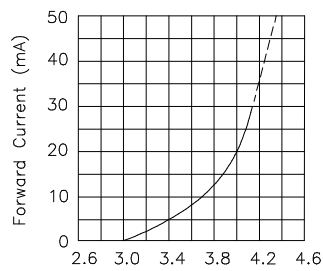
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 2mm below package base.

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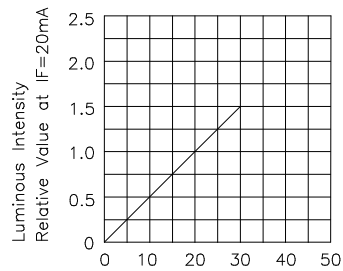


**Blue**

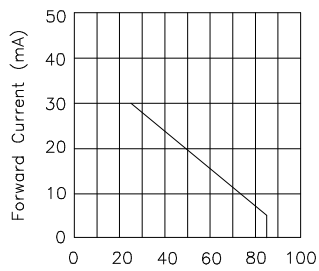
**W7113MBDK**



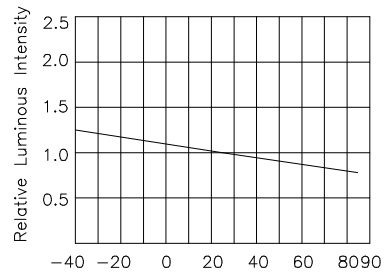
Forward Voltage(V)  
FORWARD CURRENT Vs.  
FORWARD VOLTAGE



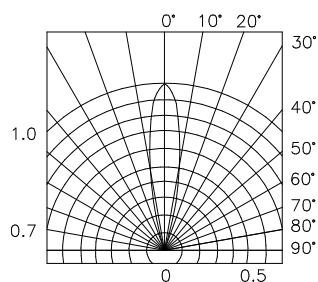
$I_F$ -Forward Current (mA)  
LUMINOUS INTENSITY Vs.  
FORWARD CURRENT



Ambient Temperature  $T_A$  (°C)  
FORWARD CURRENT  
DERATING CURVE



Ambient Temperature  $T_A$  (°C)  
LUMINOUS INTENSITY Vs.  
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION