



# CMD333UWC

## 5mm (T-1 3/4) Through Hole LED

White - Clear Package



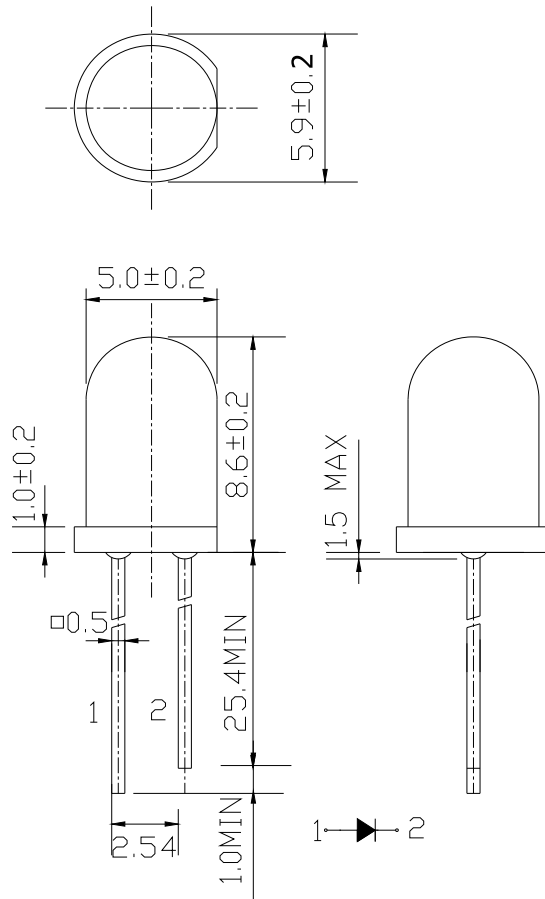
### Applications

- Automotive
- Indoor Indication
- Industrial
- Appliances
- Electronic Services
- Residential and Landscape Lighting

### Key features

- High Luminous Output
- Made with InGan (White)
- Through Hole Technology
- With Flange
- Water Clear Lens
- LED Bulb Size: 5mm (T-1 3/4)
- RoHS and REACH compliant
- Viewing angle: 15°

# Package Dimension



## Notes:

1. Dimensions are in millimeters.
2. Tolerance is  $\pm 0.25$  mm without noted

# Product Specifications

Chip		Lens Color
Material	Emitted Color	
InGaN	White	Water Clear

## Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Rating	Unit
Forward Current	IF	30	mA
Operating Temperature	Topr	-40~ +80	°C
Storage Temperature	Tstg	-40~ +100	°C
Soldering Temperature	Tsol	260 (for 5 second)	°C
Power Dissipation	Pd	120	mW
Peak Forward Current (Duty 1/10 @ 1KHZ)	IF (Peak)	90	mA
Reverse Voltage	VR	5	V

## Electronic Optical Characteristics:

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	2800	4000	----	mcd	IF=20mA
Viewing Angle	2θ 1/2	----	15	----	deg	IF=20mA
Forward Voltage	VF	-----	3.5	4.0	V	IF=20mA
Spectrum Radiation Bandwidth	Δλ	-----	20	-----	nm	IF=20mA
Reverse Current	IR	----	----	50	μA	VR=5V
Chromaticity	x	----	0.31	----		IF=20mA
Coordinates	y	----	0.32	----		IF=20mA

Rank	Coordinates				
c (C)	x	0.255	0.255	0.280	0.280
	y	0.210	0.250	0.280	0.240
d (D)	x	0.280	0.280	0.305	0.305
	y	0.240	0.280	0.310	0.270
Tolerance		x±0.02		y±0.02	

Ranks	Intensity Iv (mcd)	
	Min	Max
	L2	2800
M1	4000	5600
M2	5600	8000
N1	8000	11200

Ranks	Forward Voltage VF (Volts)	
	Min	Max
V5	2.9	3.2
V6	3.2	3.5
V7	3.5	3.8

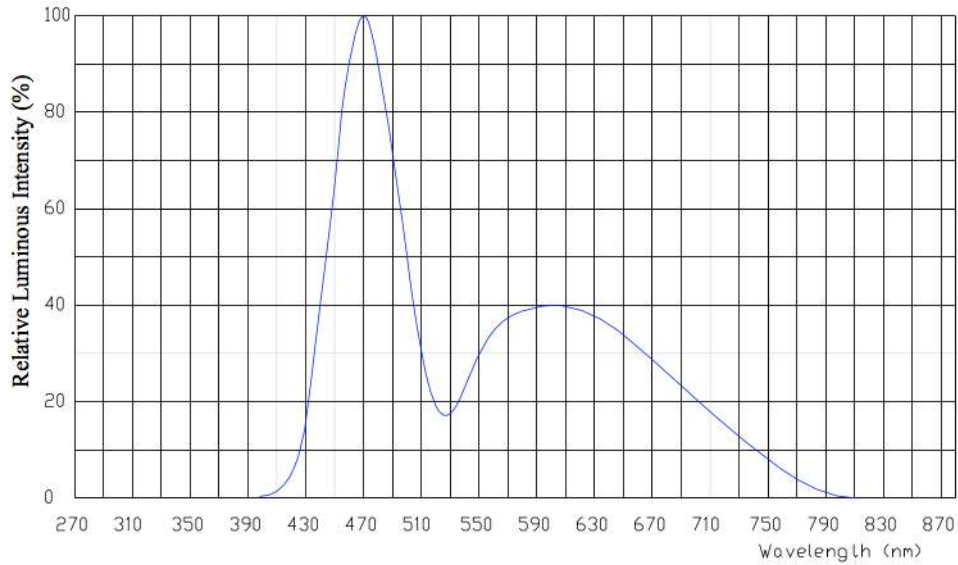
**Notes:**

1. Luminous intensity is tested at a current pulse duration of 25ms and tolerance of ±15%
2. Voltage are tested at a current pulse duration of 25ms and tolerance of ±0.1V

# Relative Spectral Emission

$$I_{rel} = f(\lambda), T_A = 25^\circ\text{C}, I_F = 20\text{mA}$$

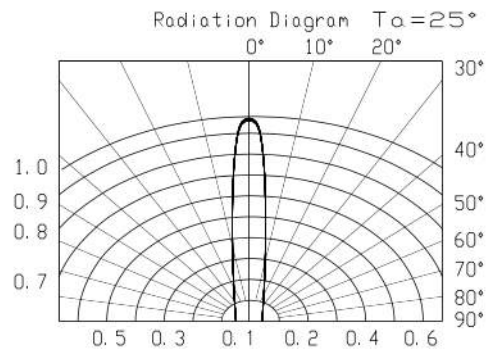
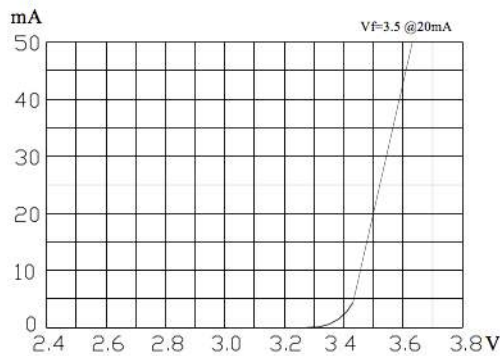
$V(\lambda)$  = Standard eye response curve



**Forward Current**  $I_F = f(V_F)$

**Radiation Characteristic**  $I_{rel} = f(\varphi)$

$T_A = 25^\circ\text{C}$



## Reliability Test Conditions

NO.	Conditions	Test Conditions	Test Hour/ Cycle	Sample Size	Accept/ Reject
A1	Solder Heat	Temperature: 260°C ± 5 °C	5 SECS	76PCS	0/1
A2	Thermal Shock	H : +100°C 5min ∫ 10 secs L : -10°C 5min	50 Cycles	76PCS	0/1
A3	Temperature Cycle	H : +85°C 30min ∫ 5 mins L : -55°C 30min	50 Cycles	76PCS	0/1
A4	Low Temperature Storage	Temperature: -55°C	1000 HRS	76PCS	0/1
A5	High Temperature Storage	Temperature: 100°C	1000 HRS	76PCS	0/1
A6	High Temperature / High Humidity	85°C/ 85% RH	1000 HRS	76PCS	0/1
A7	DC Operating Life	TEMP : 25°C IF=20mA	1000 HRS	76PCS	0/1

## Compliances and Approvals

