

# CERAMIC LED SPECIFICATION

Drawn by	Checked by	Approved by

Rev. 0.0



**Head Office** : 48-40, Gamnae-gil, Ilsandong-gu, Goyang-si,  
Gyeonggi-do, Korea.

TEL : 031-932-8351~3. FAX : 031-932-8355

E-mail : info@ujin-led.co.kr

**Overseas Factory** : Plot#61, Sector#7 Export Processing Zone,  
Chittagong, Bangladesh.

TEL : (880)31-74-0050 FAX : (880)31-74-0038



**Head Office** : 48-40, Gamnae-gil, Ilsandong-gu, Goyang-si, Gyeonggi-do, Korea  
TEL : 031-932-8351~3 FAX : 031-932-8355 E-mail : info@ujin-led.co.kr  
**Overseas Factory** : Plot#61, Sector#7 Export Processing Zone, Chittagong, Bangladesh  
TEL : (880)31-74-0050 FAX : (880)31-74-0038

## ULP-RM02A-BN

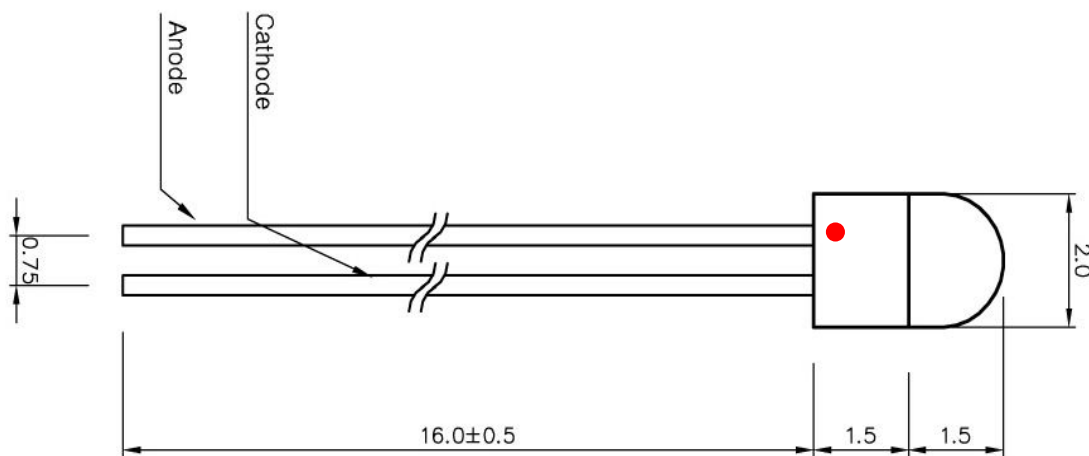
### 1. Features

- 2mm ceramic type LED lamp.
- AllnGaP super bright red.
- Water clear epoxy-molding type.
- High reliability and long life.
- High luminous intensity.
- Lead free(RoHS compliant).
- Viewing angle 150 deg

### 2. Applications

- Analytical Instruments.
- Medical Instrument.
- Toy Instrument.
- Panel Indications.
- Fishing float.
- Color printers and Scanners

### 3. Dimension



Unit :mm Tolerance ±0.2



**Head Office** : 48-40, Gamnae-gil, Ilsandong-gu, Goyang-si, Gyeonggi-do, Korea  
 TEL : 031-932-8351~3 FAX : 031-932-8355 E-mail : info@ujin-led.co.kr  
**Overseas Factory** : Plot#61, Sector#7 Export Processing Zone, Chittagong, Bangladesh  
 TEL : (880)31-74-0050 FAX : (880)31-74-0038

## ULP-RM02A-BN

### 4. Absolute Maximum Ratings (Ta=25°C)

Parameter	Sym	Rating	Unit
Forward Current	IF	30	mA
Reverse Voltage	VR	5	V
Power Dissipation	PD	84	mW
Operation Temp	Topg	-35 ~ + 85	°C
Storage Temp	Tstg	-40 ~ + 100	°C

### 5. Opto electric Characteristics (Ta=25°C)

Parameter	Sym	Condition	Min	Typ	Max	Unit
Forward Voltage	VF	IF = 20mA	1.90		2.80	V
Reverse Current	IR	VR = 5V			10	μA
Luminous Intensity	Iv	IF = 20mA		1000		mcd
Dominant Wavelength	λd	"	620		635	nm
Line half width	Δλ	"		20		nm

### 6. Soldering Conditions ( at 2mm distance from lead entry)

Soldering Temp ≤ 260°C

Soldering Time : 3 sec at location 2.0mm away from the base of the epoxy bulb.

### 7. Caution in ESD

Static Electricity and surge damages 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 properly grounded.



**Head Office** : 48-40, Gamnae-gil, Ilsandong-gu, Goyang-si, Gyeonggi-do, Korea  
 TEL : 031-932-8351~3 FAX : 031-932-8355 E-mail : info@ujin-led.co.kr  
**Overseas Factory** : Plot#61, Sector#7 Export Processing Zone, Chittagong, Bangladesh  
 TEL : (880)31-74-0050 FAX : (880)31-74-0038

## ULP-RM02A-BN

### 8. Reliability Test

#### 1) Result of reliability Test

Test Item	Test Conditions	Note	Number of Damaged
Steady State Operating Life	Ta = 25°C IF=20mA	1000hrs	0/100
Steady State Operating Life of Low Temperature	Ta=30°C, IF=20mA	1000hrs	0/100
Steady State Operating Life of High Temperature	Ta=85°C, IF=20mA	1000hrs	0/100
Steady State Operating Life of High Humidity Heat	60°C, RH=90% IF=15mA	500hrs	0/100
Resistance to Soldering Heat	Tsld=260 ± 5°C, 10sec. 3mm from the base of the epoxy bulb	1 time	0/100
Solder ability	Tsld=260 ± 5°C, 5sec. (using flux)	1 time Over 90%	0/100
Thermal Shock	0°C ~ 100°C 15sec. 15sec.	100 cycles	0/100
Temperature Cycle	40°C ~ 25°C ~ 100°C ~ 25°C 30min. 5min. 30min. 5min.	100 cycles	0/100
Moisture Resistance Cyclic	25°C ~ 65°C ~ 10°C 90%RH 24hrs / 1cycle	10 cycles	0/100
High Temperature Storage	Ta = 100°C,	1000hrs	0/100
Temperature Humidity Storage	Ta = 60°C RH=90%	1000hrs	0/100
Low Temperature Storage	Ta = -40°C	1000hrs	0/100

#### 2) The reliability criteria of Lamp LED

Item	Symbol	Test Conditions	Criteria for Judgement.	
			Min.	Max.
Forward Voltage	VF	IF=20mA	-	U.S.L. *) X 1.1
Reverse Current	IR	VR=5V	-	U.S.L. *) X 2.0
Luminous Intensity	IV	IF=20mA	L.S.L**) X 0.7	-

\*) U.S.L. : Upper Standard Level

\*\*) L.S.L. : Lower Standard Level.



**Head Office** : 48-40, Gamnae-gil, Ilsandong-gu, Goyang-si, Gyeonggi-do, Korea  
 TEL : 031-932-8351~3 FAX : 031-932-8355 E-mail : info@ujin-led.co.kr  
**Overseas Factory** : Plot#61, Sector#7 Export Processing Zone, Chittagong, Bangladesh  
 TEL : (880)31-74-0050 FAX : (880)31-74-0038

## ULP-RM02A-BN

### ■ Typical Electro-Optical Characteristics Curve:

Fig 1. Forward Current vs. Forward Voltage

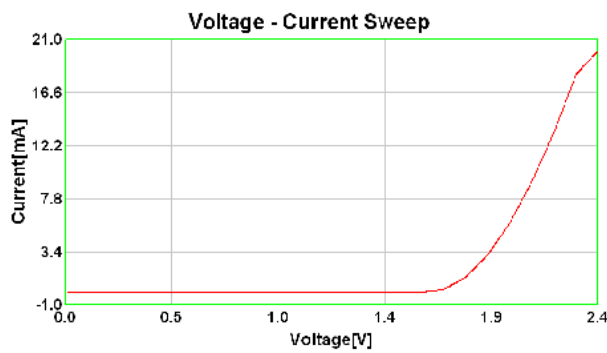


Fig 2. Relative Intensity vs. Forward Current

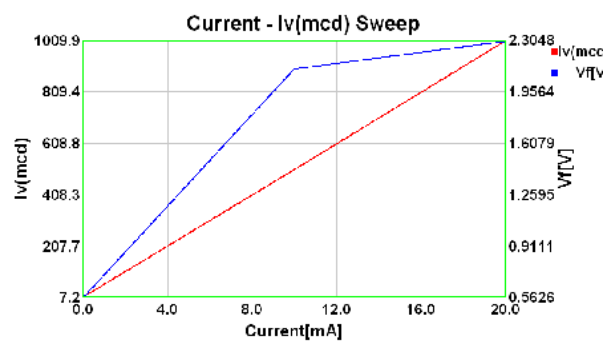


Fig 3. Relative Intensity vs. Wavelength

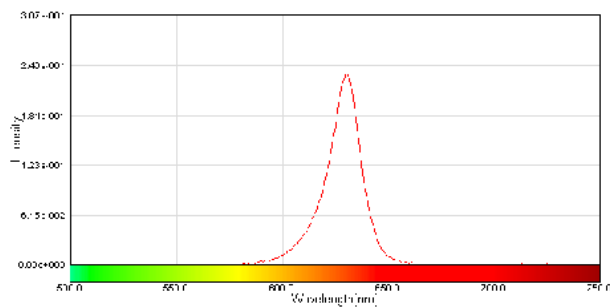


Fig 4. Relative Intensity vs Color coordinate

