

# DATA SHEET

MODEL No : LL1530QUHR1-301  
DOC. No : LMS-15-145  
Revision: 01

Description:

30 Degree 5mm Round LED Lamp in  
High Red Color with Water Clear Lens  
and No Stopper

Dice Material: AlGaInP

Confirmed  
by Customer: \_\_\_\_\_

Date: \_\_\_\_\_

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### Absolute Maximum Ratings at Ta = 25°C

Items	Symbol	Absolute maximum Rating	Unit
Forward Current	$I_F$	50	mA
Peak Forward Current*	$I_{FP}$	200	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation	$P_D$	130	mW
Operation Temperature	$T_{opr}$	-40 ~ +95	°C
Storage Temperature	$T_{stg}$	-40 ~ +100	°C
Lead Soldering Temperature	$T_{sol}$	Max.260°C for 5 sec Max. (3mm from the base of the epoxy bulb)	

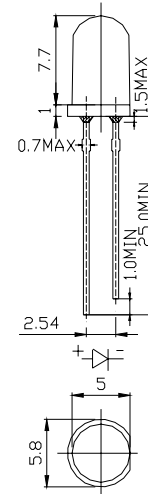
\*pulse width  $\leq 0.1\text{msec}$  duty  $\leq 1/10$

### Typical Electrical & Optical Characteristics ( Ta = 25°C)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	$V_F$	$I_F = 20\text{mA}$	1.7	2.1	2.6	V
Reverse Current	$I_R$	$V_R = 5\text{V}$	---	---	10	$\mu\text{A}$
Dominant Wavelength	$\lambda_D$	$I_F = 20\text{mA}$	---	624	---	nm
Luminous Intensity	$I_V$	$I_F = 20\text{mA}$	---	4000	---	mcd
50% Power Angle	$2\theta_{\frac{1}{2}H-H}$	$I_F = 20\text{mA}$	---	30	---	deg
	$2\theta_{\frac{1}{2}V-V}$	$I_F = 20\text{mA}$	---	--	---	deg

### Important Notes:

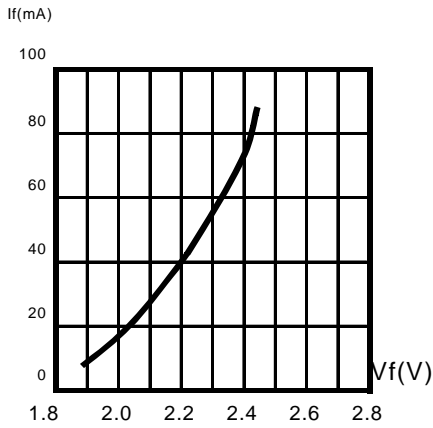
- 1) All ranks will be included per delivery, rank ratio will be determined by LEDMAN.
- 2) Tolerance of measurement of luminous intensity is  $\pm 15\%$ .
- 3) Tolerance of measurement of dominant wavelength is  $\pm 1\text{nm}$ .
- 4) Tolerance of measurement of  $V_f$  is  $\pm 0.05\text{V}$ .
- 5) Packaging methods are available for selection, please refer to PACKAGING STANDARD.
- 6) Please refer to LED LAMP RELIABILITY TEST STANDARD for reliability test conditions.



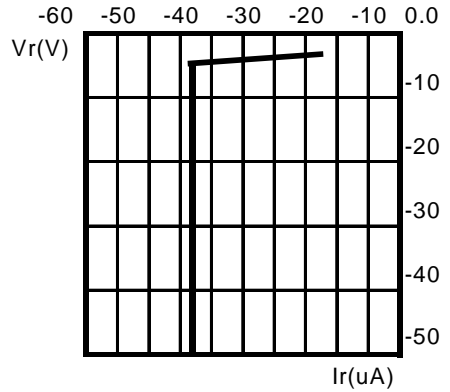
- NOTES: 1. ALL DIMENSIONS ARE IN mm TOLERANCE IS  $\pm 0.25\text{mm}$  UNLESS OTHERWISE NOTED.
2. AN EPOXY MENISCUS MAY EXTEND ABOUT 1.5mm DOWN THE LEADS.
3. BURR AROUND BOTTOM OF EPOXY MAY BE 0.5 mm MAX.

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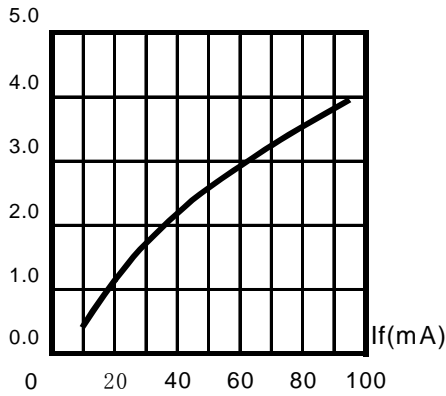
**Typical Optical-Electronic Characteristic Curves**



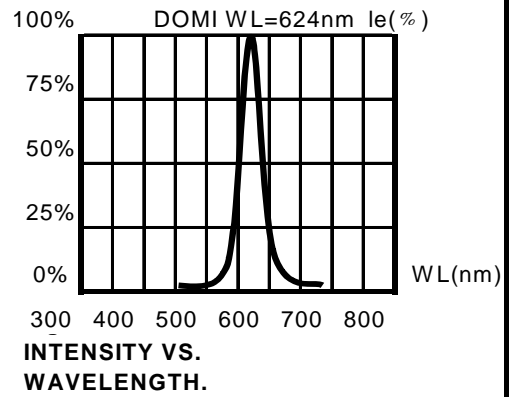
**Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.**



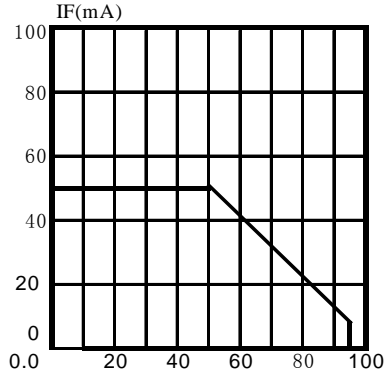
**Fig.2 REVERSE CURRENT VS. REVERSE VOLTAGE.**



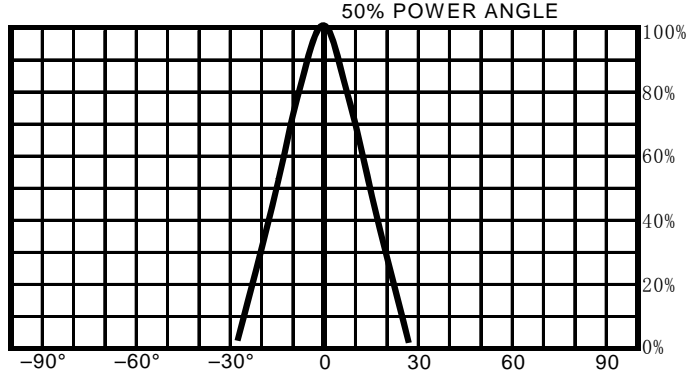
**Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.**



**INTENSITY VS. WAVELENGTH.**



**FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE(Tjmax=105°C)**



**Fig.6 FAR FIELD PATTERN**