

1W Green High Power LED Datasheet



Features:

- Red Copper Base, 99.99% Purity Gold Wire, Famous Brand Chips
- High Lumen Output and High Efficacy
- Stable Quality & High Cost Performance
- Wavelength Range 365-980nm
- High CRI, can reach 93+
- Environmental Friendly; ROHS Compliance

Applications:

- Traffic Signal Lighting
- Outdoor Landscape Lighting, Stage Lighting
- Flood Light, High Bay Light, Tunnel Light and other LED Outdoor Lights
- LED Aquarium Light, LED Plant Growing Light..

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PRODUCT NAMING RULES

LKL	Power	Wavelength	Chip Size	Chip Quantity
LKL	XX	WX	X	X
LEKOLED	1W	RB: 440-450nm	2: 2345mil/ 2630mil	1: 1EA
	3W	B2: 450-460nm	3: 30mil/32mil/35mil/38mil	2: 2EA
		B3: 460-470nm	4: 42mil/45mil	3: 3EA
		G2: 520-530nm		4: 4EA
		Y4: 585-595nm		5: 5EA
		A6: 600-610nm		...
		R1: 620-630nm		
		DR: 660-665nm		
		IR1: 730-740nm		

Beam Angle	Brightness	Holder
X	XXX	XXX
0: 120°/140°	10: 10-15LM	G02: High temperature PC Lens
6: 60°	20: 20-30LM	G03: G02 with Star PCB
9: 90°	30: 30-50LM	MD: Molding tech. , Silicone Lens
	60: 60-80LM	G6P: 6 Pins RGB LED
	90: 90-100LM	G8P: 8 Pins RGBW LED
	...	G10P: 10 Pins RGBW LED
		G12P: 12 Pins RGBW LED

CHARACTERISTICS

Light Color	WL (nm)	Forward Voltage (V)	Forward Current (mA)	Lumens	Model No.
				Lumens	
Green	520-530	3.0-3.2	300	70-80	LKL-1WG221070G02

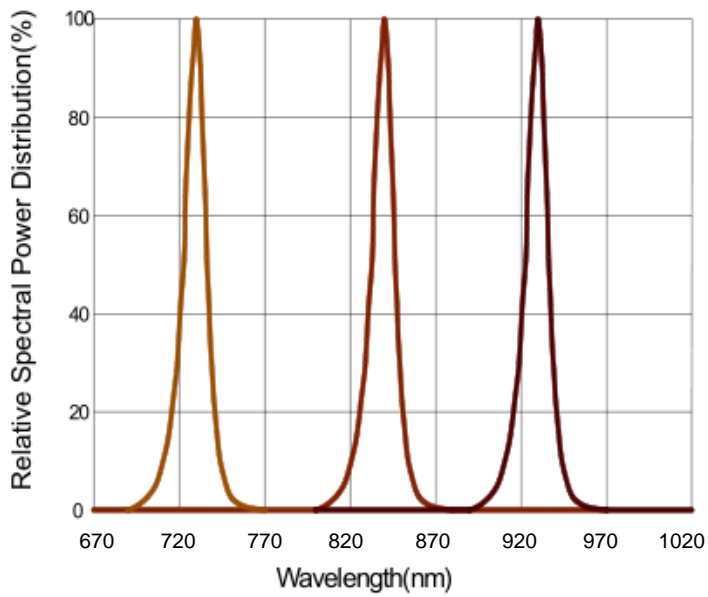
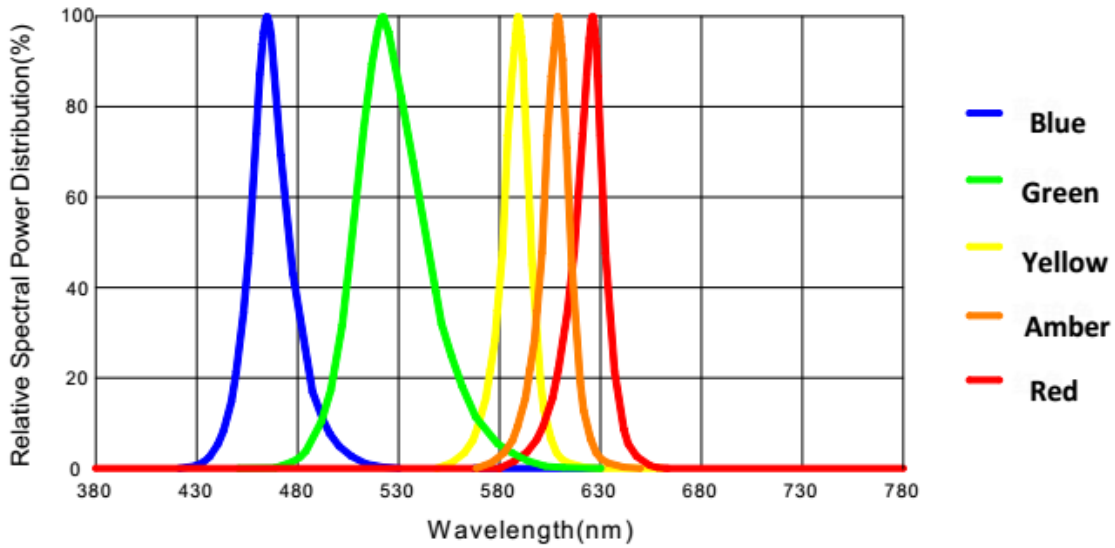
Absolute Maximum Ratings at T_j=25°C

Parameters	Symbol	Value	Unit
Forward Current	I _F	300	mA
Peak Pulsed Forward Current	I _{FP}	500	mA
Power Dissipation	P _D	1000	mW
Reverse Voltage	V _R	5	V
Viewing Angle	2θ 1/2	120	Deg
Operating Temperature	T _{OPR}	-40 ~ +60	°C
Storage Temperature	T _{STG}	-40 ~ +85	°C
Junction Temperature	T _j	115	°C
Soldering Temperature	T _{SLD}	Reflow Soldering: 180°C for 10Sec	

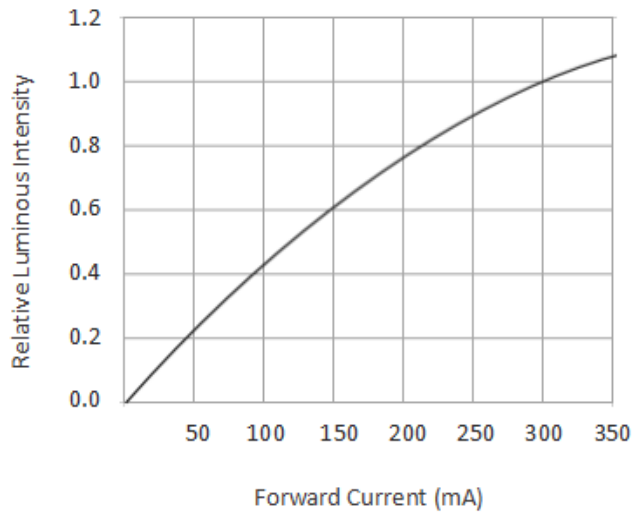
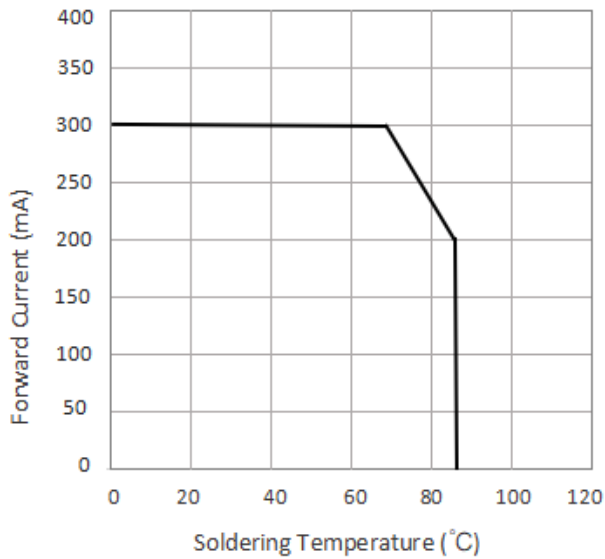
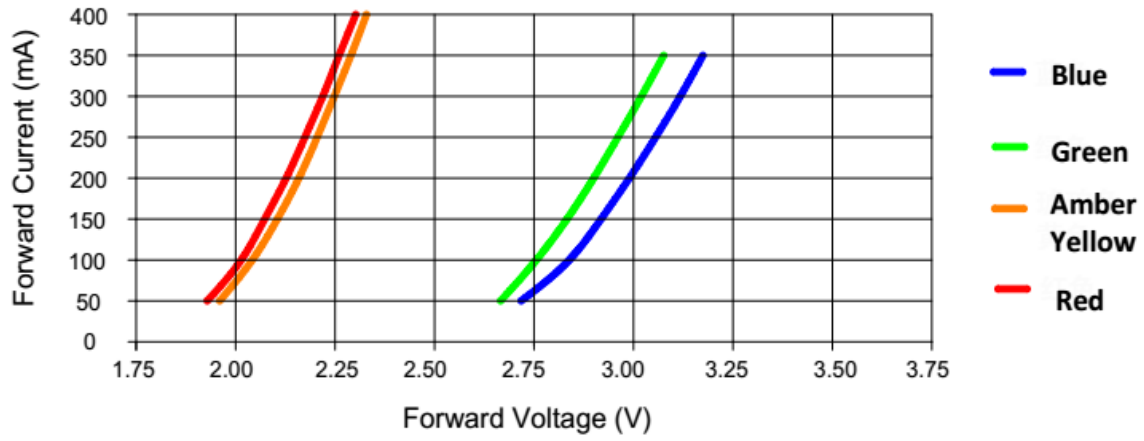
Electrical/ Optical Characteristics at T_j=25°C

Parameters	Symbol	Min	Type	Max	Unit	Condition
Forward Voltage	V _F	2.8	3.0	3.4	V	IF=300mA
Reverse Current	I _R		10		μA	VR=5V
Thermal Resistance	R _{th j-sp}		8		°C/W	IF=300mA
Electrostatic Discharge	ESD	2000			V	HBM

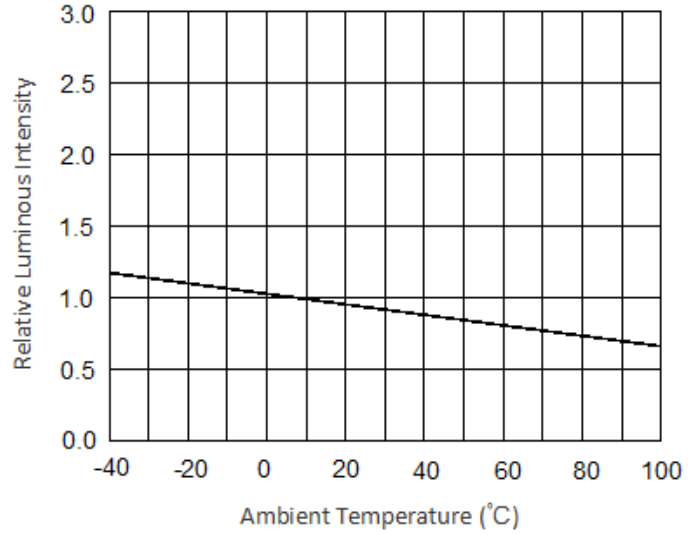
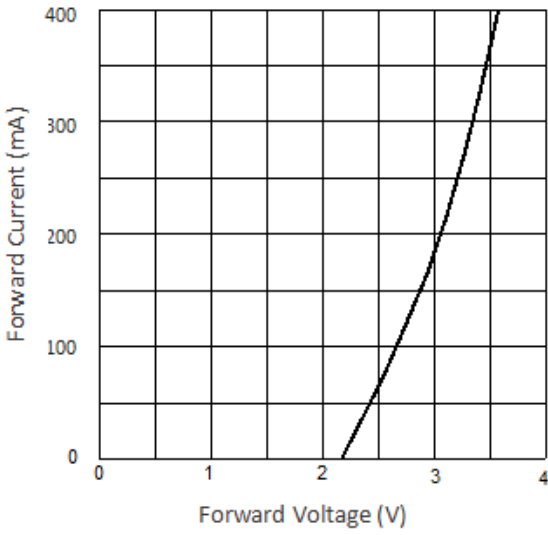
RELATIVE SPECTRAL POWER DISTRIBUTION



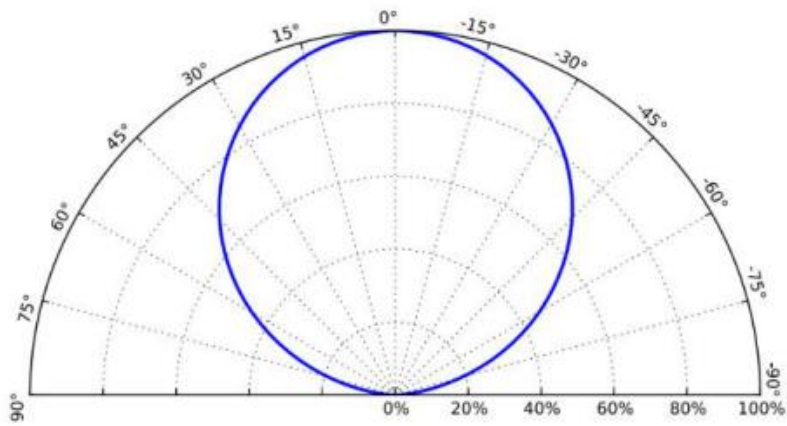
TYPICAL CHARACTERISTIC CURVES



TYPICAL CHARACTERISTIC CURVES



Intensity Distribution Diagram



RELIABILITY TESTS

Test Items	Test Conditions	Sample QTY	Ac/Re
Aging Test	IF=300mA, Ta=25°C x6000hrs	22	0/1
	IF=300mA, Ta=85°C x6000hrs	22	0/1
High Temperature Storage	100°C x1000hrs	22	0/1
Low Temperature Storage	-40°C x1000hrs	22	0/1
High Temp & Humidity	IF=300mA, 85°C, 85% RH for 6000hrs	22	0/1
Temperature Shock	-40°Cx30 min & +100°Cx30 min, 100cycle	22	0/1
ESD(HBM)	2000V HBM/ 1 Time	10	0/1

Criteria for Judging LED Failure (Tc= 25°C)

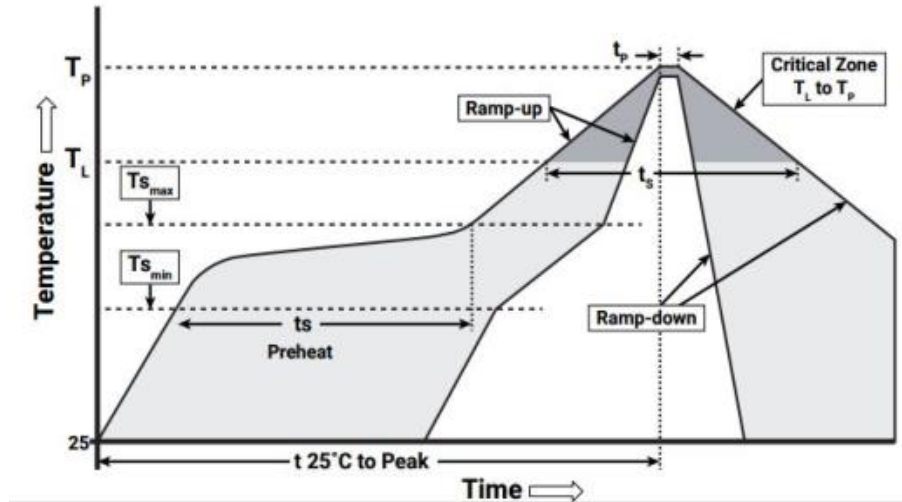
Items	Symbol	Test Conditions	Criteria for Judging LED Failure
Forward Voltage	VF	IF=300mA	>U x 1.1
Reverse Current	IR	VR=5V	IR>/= 10μA
Lumen	ΦV	IF=300mA	<S x 0.7

U refers to max value; S refers to initial value.

Notes: Judging criteria based on Tc=25°C.

TYPICAL CHARACTERISTIC CURVES

REFLOW SOLDERING PROFILE

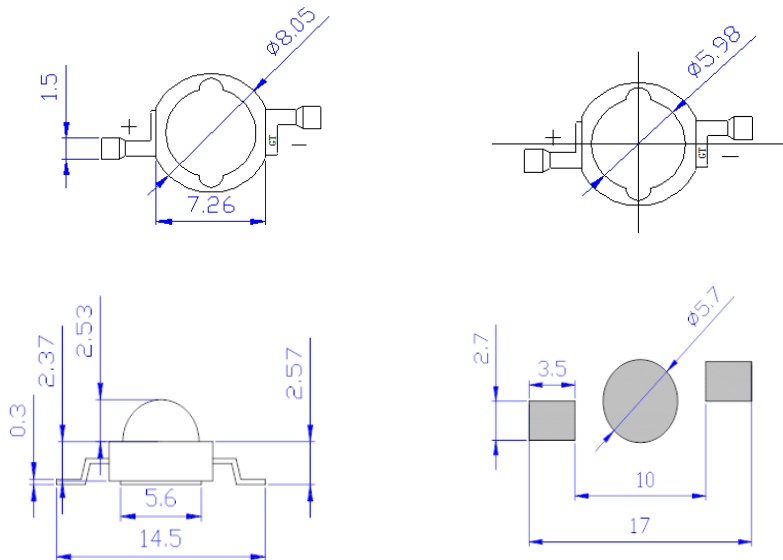


Profile Features	Solder Duration(PC Lens)	Soldering by Manual
Ramp-up Speed(Ts max to Tp)	3 °C/ second max.	Max. temperature: 350°C 3 seconds/1 time
Preheat: Min. Temperature(Tsmin)	90 °C	
Preheat: Max.Temperature(Tsmax)	120 °C	
Preheat: Time (tsmin to tsmax)	60~180 seconds	
Temperature to Keep: (TL)	150 °C	
Time to Keep: (tL)	60~150 seconds	
Peak Temperature (Tp)	180 °C	
Time within the peak temperature (tp)	20~40 seconds	
Ramp-down Speed	6°C/ second max.	
Time to the peak Temperature	8 minutes max.	

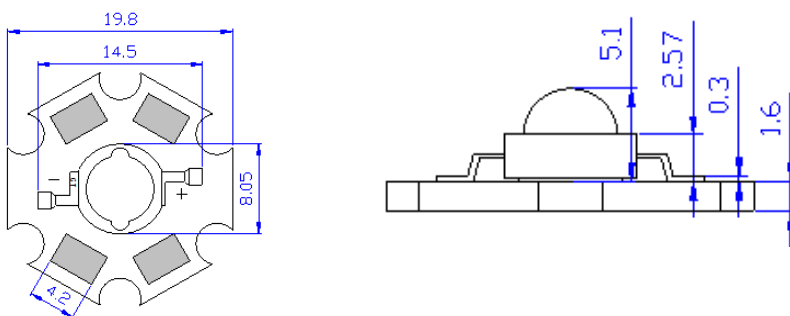
DIMENSIONS

Holder Type: G02

Unit: mm



Holder Type: G03



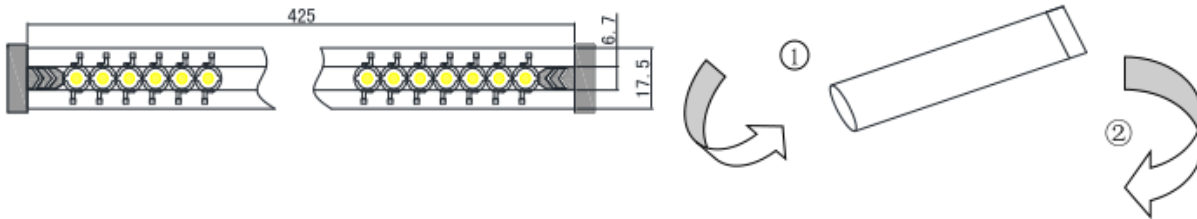
Notes :

*All dimensions are in millimeters.(tolerance:±0.2mm)

*The appearance and specifications of the product may be changed for improvement without notice.

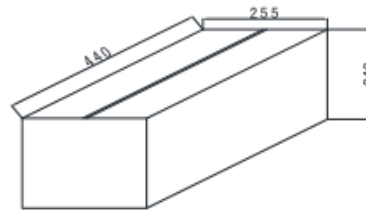
PACKAGING

Packaging ①: Tube



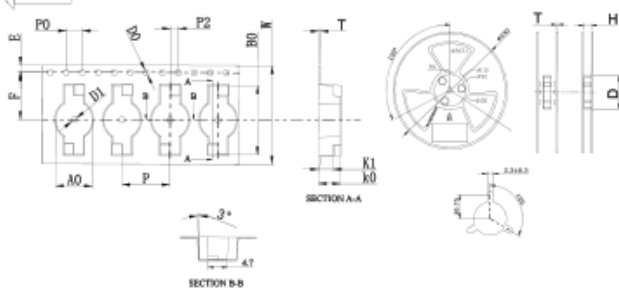
Standard Packaging Details

Tube: 50pcs/tube
 Aluminum Foil Bag: 1000pcs/bag
 Carton: 15Kpcs/carton

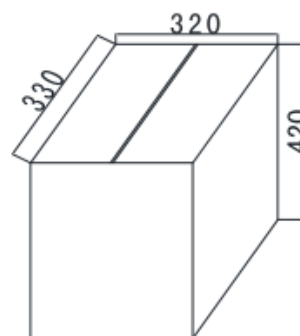
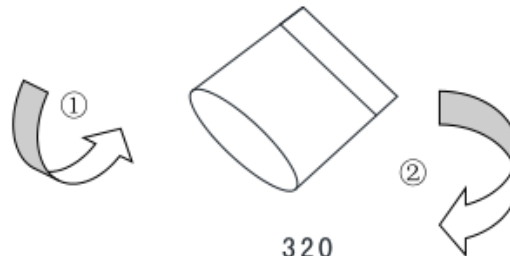


D	24.00	8.20	16.00	5.50	4.70	1.70	11.5	13.00	4.00	2.00	1.50	1.50	0.40	
A	22	24	42	24	24	24	24	24	24	24	24	24	24	
T	A	W	A ₀	B ₀	K ₀	K ₁	E	F	P	P ₀	P ₂	D ₀	D ₁	T

载带引拉方向



Packaging ②: Reel



Standard Packaging Details

Reel: 1000pcs/reel
 Carton: 14Kpcs/carton

PRECAUTIONS

Soldering

Reflow soldering is allowed only once. (Do not use heating platform)

Do not press the lens when soldering manually.

Do not squeeze the PCB board after reflow soldering.

The high temperature PC lens products can pass 180 °C reflow soldering.

Working Condition

The products must be operated within the rated range of parameters.

Installation

To avoid the led failure or deration to the lighting effects, do not burn the products' light-emitting layer by high temperature soldering iron during installation.

ESD Protection

Statics or surge volt would cause LED failure. When using the products, we suggest wearing anti-static wrist strap or gloves. All devices, equipment and machinery must be grounded. Precautions should be taken to protect the products from the surge voltage generated by the devices. It is recommended to inspect each LED whether it is electrostatic damaged. Inspection can be done by a indicating lamp or low forward current test (suggest 90mA). The destroyed products shows different features, for example, the forward voltage becoming lower, or no light emission under low current.

Heat Dissipation

The thermal design of the end product is particularly important, please consider it seriously. Do avoid high temperature condensation on the product.

Cleaning

Recommend ethanol as the only clean solvent.

Others

The bright light emitted by LED may hurt the eyes. Do not look directly at the products when not wearing protective glasses. The strong irritant glare makes people feel uncomfortable and precautions should be taken during usage.