LED Series

KLS9-L Ultra Bright LED Lamp Series

IX

KLS9 - L - 501 2 BH C - XXX
1 2 3 4 5 6 7

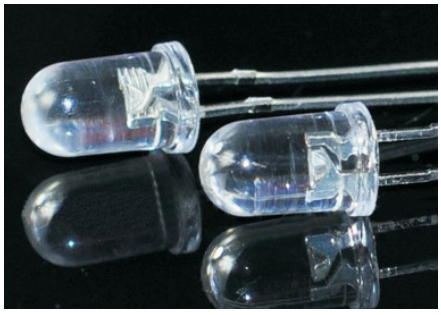
1. Brank: KLS ELECTRONIC
2. Digit Mode: L-Lamp
3. Package Type (style):
4. Leads Type:
   - 0: Surface Mounting Lead for SMD
   - 1: 20mm Lead Length with Stand-off
   - 2: 18mm Lead Length Standard
   - 3: 25.4mm Lead Length with big Reflector
   - 4: 25.4mm Lead Length with small Reflector
   - 5: 25.4mm Lead Length with 3 Leads for bi-color
   - 7: 25.4mm Lead Length with 2 Leads for bi-color
   - 9: 25.4mm Lead Length with 3 Leads for bi-color
5. Color Code:

H: Red	GaP / GaP	700nm	UG: High Bright Green	AlGaInP 574nm
S: High Bright Red	GaAlAs / GaAs	SH 660nm	PG: Super Pure Green	AlGaInP 525nm
D: Super Bright Red	GaAlAs / GaAs	DH 660nm	BG: Super Bluish Green	AlGaInP 505nm
UR: Ultra Bright Red	GaAlAs / GaAlAs	DDH 660nm	B: Blue GaN / SiC	430nm
UHR: Ultra Bright Red	AlGaInP	640nm	UB: Super Bright Blue	InGaN / SiC 470nm
E: Orange	GaAsP / GaP	635nm	V: UV	InGaN / SiC405nm
UE: High Bright Orange	AlGaInP	630nm	W: White	
Y: Yellow	GaAsP / GaP	585nm	EG: Orange + Green Bi-Color	
UY: High Bright Yellow	AlGaInP	590nm	SG: High Red + Green Bi-Col	
G: Green	GaP / GaP	568nm	BH:Red/Blue	

6. Len Color: D: Color Diffused T: Color Transparent C: Water Clear W: White Diffused
   CD: Color Top Diffused WD: White Top Diffused E: Orange Diffused
7. Special Operation & Other:

NOTES

1. All dimensions are in millimeters .
2. Tolerance is ±0.25mm unless otherwise noted.
3. Protruded resin under flange is 1.0mm max.
4. Lead spacing is measured where the leads emerge from the package.
5. Specifications are subject to change without notice.



Lens	Material	Emitting Color
White Diffused	Al.Ga.In.P/In.Ga.N	Red/Blue

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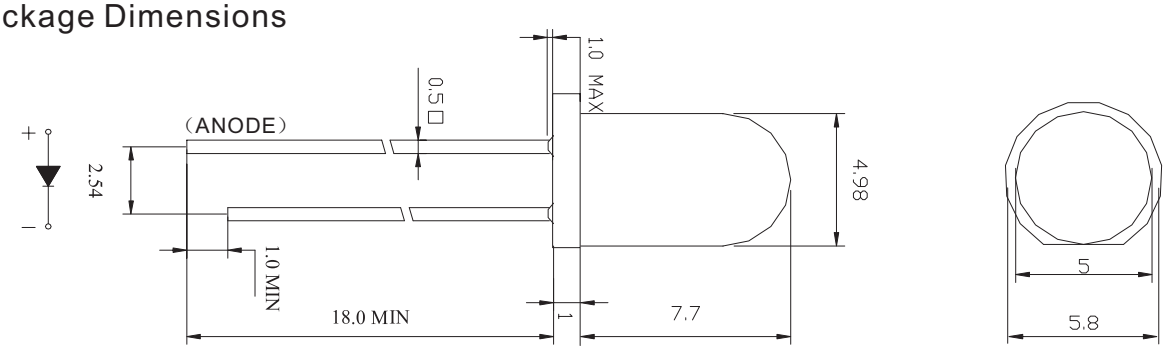
Package Dimensions



Absolute Maximum Rating

Parameter	Maximum Rating	Unit
Power Dissipation	100	mW
Peak Forward Current(1/10 Duty Cycle,0.1ms Pulse Width)	50	mA
DC Forward Current	40	mA
Reverse Voltage	5	V
Electrostatic Discharge	1000	V
Operating Temperature Range	-25°C~+80°C	
Storage Temperature Range	-40°C~+80°C	
Lead Soldering Temperature [1.6mm(.063") From Body]	330°C for35 sec Max.	

Typical Electrical / Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Viewing Angle	2θ 1/2	/	/	20	deg	IF=40mA
Forward Voltage	VF	4.0	/	4.5	V	IF=40mA
Reverse Current	IR	/	10	/	u A	VR=5V
Light Intensity	IV	R	200	/	300	IF=20mA
		B	400	/	700	
Wavelength	WLD	R:620	/	630	nm	IF=40mA
		B:455	/	470		
Flicker Frequency	IV	/	1.5	/	/Hz	IF=40mA
Recommend Forward Current	IF(rec)	/	/	40	mA	IF=40mA

Note:
1.Luminous intensity is measured with a light sensor and filter combination that approximates CIE (Commission International Dd L Eclairage)eyeresponse curve.
2. θ1/2 is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. The dominant wavelength,λd is derived from the CIE chromaticity diagram and representsthe single wavelength which defines the color of the device.
4.The Iv guarantee should be added ± 15%.

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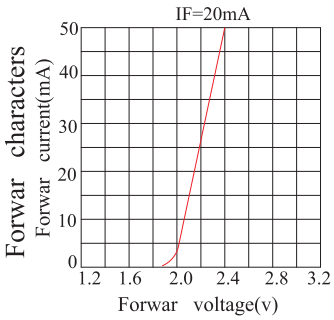
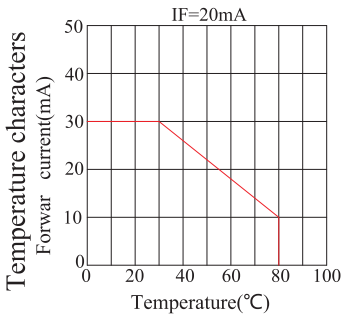
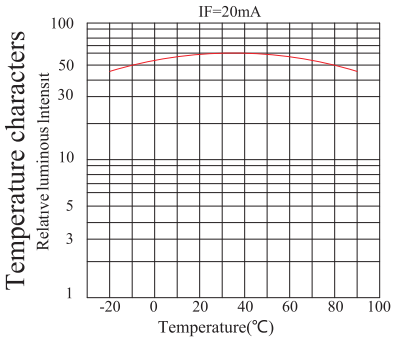
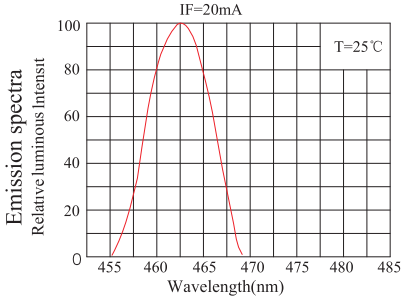
Typical electrical-optical Characteristics curvers

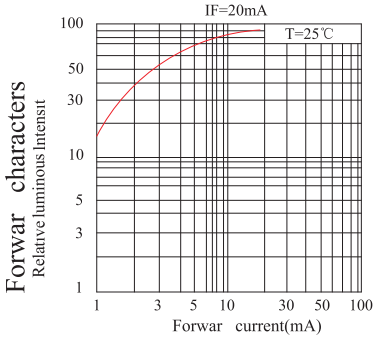




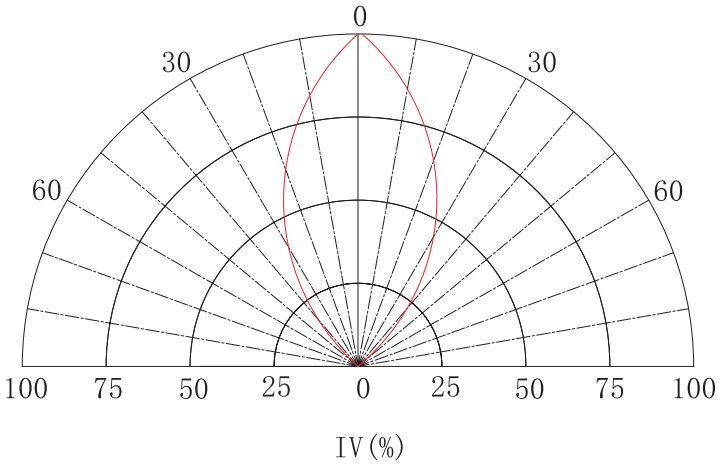
Notes:
The data are an typical presenlation of the product,Contact customer service for details of technical information and warranty.
The product is sensitive to static antistatic operation environment is recommended
Products are shipped in either bulk bag package or taping.







Spotial Disttrbution



LED LAMP RELIABLITY

● Test Items And Results

Type	Test Item	REF. Stan ar	Test Con ition	Note	Number of Damage
Environmental Sequence	Temperature Cycle	JIS C 7021 (1997) A-4	-20℃→25℃→80℃→25℃ 30mins,5mins,30mins,5mins	100 cycles	0/100
	High Humi ity Heat Cycle	JIS C 7021 (1997) A-5	30℃→65℃ 90%RH 24hrs/1cycle	10 cycles	0/100
	High Temperature Storage	JIS C 7021 (1997) B-10	Ta=80℃	1000hrs	0/100
	Humi ity Heat Storage	JIS C 7021 (1997) B-11	Ta=60℃ RH=90%	1000hrs	0/100
	Low Temperature Storage	JIS C 7021 (1997) B-12	Ta= -30℃	1000hrs	0/100
Operation Sequence	Life Test	JIS C 7035 (1985)	Ta=25℃ I_F=20mA	1000hrs	0/100
	High Humi ity Heat Life Test	*	60℃ RH=90% I_F=20mA	500hrs	0/100
	Low Temperature Life Test	*	Ta= -20℃ I_F=20mA	1000hrs	0/100
Destructive Sequence	Resistance to Sol ering Heat	JIS C 7021 (1997) A-11	Tsol=260 ± 5℃,10sec (3mm from the base of the epoxy bulb)	1 time	0/20
	Sol erability	JIS C 7021 (1997) A-2	Tsol=235 ± 5℃,5sec (Using flux)	1 time (over 95%)	0/20
	Lea Pull/Ben Test	JIS C 7021 (1997)A-11	Loa 2.5N (0.25kgf) 0° →90° →0° Ben ing 3 times	No noticeable amage	0/20

* Refer to reliability test stan ar specification for in this line.

● Criteria for Judging The Damage

Item	Symbol	Test Con ition	Criteria for Ju gment	
			Min.	Max.
Forwar Voltage	V_F	I_F = 20mA	---	Initial ata x 1.1
Reverse Current	I_R	V_R = 5V	---	Initial ata x 2.0
Luminous Intensity	Iv	I_F = 20mA	Initial ata x 0.7	---