

**LED LAMP**

**KLS9 L - 501 3 G D - XXX**

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1 Brand: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: See Part 1. 7

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:



**Electrical-Optical Characteristics (Ta=25°C)**

PARAMETER	SYMBOL	DEVICES	CODE	TYP	MAX	UNIT	TEST CONDITIONS
Forward Voltage	$V_F$	RED	H	2.25	2.60	V	$I_F=20\text{mA}$
		HI-RED	S	1.85	2.20		
		SUPER-RED	D	1.85	2.20		
		ORANGE	E	2.10	2.50		
		GREEN	G	2.20	2.50		
		YELLOW	Y	2.10	2.50		
Peak Emission Wavelength	$\lambda_p$	RED	H	700		nm	$I_F=20\text{mA}$
		HI-RED	S	660			
		SUPER-RED	D	660			
		ORANGE	E	635			
		GREEN	G	568			
		YELLOW	Y	585			
Spectral Line Half-Width	$\Delta\lambda$	RED	H	90		nm	$I_F=20\text{mA}$
		HI-RED	S	20			
		SUPER-RED	D	20			
		ORANGE	E	35			
		GREEN	G	30			
		YELLOW	Y	35			
Reverse Current	$I_R$	RED	H		20	$\mu\text{A}$	$V_R=5\text{V}$
		HI-RED	S				
		SUPER-RED	D				
		ORANGE	E				
		GREEN	G				
		YELLOW	Y				
Average Luminous Intensity	$I_V$	RED	H	500		$\mu\text{cd}$	$I_F=10\text{mA}$
		HI-RED	S	3500			
		SUPER-RED	D	6000			
		ORANGE	E	2500			
		GREEN	G	2500			
		YELLOW	Y	2000			
Segment-to-Segment Luminous Intensity Ratio	$I_V\text{-M}$		ALL MODELS		1.5:1		$I_F=20\text{mA}$

**Absolute Maximum Rating(Ta=25°C)**

PARAMETER	RED (Gap)	Hi-RED (GaAlAs/GaAs)	SUPER-RED (GaAlAs/GaAs)	ORANGE (GaAsP/Gap)	GREEN (Gap)	YELLOW (GaAsP/Gap)	UNIT
Reverse voltage $V_R$	5	5	5	5	5	5	V
Forward current $I_F$	15	25	25	30	30	30	mA
Peak forward current $I_{FP}$	50	150	150	150	150	150	mA
Power dissipation $P_D$	40	60	60	80	80	80	mW
Operating temperature $T_{OPR}$	-40~+80	-40~+80	-40~+80	-40~+80	-40~+80	-40~+80	
Storage temperature $T_{STG}$	-40~+85	-40~+85	-40~+85	-40~+85	-40~+85	-40~+85	
Lead soldering temperature	1.60mm from body-maximum 3 second for 260±5						

Remark: Duty cycle: 1:10, Pluse width: 0.1ms

## Typical Electrical-Optical Characteristics Curves

