

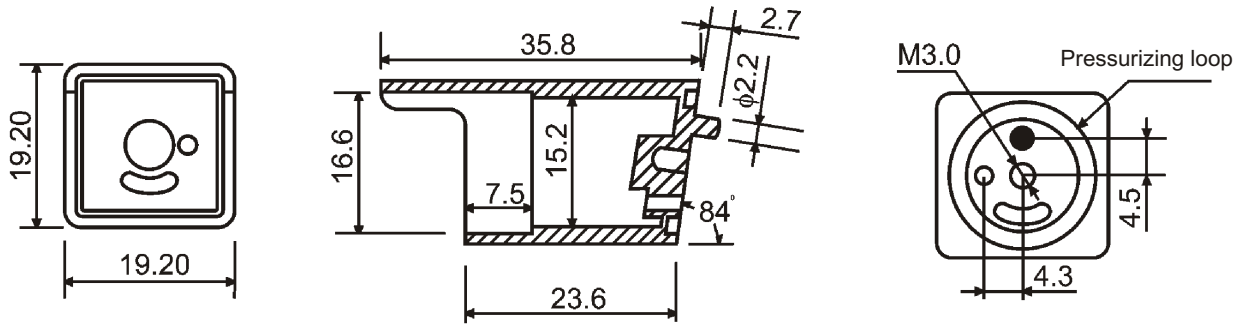
## LED OUTDOOR LAMP CLUSTER

KLS9 CL - S 11x16 A R1G2B1 - XXX  
1 2 3 4 5 6 7

- 1 Brand:KLS ELECTRONIC
- 2 Digit Mode: CL-Lamp Cluster
- 3 Shape: R-Round S-Square
- 4 Display Unit Dimension and Quantity:
- 5 Model Number: A. B. C.....
- 6 Color Code: See Part 1. 7
- 7 Special Device:

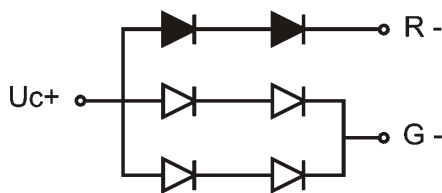
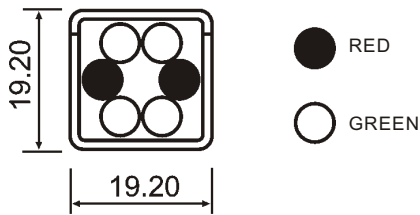
### PACKAGE DIMENSION

KLS9CL-S19A Series

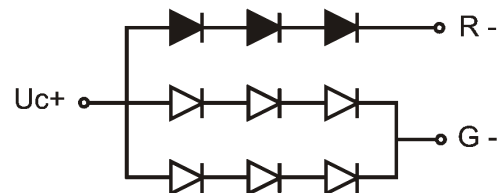
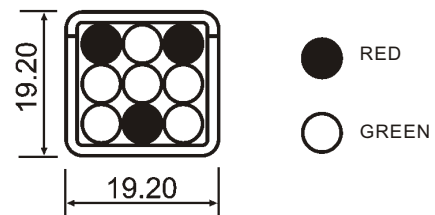


### INTERNAL CIRCUIT DIAGRAM

KLS9CL-S19AR2G4



KLS9CL-S19AR3G6



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

PARAMETER	SYMBOL	DEVICES	CODE	TYP	MAX	UNIT	TEST CONDITIONS
Forward Voltage	V <sub>F</sub>	RED	H	2.25	2.60	V	I <sub>F</sub> =20mA
		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	λ <sub>p</sub>	RED	H	700		nm	I <sub>F</sub> =20mA
		HI-RED	S	660			
		SUPER-RED	D	660			
		ORANGE	E	635			
		GREEN	G	568			
		YELLOW	Y	585			
Spectral Line Half-Width	Δλ	RED	H	90		nm	I <sub>F</sub> =20mA
		HI-RED	S	20			
		SUPER-RED	D	20			
		ORANGE	E	35			
		GREEN	G	30			
		YELLOW	Y	35			
Reverse Current	I <sub>R</sub>	RED	H		20	μ A	V <sub>R</sub> =5V
		HI-RED	S				
		SUPER-RED	D				
		ORANGE	E				
		GREEN	G				
		YELLOW	Y				
Average Luminous Intensity	I <sub>V</sub>	RED	H	500		μ cd	I <sub>F</sub> =10mA
		HI-RED	S	3500			
		SUPER-RED	D	6000			
		ORANGE	E	2500			
		GREEN	G	2500			
		YELLOW	Y	2000			
Segment-to-Segment Luminous Intensity Ratio	I <sub>V</sub> -M		ALL MODELS		1.5:1		I <sub>F</sub> =20mA

**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 <sub>R</sub>	5	5	5	5	5	5	V
Forward current I <sub>F</sub>	15	25	25	30	30	30	mA
Peak forward current I <sub>FP</sub>	50	150	150	150	150	150	mA
Power dissipation P <sub>D</sub>	40	60	60	80	80	80	mW
Operating temperature T <sub>OPR</sub>	-40~+80	-40~+80	-40~+80	-40~+80	-40~+80	-40~+80	
Storage temperature T <sub>STG</sub>	-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

