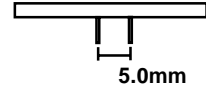
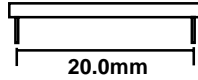


Above clusters use
KLSL3228X Series PLCC 3.2x2.8mm LEDs



KLCLU23W6
12V-100mA-1.2W

KLCLU23W12
12V-200mA-2.4W

KLCLU23R10
20V-60mA-1.2W

KLCLU23A10
20V-60mA-1.2W

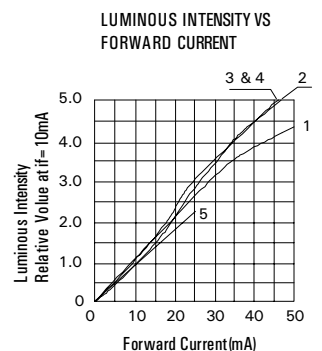
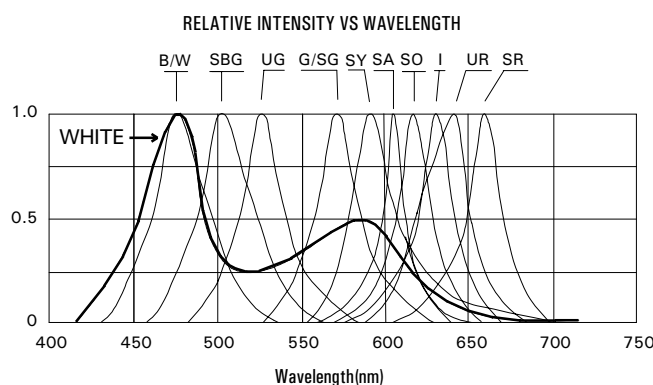
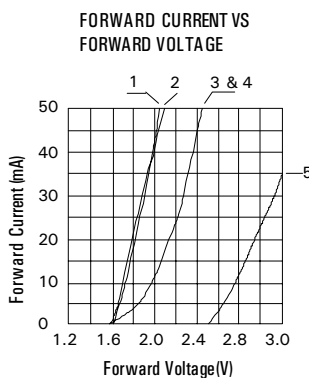
Note1 : Pin Spacing may be changed to 7.62mm. in future

Note : All Dimensions are in mm

Tolerance ± 0.2 mm

PART NO.												
OPERATING CHARACTERISTICS AT 25°C (Bigger Display may have more than one LED chip per segment)			UNITS	SYMBOL	WHITE W 1.2W	WHITE W 1.2W	RED	AMBER	GREEN	ULTRA GREEN	ULTRA BLUE	Circuit with Current Regulator
Semiconductor Composition					Ga In N							
Forward Voltage - Typical @ 50mA			V	V_F	10.50	10.5	20V	20V	22V	20V	20V	
Forward Voltage - Max. @ 100 mA			V	V_{FM}	12.00	12.0	22V	22V	24V	22V	22V	
Reverse Current @ $V_R = 5V$			mA	I_R	100	100	100	100	100	100	100	
Color Coordinates			x,y		(0-31,0-	----	----	----	----	----	----	
Color Temperature			°C	D_L	31)	----	----	----	----	----	----	
Color Rendering index			CR1	CR_I	0.8	----	----	----	----	----	----	
Luminous Flux			lm	ϕ_V	20	35	40	55	40	40	40	
ABSOLUTE MAXIMUM RATINGS AT 25°C			V	V_R	5			Both Components need adequate Heat Sinking				
Reverse Voltage			mA	I_F	as in			100mA per LED & derated at 1mA per degree C				
Forward Current (avg)												
Operating / Storage Temperature Range			-20° C to + 85° C									
Lead Soldering Temperature			< 260° C for 5 Seconds									
Series Resistor to be used per LED : 6 Ohms (2W~3W) @ 5V Supply												

ELECTRICAL CHARACTERISTIC CURVES



1. AlGaAs : I, SR

2. GaP : G

3 & 4. AlInGaP : SG, SY, SA, UR, SO

5. GaInN : B, SBG, UG, W