Luckylight

3.0mm (1.2") 8×8 Bi-color Dot Matrix LED Displays Technical Data Sheet

Model No.: KWM-30881XSGB

Features:

- ◇ 1.2inch (32.00mm) Matrix height.
- ◇ Colors: Super Red and Yellow Green
- ◇ Flat package and light weight.
- ◇ Easy assembly.
- ◇ High quality and low cost.
- ◇ High reliable and intensity.
- ◇ Low power requirement.
- ◇ The product itself will remain within RoHS compliant version.

Descriptions:

- ◇ The KWM-30881 series is a large emitting area (3.0mm diameter) LED sources configured in a 64 dots 8*8 matrix array.
- ◇ These displays provide excellent reliability in bright ambient light.
- ◇ These devices are made with white dots and black surface.

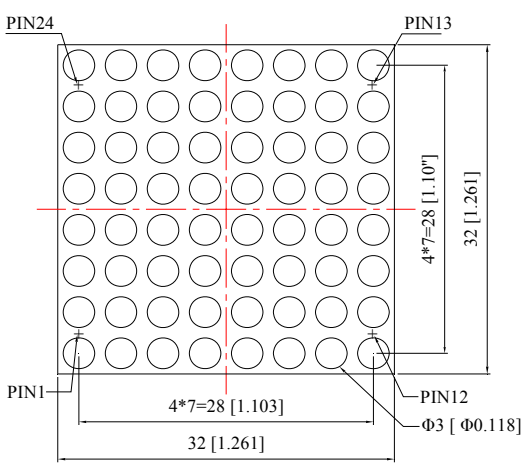
Applications:

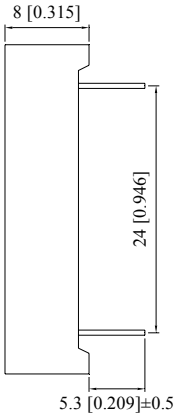
- ◇ Audio equipment.
- ◇ Instrument panels.
- ◇ Digital read out display.

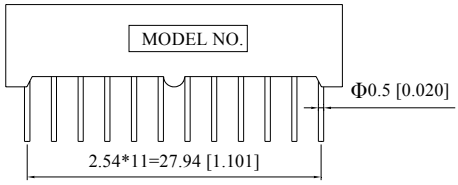
Device Selection Guide:

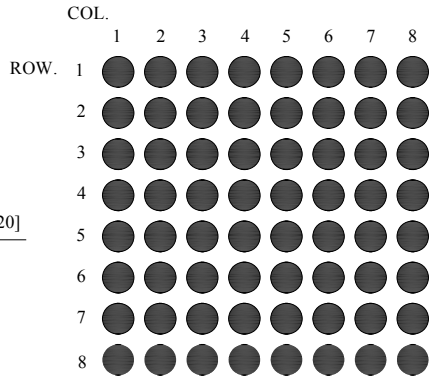
Model No.	Chip Material		Face Color	Descriptions
KWM-30881ASGB	S	GaAlAs	Black	Row Anode
	G	GaP		
KWM-30881CSGB	S	GaAlAs	Black	Row Cathode
	G	GaP		

Package Dimension:

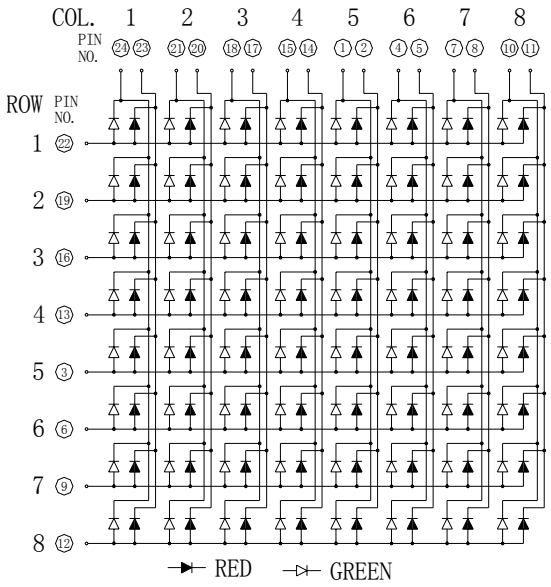




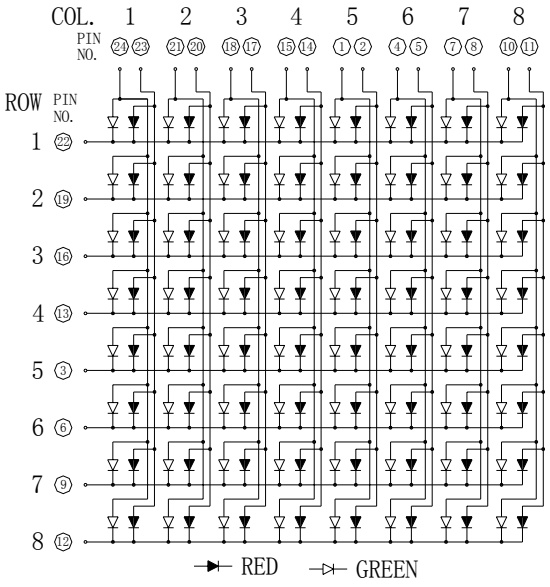




KWM-30881ASGB



KWM-30881CSGB



NOTES: All dimensions are in millimeters (inches) tolerance are ±0.25mm (0.01inch) unless otherwise noted.

Absolute Maximum Ratings at Ta=25℃

Parameters	Symbol	Red	Green	Unit
Power Dissipation Per Dot	PD	60	70	mW
Peak Forward Current Per Dot (1/10 Duty Cycle, 0.1ms Pulse Width)	IFP	100	100	mA
Forward Current Per Dot	IF	25	25	mA
Derating Linear From 25℃		0.4	0.4	mA/℃
Reverse Voltage	VR	5	5	V
Operating Temperature Range	Topr	-40℃ to +80℃		
Storage Temperature Range	Tstg	-40℃ to +85℃		
Soldering Temperature	Tsld	260℃ for 5 Seconds		

Electrical Optical Characteristics at Ta=25℃

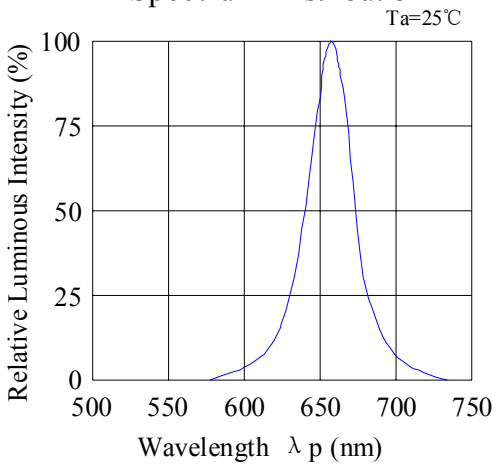
Parameters	Symbol	Color	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	Iv	Red	6.0	12.0	---	mcd	I_F=20mA (Note 1)
		Green	3.0	6.0	---		
Peak Emission Wavelength	λp	Red	---	660	---	nm	I_F=20mA
		Green	---	568	---		
Dominant Wavelength	λd	Red	---	640	---	nm	I_F=20mA (Note 2)
		Green	---	572	---		
Spectral Line Half-Width	△λ	Red	---	20	---	nm	I_F=20mA
		Green	---	20	---		
Forward Voltage	V_F	Red	---	1.8	2.4	V	I_F=20mA
		Green	---	2.2	2.8		
Reverse Current	I_R	Red	---	---	50	μA	V_R=5V
		Green					

Notes:

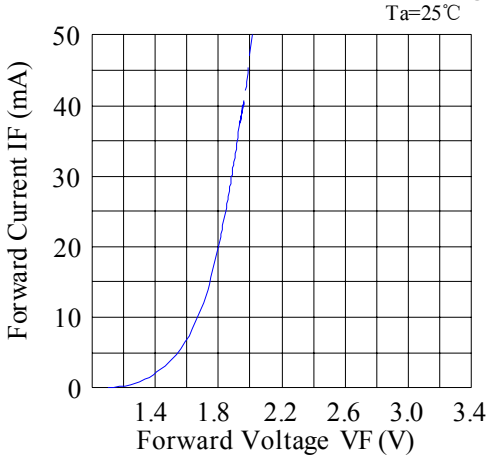
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. The dominant wavelength (λd) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

Typical Electrical / Optical Characteristics Curves
(25℃ Ambient Temperature Unless Otherwise Noted)
Red

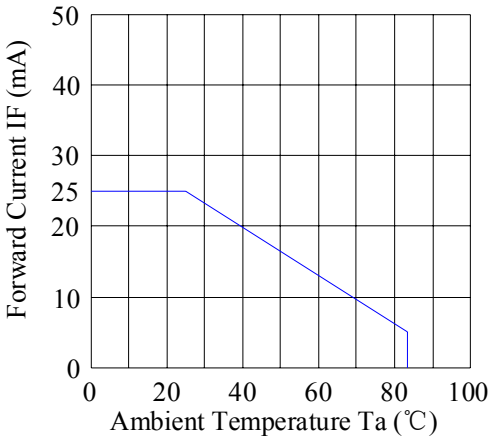
Spectrum Distribution



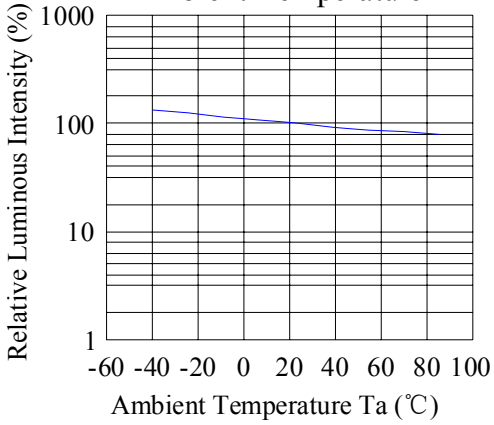
Forward Current & Forward Voltage



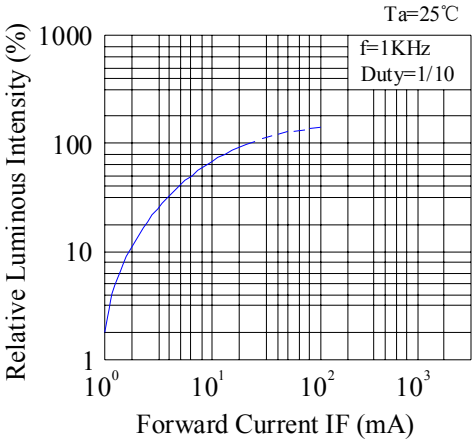
Forward Current Derating Curve



Luminous Intensity & Ambient Temperature



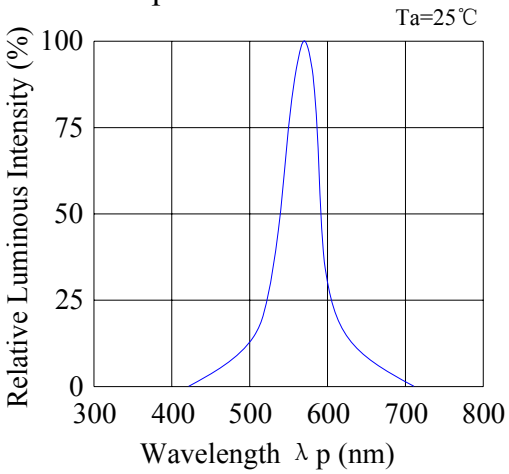
Luminous Intensity & Forward Current



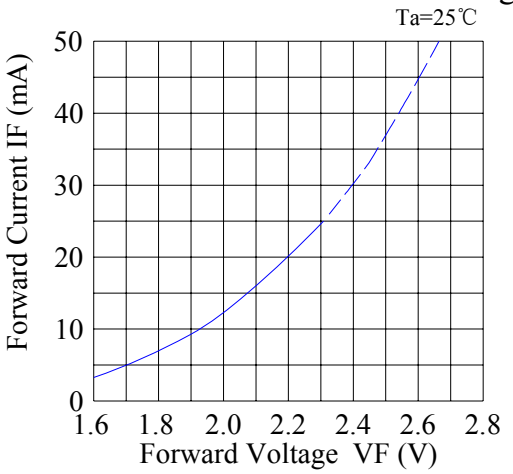
Typical Electrical / Optical Characteristics Curves
(25℃ Ambient Temperature Unless Otherwise Noted)

Green

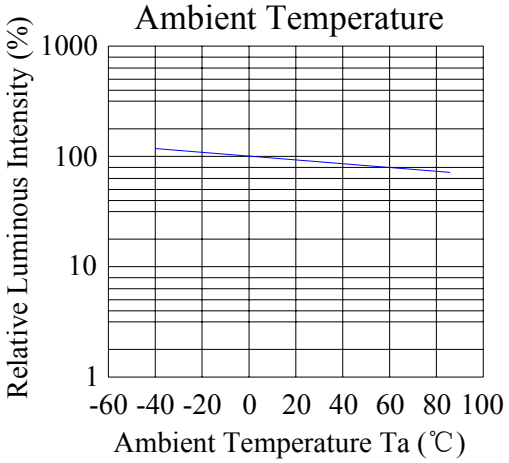
Spectrum Distribution



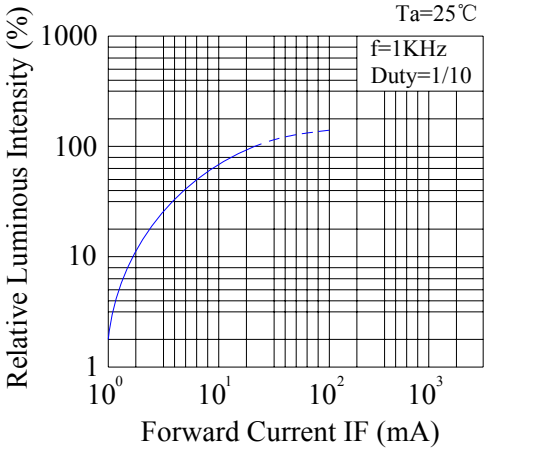
Forward Current & Forward Voltage



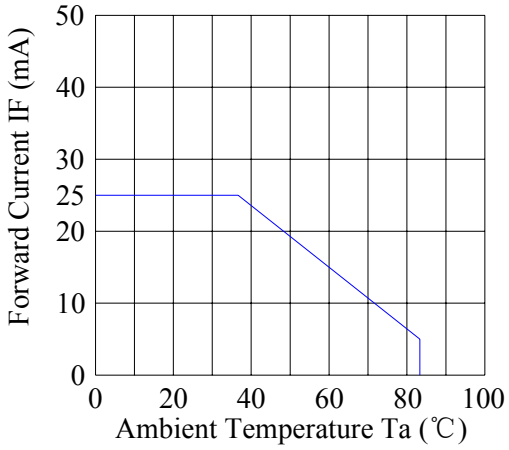
Luminous Intensity & Ambient Temperature



Luminous Intensity & Forward Current



Forward Current Derating Curve



Please read the following notes before using the datasheets:

1. Over-current-proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage

2.1 If the package contains a moisture proof bag inside, please don't open the package before using.

2.2 Before opening the package, the LEDs should be kept at 30℃ or less and 80%RH or less.

2.3 The LEDs should be used within a year.

2.4 After opening the package, the LEDs should be kept at 30℃ or less and 60%RH or less.

3. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 260℃ for 5 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

4. Soldering

When soldering, for Lamp without stopper type and must be leave a minimum of 3mm clearance from the base of the lens to the soldering point.

To avoided the Epoxy climb up on lead frame and was impact to non-soldering problem, dipping the lens into the solder must be avoided.

Do not apply any external stress to the lead frame during soldering while the LED is at high temperature.

Recommended soldering conditions:

Soldering Iron		Wave Soldering	
Temperature Soldering Time	300℃ Max. 3 sec. Max. (one time only)	Pre-heat Pre-heat Time Solder Wave Soldering Time	100℃ Max. 60 sec. Max. 260℃ Max. 5 sec. Max.

Note: Excessive soldering temperature and / or time might result in deformation of the LED lens or catastrophic failure of the LED.

5. Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used . It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.