

60.20mm (2.4") 8 × 8 RGB color
Dot Matrix LED Displays
Technical Data Sheet

Model No.: KWM-50884XRGBB

Features:

- ◇ 2.4inch (60.2mm) digit height.
- ◇ Excellent segment uniformity.
- ◇ Solid state reliability.
- ◇ Industrial standard size.
- ◇ Low power consumption.
- ◇ The product itself will remain within RoHS compliant Version.

Descriptions:

- ◇ The KWM-50884 XXXXseries is a large emitting area (5.0mm 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.

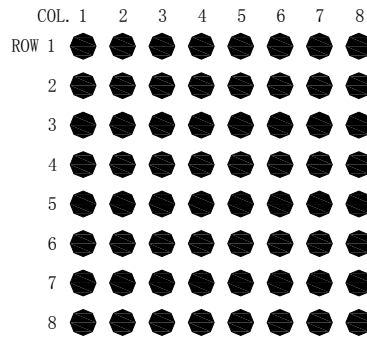
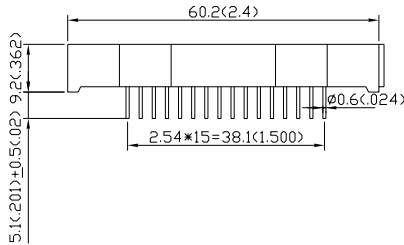
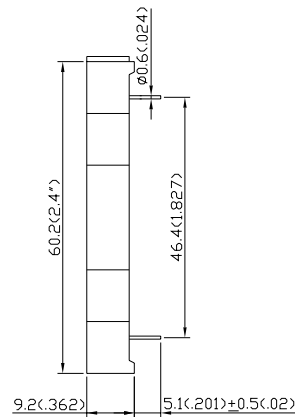
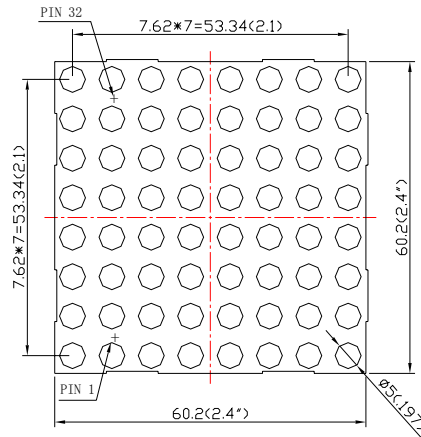
Applications:

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

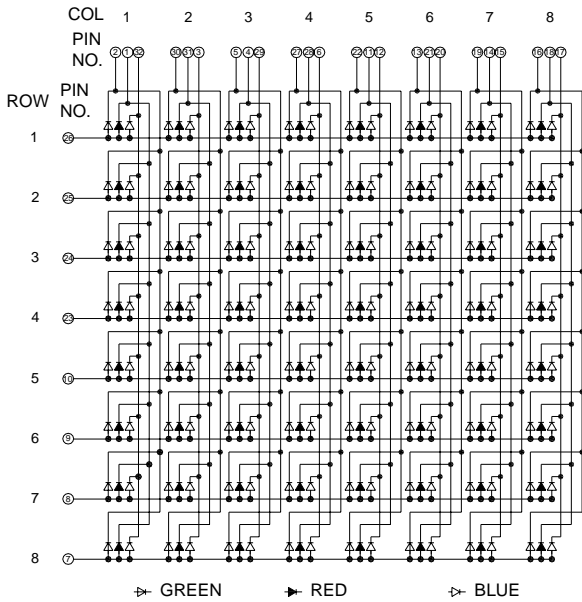
Device Selection Guide:

Model No.	Chip Material		Source Color	Description
KWM-50884ARGBB	R	AlGaInP	Ultra Red	Common Anode
	G	InGaN	Pure Green	
	B	InGaN	Blue	
KWM-50884CRGBB	R	AlGaInP	Ultra Red	Common Cathode
	G	InGaN	Pure Green	
	B	InGaN	Blue	

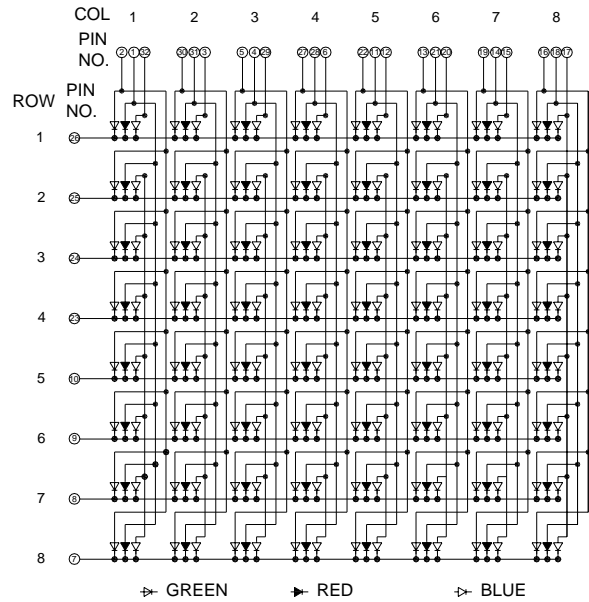
Package Dimension:



KWM-50884ARGBB



KWM-50884CRGBB



Notes:

- 1.All dimensions are in millimeters (inches).
- 2.Tolerance is ± 0.25 (.010") mm unless otherwise noted.
- 3.Specifications are subject to change without notice.

Absolute Maximum Ratings at Ta=25°C

Parameters	Symbol	Red	Green	Blue	Unit
Power Dissipation Per Dot	PD	65	100	100	mW
Peak Forward Current Per Dot (1/10 Duty Cycle, 0.1ms Pulse Width)	IFP	100	100	100	mA
Forward Current Per Dot	IF	25	25	25	mA
Derating Linear From 50°C		0.4	0.4	0.4	mA/°C
Reverse Voltage	VR	5	5	5	V
Electrostatic Discharge	ESD	2000	1000	1000	V
Operating Temperature Range	Topr	-40°C to +80°C			
Storage Temperature Range	Tstg	-40°C to +85°C			
Soldering Temperature	Tsld	260°C for 5 Seconds			

Electrical Optical Characteristics at Ta=25°C

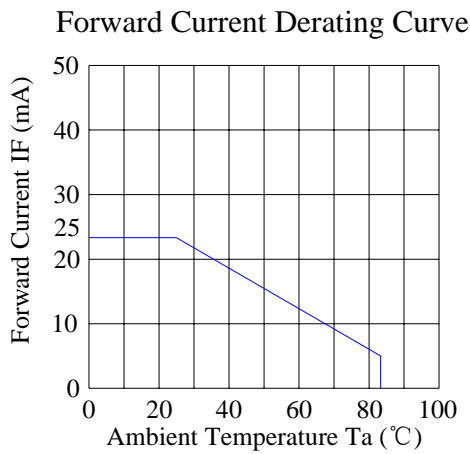
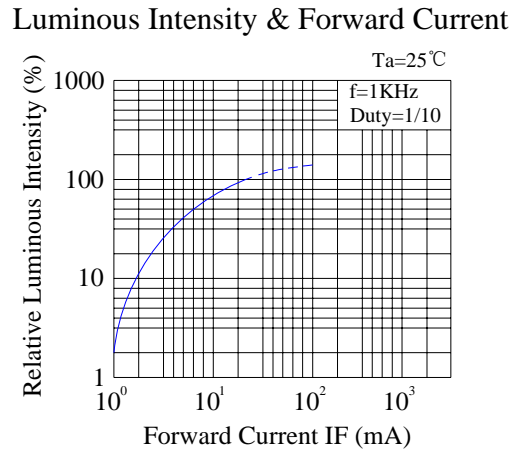
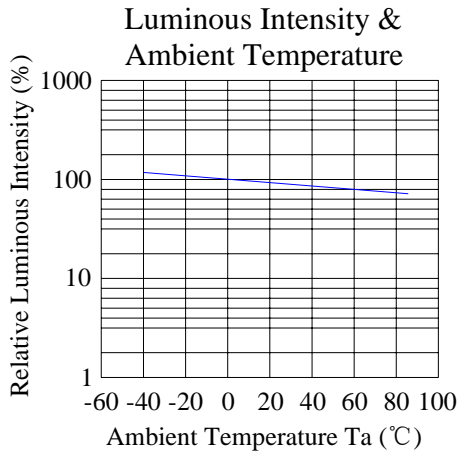
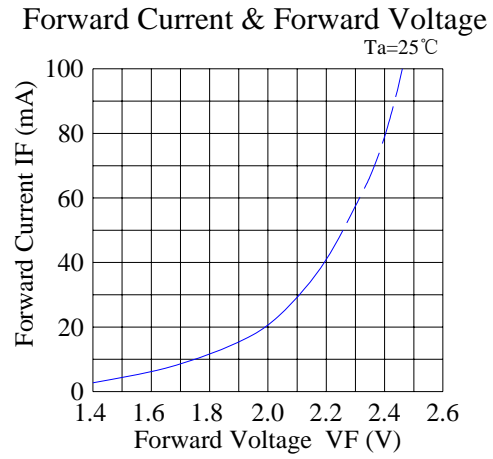
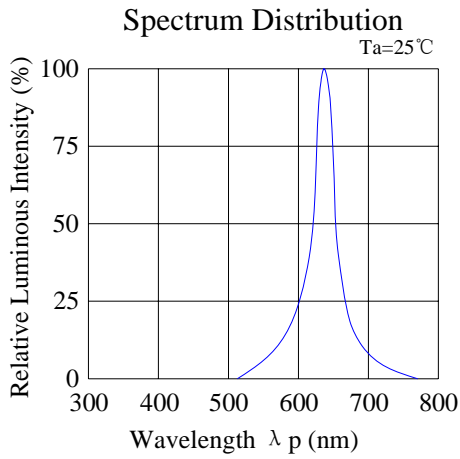
Parameters	Symbol	Color.	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I _v	Ultra Red	20	40	---	mcd	I _F =10mA (Note 1)
		Pure Green	25	50	---		
		Blue	15	30	---		
Peak Emission Wavelength	λ _p	Ultra Red	---	632	---	nm	I _F =20mA
		Pure Green	---	520	---		
		Blue	---	468	---		
Dominant Wavelength	λ _d	Ultra Red	---	624	---	nm	I _F =20mA (Note 2)
		Pure Green	---	525	---		
		Blue	---	470	---		
Spectral Line Half-Width	Δλ	Ultra Red	---	20	---	nm	I _F =20mA
		Pure Green	---	35	---		
		Blue	---	25	---		
Forward Voltage	V _F	Ultra Red	---	2.0	2.6	V	I _F =20mA
		Pure Green	---	3.2	4.0		
		Blue	---	3.2	4.0		
Reverse Current	I _R	Ultra Red	---	---	50	μA	V _R =5V
		Pure Green					
		Blue					

Notes:

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

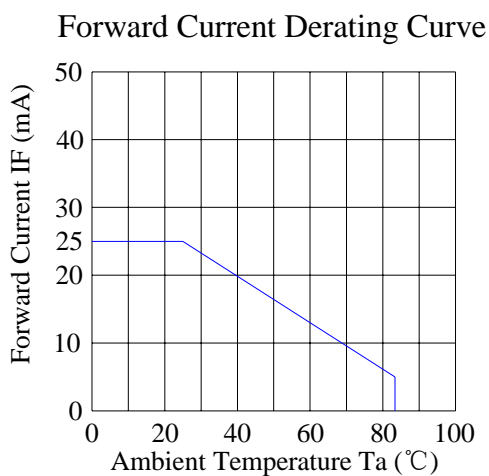
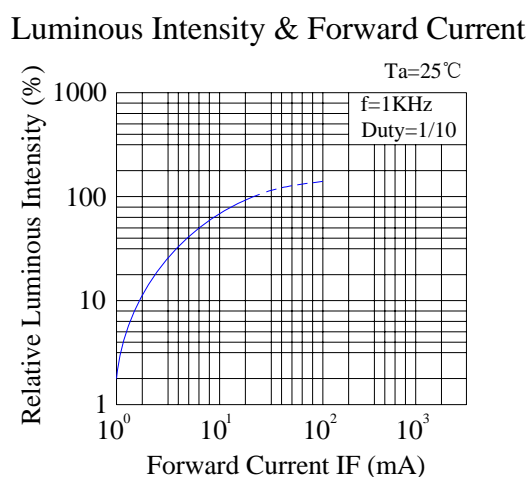
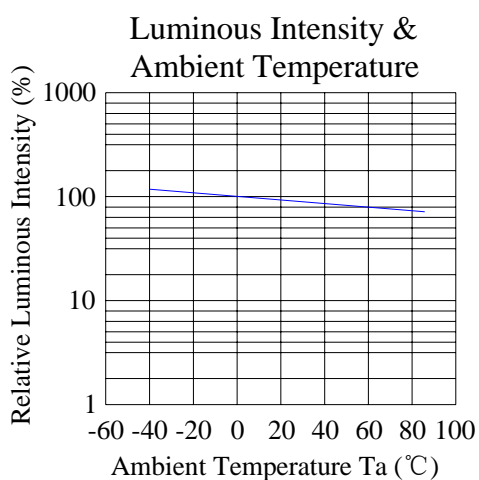
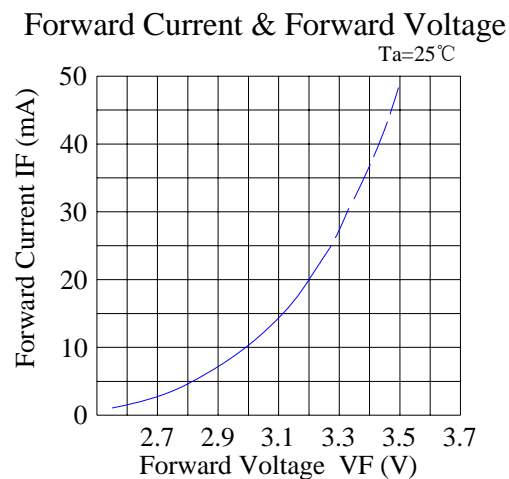
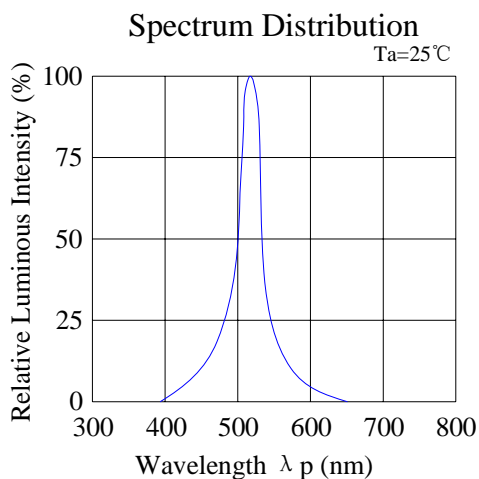
Typical Electrical / Optical Characteristics Curves
(25°C Ambient Temperature Unless Otherwise Noted)

Ultra Red



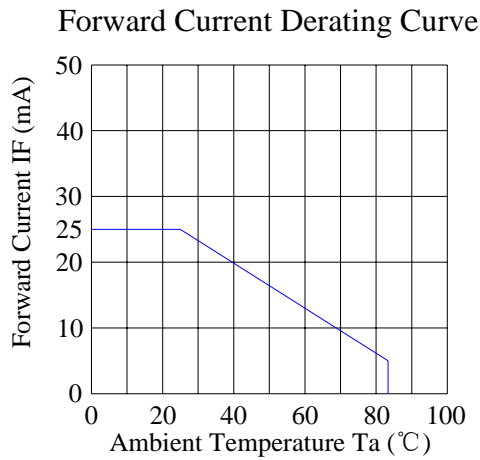
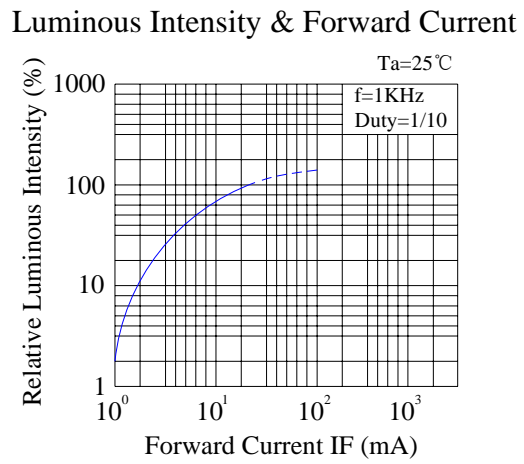
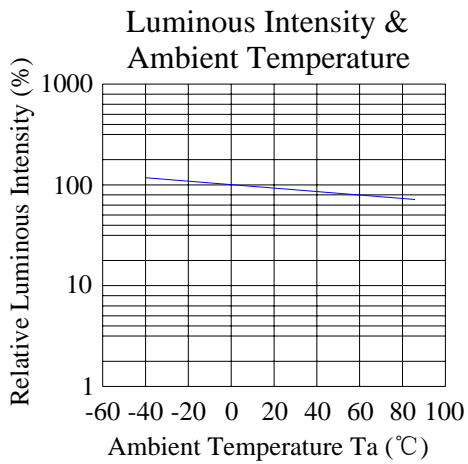
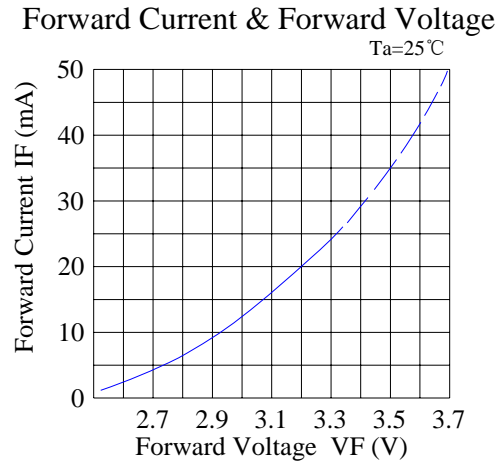
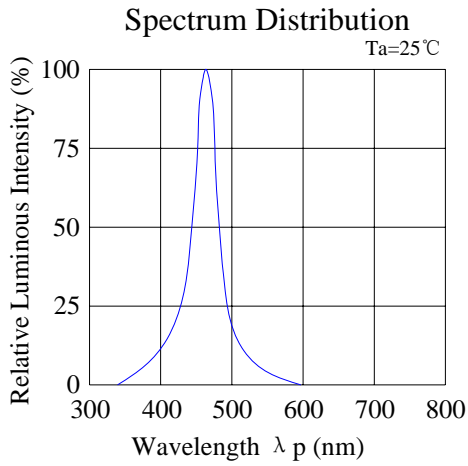
Typical Electrical / Optical Characteristics Curves (25°C Ambient Temperature Unless Otherwise Noted)

Pure Green



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

Blue



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 Do not open moisture proof bag before the products are ready to use.

2.2 Before opening the package, the LEDs should be kept at 30°C or less and 90%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°C or less and 70%RH or less.

3. Soldering Condition

3.1 Pb-free solder temperature profile.

3.2 Reflow soldering should not be done more than two times.

4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 260°C 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.

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.

6. Caution in ESD

Static Electricity and surge damages the LED. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED. All devices equipment and machinery must be properly grounded.