

2.3" Single Digit Numeric Displays
Technical Data Sheet

Model No: KW1-2301XGB

Features:

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

Descriptions:

- ◇ The KW1-2301XXX series is a lager 56.8mm(2.3") high seven segment display designed for viewing distances up to 7 meters.
- ◇ These displays provide excellent reliability in bright ambient light.
- ◇ These devices are made with white segments and black surface.

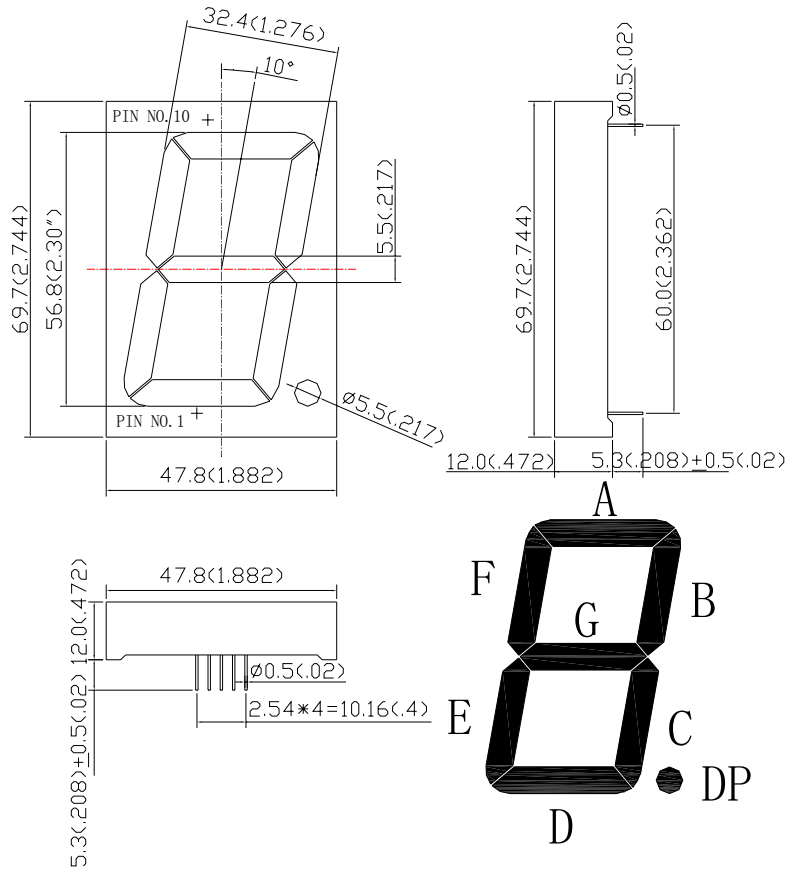
Applications:

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

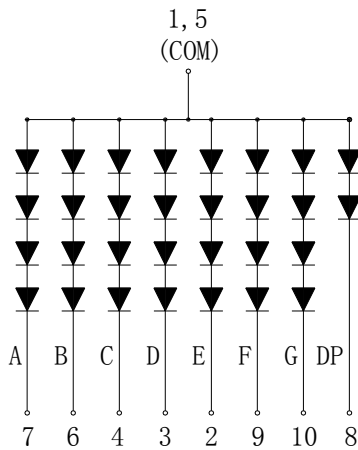
Device Selection Guide:

Model No.	Chip Material	Source Color	Description
KW1-2301AGB	GaP	Yellow Green	Common Anode
KW1-2301CGB		Yellow Green	Common Cathode

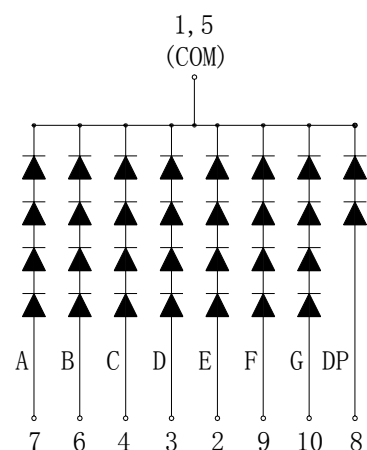
Package Dimension:



KW1-2301AGB



KW1-2301CGB



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

Parameter	Max.	Unit
Power Dissipation per segment	280	mW
Peak Forward Current per segment (1/10 Duty Cycle, 0.1ms Pulse Width)	100	mA
Continuous Forward Current per segment	25	mA
Derating Linear From 50°C	0.4	mA/°C
Reverse Voltage	5	V
Operating Temperature Range	-40°C to +80°C	
Storage Temperature Range	-40°C to +100°C	
Soldering Temperature	260°C for 5 Seconds	

Electrical Optical Characteristics at Ta=25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity per segment	Iv	3.5	7.0	---	mcd	IF=20mA (Note 1)
Peak Emission Wavelength	λ_p	563	568	573	nm	IF=20mA
Dominant Wavelength	λ_d	565	570	575	nm	IF=20mA (Note 2)
Spectral Line Half-Width	$\Delta\lambda$	24	29	34	nm	IF=20mA
Forward Voltage per segment	VF	---	8.4	11.2	V	IF=20mA
Reverse Current per segment	IR	---	---	10	μ A	VR=5V

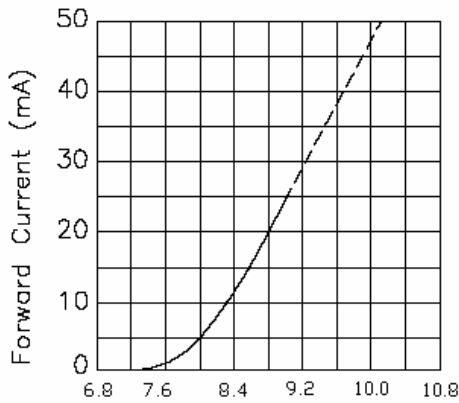
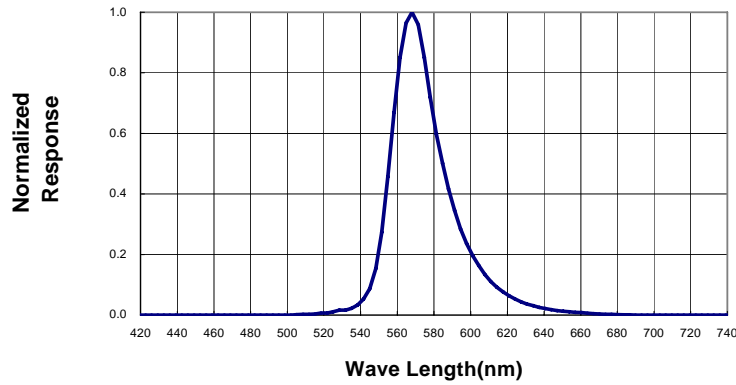
Notes:

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

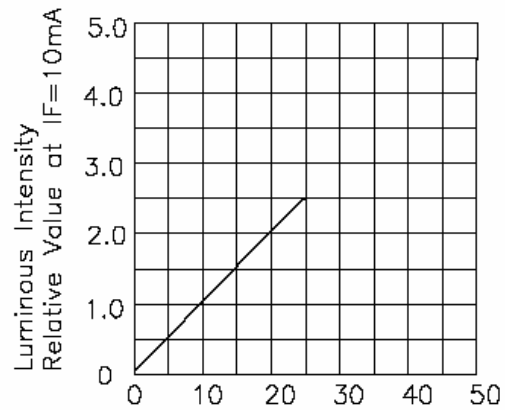
Typical Electrical / Optical Characteristics Curves (25°C Ambient Temperature Unless Otherwise Noted)

GREEN

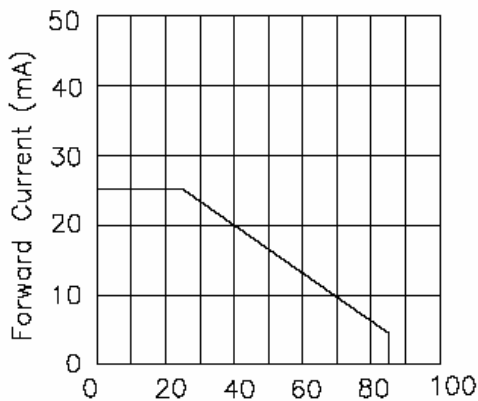
Spectral Radiance (Peak @ 568nm)



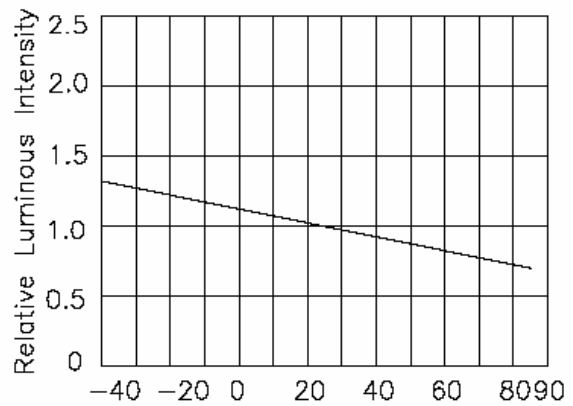
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT Vs.
DERATING CURVE



LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

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.