

13×13mm Light Bar Display
Technical Data Sheet

Part No.: KWL-R151SW

Features:

- ◇ Industrial standard size.
- ◇ Low power consumption.
- ◇ Categorized for luminous intensity.
- ◇ The product itself will remain within RoHS compliant Version.

Descriptions:

- ◇ The KWL-R151 series is 13×13mm light bar display, designed for viewing distances up to 7 meters.

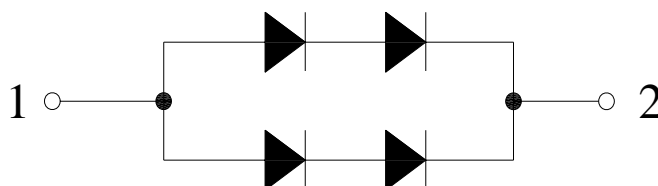
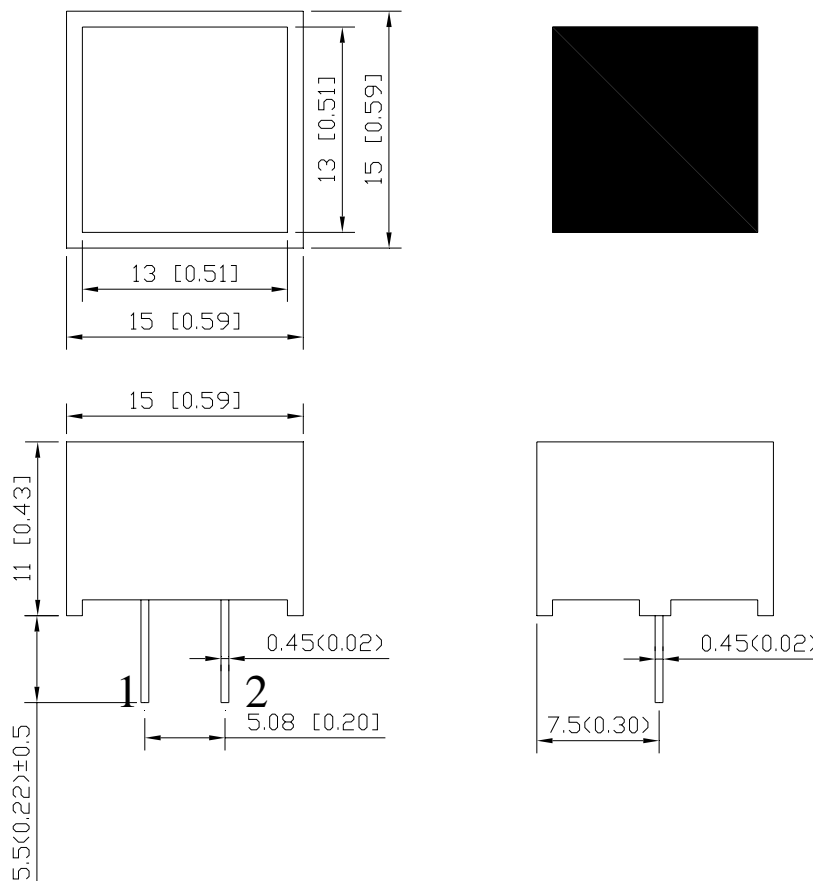
Applications:

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

Device Selection Guide:

Part No.	Chip Material	Face Color	Source Color
KWL-R151SW	GaAlAs	White Diffused	Super Bright Red

Package Dimension:



Notes:

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

Absolute Maximum Ratings at Ta=25°C

Parameters/ Per LED Chip	Symbol	Max.	Unit
Power Dissipation	PD	192	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	IFP	100	mA
Forward Current	IF	40	mA
Derating Linear From 50°C		0.4	mA/°C
Reverse Voltage	VR	5	V
Operating Temperature Range	Topr	-40°C to +80°C	
Storage Temperature Range	Tstg	-40°C to +100°C	
Soldering Temperature	Tsld	260°C for 5 Seconds	

Electrical Optical Characteristics at Ta=25°C

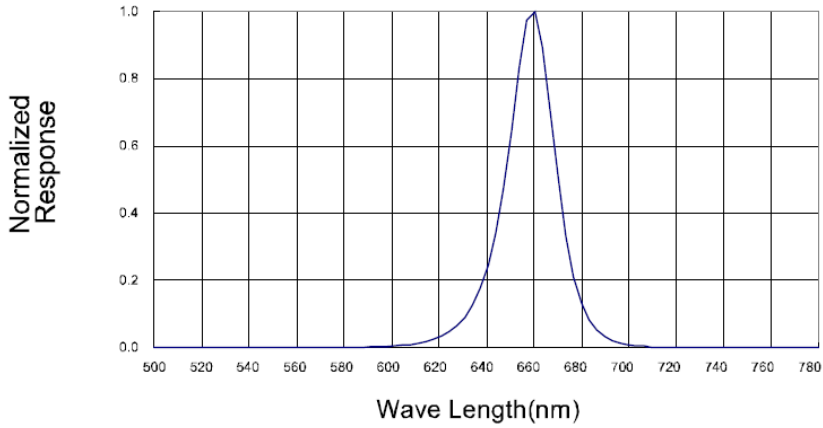
Parameters	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	IV	3.0	5.0	---	mcd	IF=20mA (Note 1)
Peak Emission Wavelength	λ_p	---	660	---	nm	IF=20mA
Dominant Wavelength	λ_d	---	640	---	nm	IF=20mA (Note 2)
Spectral Line Half-Width	$\Delta\lambda$	---	20	---	nm	IF=20mA
Forward Voltage	VF	---	3.6	4.8	V	IF=20mA
Reverse Current	IR	---	---	10	μ A	VR=5V

Notes:

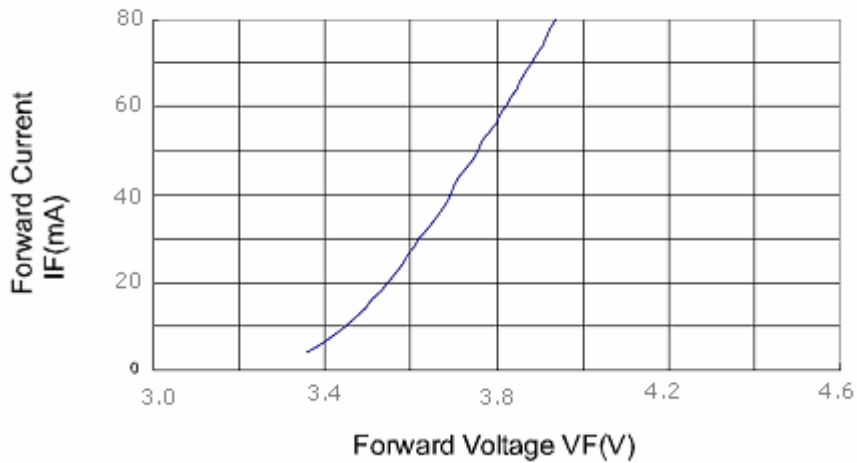
1. Luminous Intensity Measurement allowance is $\pm 10\%$.

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

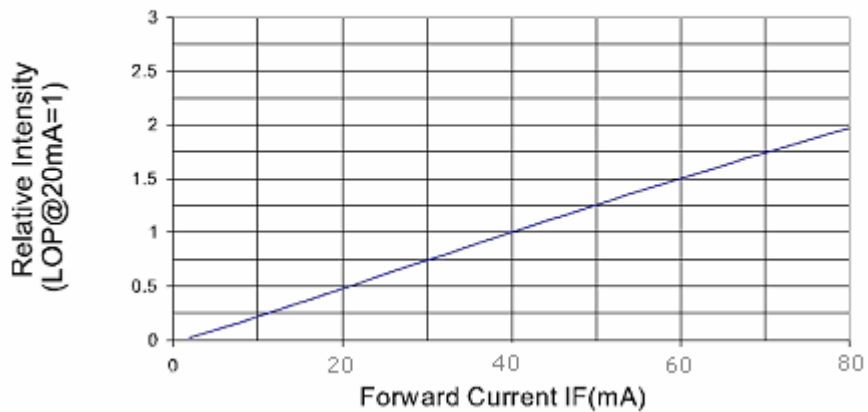
Spectral Radiance (Peak @ 660nm)



Forward Current vs Forward Voltage



Relative Luminous Intensity vs Forward Current



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.