

1.9mm (0.8") 8×8 Ultra Red

Dot Matrix LED Displays

Technical Data Sheet

Model No.: DL-D20881XRB

Double Light

◆ Features:

1. 0.8inch (20.00mm) Matrix height.
2. Colors: Super Bright Red.
3. Flat package and light weight.
4. Easy assembly.
5. High quality and low cost.
6. High reliable and intensity.
7. Low power requirement.
8. The product itself will remain within RoHS compliant version.

◆ Descriptions:

1. The DL-D20881 series is a large emitting area (1.9mm diameter) LED sources configured in a 64 dots 8*8matrix array.
2. These displays provide excellent reliability in bright ambient light.
3. These devices are made with white dots and black surface.

◆ Applications:

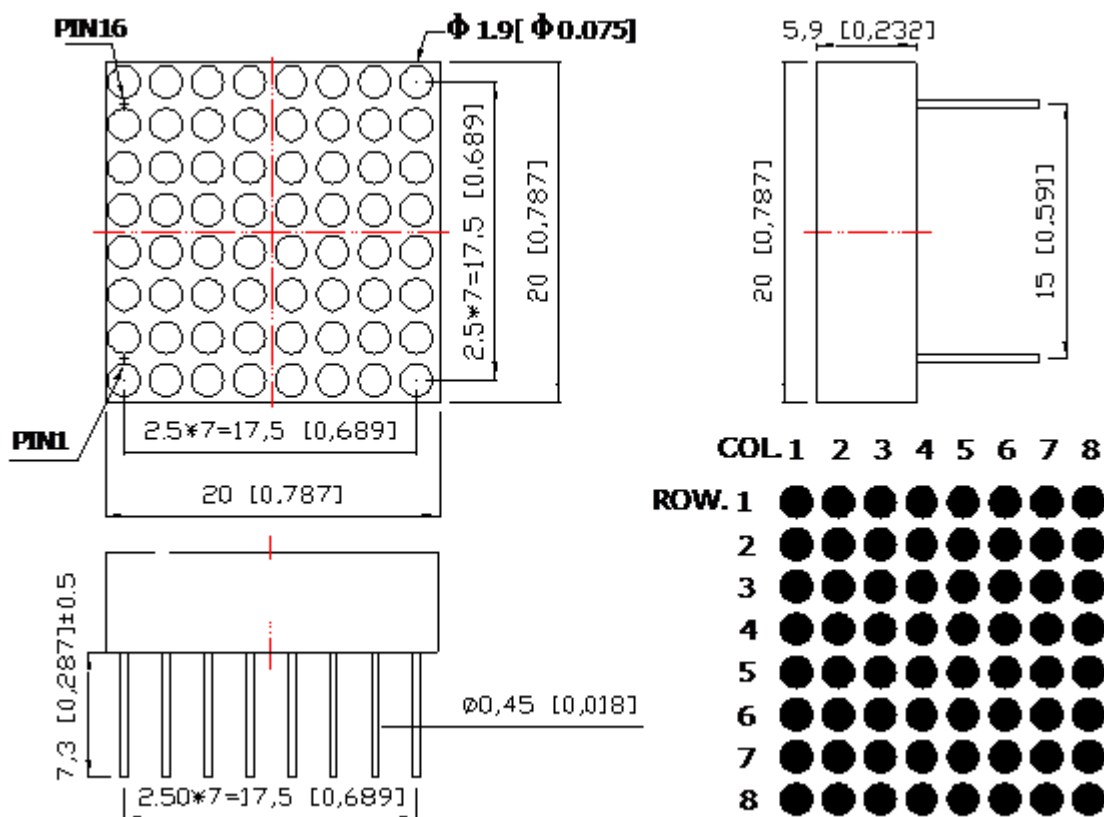
1. Audio equipment.
2. Instrument panels.
3. Digital read out display.

◆ Device Selection Guide:

Model No.	Chip Material	Face Color	Descriptions
DL-D20881ARB	GaAlAs	Black	Row Anode
DL-D20881CRB		Black	Row Cathode

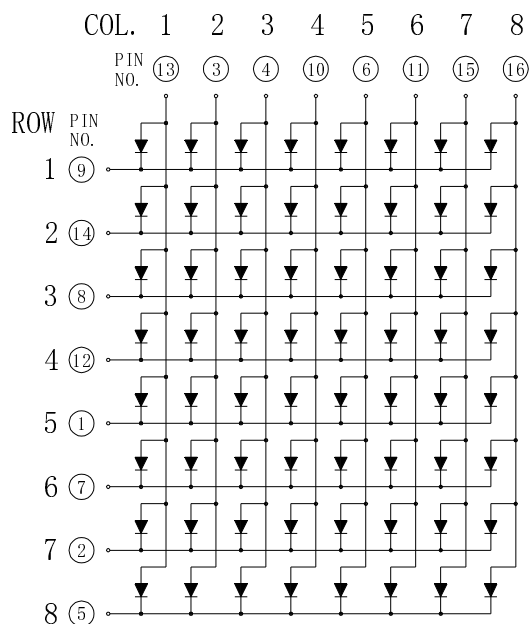
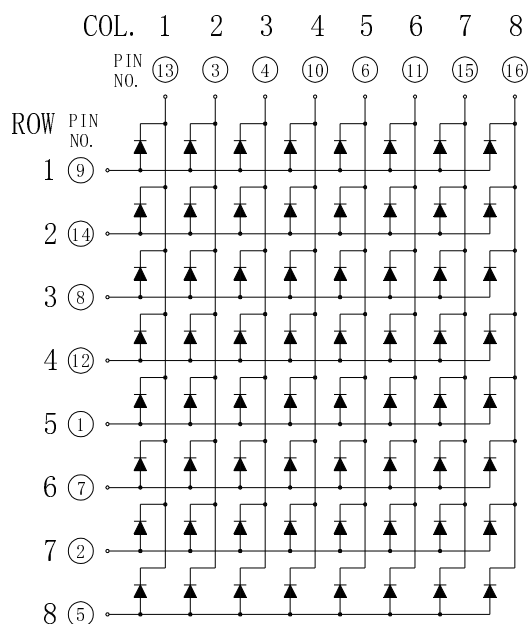
Double Light

◆ Package Dimension:



DL-D20881ARB

DL-D20881CRB



NOTES: All dimensions are in millimeters (inches) tolerance are $\pm 0.25\text{mm}$ (0.01inch) unless otherwise noted.

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◆ Absolute Maximum Ratings at Ta=25°C

Parameters	Symbol	Max.	Unit
Power Dissipation Per Dot	PD	60	mW
Peak Forward Current Per Dot (1/10 Duty Cycle, 0.1ms Pulse Width)	IFP	100	mA
Forward Current Per Dot	IF	25	mA
Dating 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 +85°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	5.0	8.5	---	mcd	IF=20mA (Note 1)
Luminous Intensity Matching Ratio (Dot To Dot)	Iv-m	---	---	2:1		IF=10mA
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	---	1.80	2.40	V	IF=20mA
Reverse Current	IR	---	---	50	μ A	VR=5V

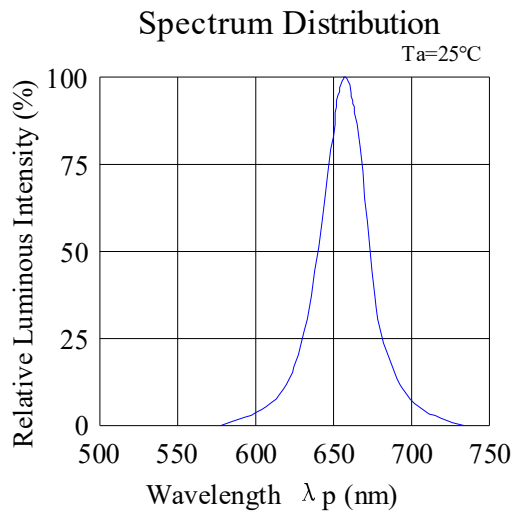
Notes:

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.

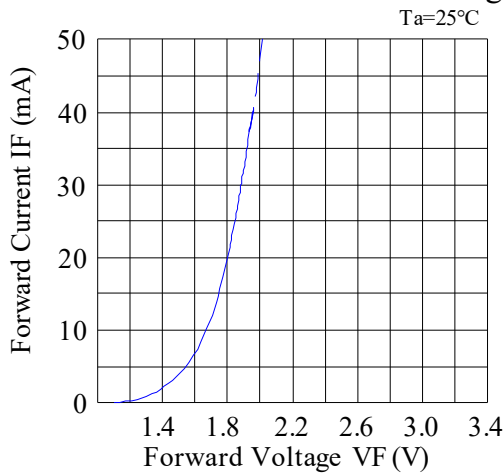
Double Light

◆ Typical Electrical / Optical Characteristics Curves

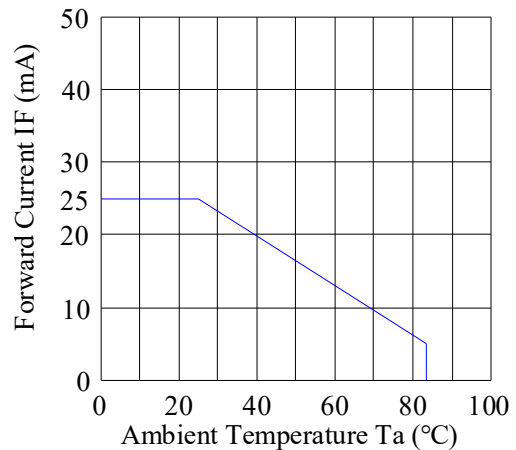
(25°C Ambient Temperature Unless Otherwise Noted)



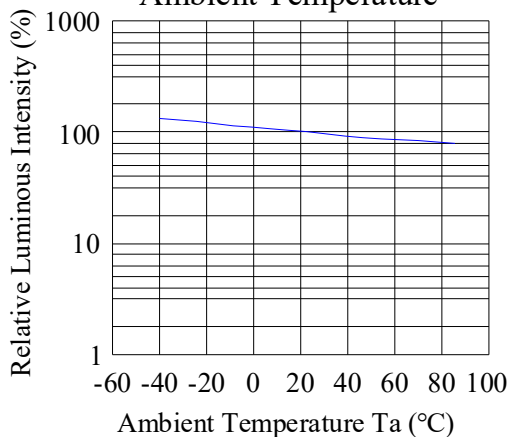
Forward Current & Forward Voltage



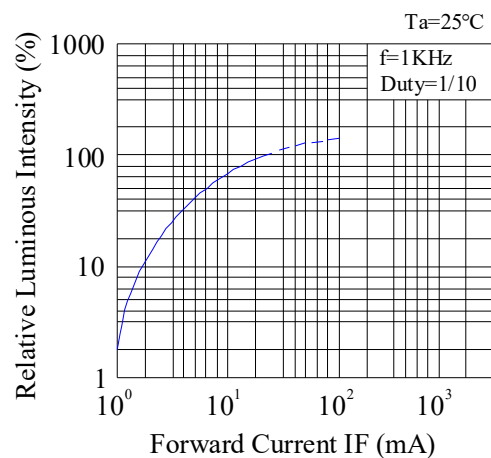
Forward Current Derating Curve



Luminous Intensity & Ambient Temperature



Luminous Intensity & Forward Current



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◆ 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.