

# PRODUCT SPECIFICATION

*Part Number*  
**PDM8876 series**

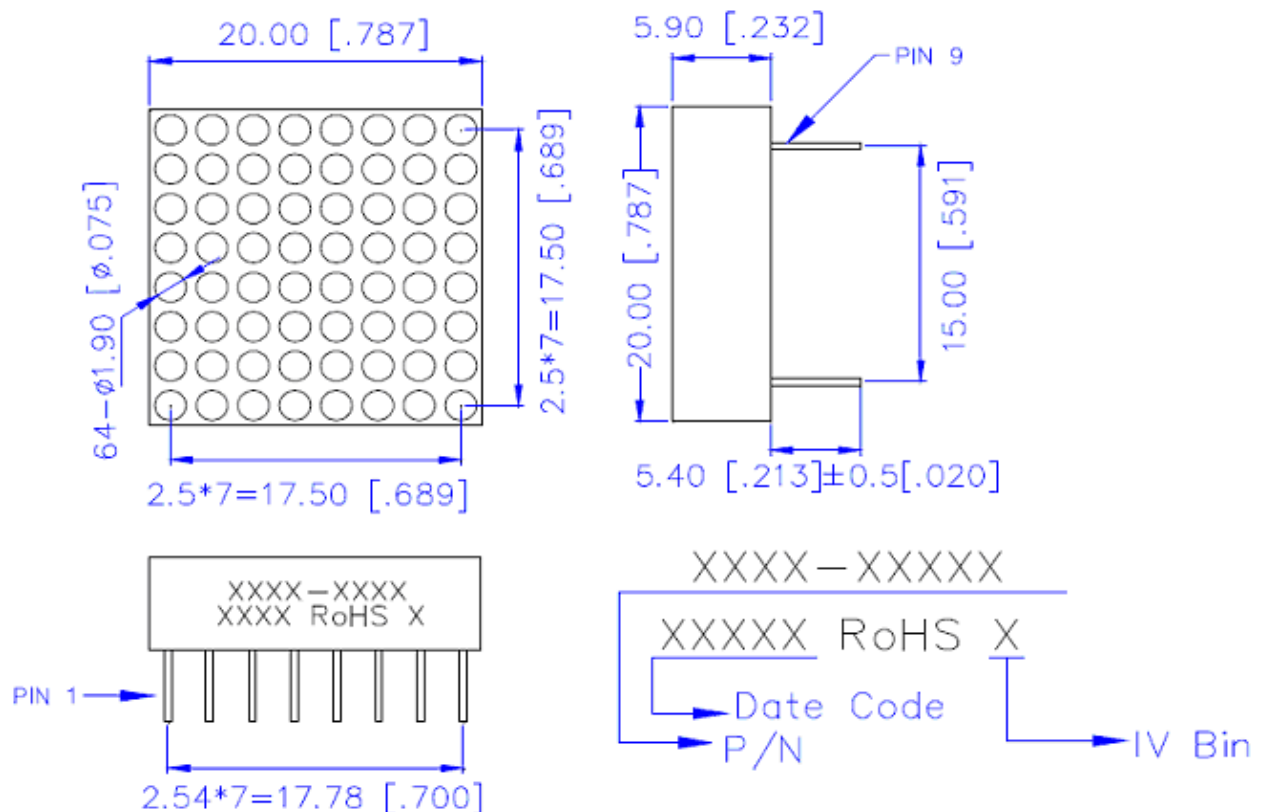
## Details

- 0.76" (19.4mm) Dot Matrix Display
- 8x8 Array
- Available in Common Anode or Cathode
- Emitting Color: Pure Green, Yellow Green, Yellow, Amber, Orange-Red, Red or Deep Red

## Features

- Low power consumption
- RoHS Compliant
- Gray or Black Face, White Segment
- Easy mounting on PCB or socket

## Mechanical Dimensions



### Notes:

1. Dimensions in millimeters [inch], and tolerance is  $\pm 0.25$  [0.010] and angle is  $\pm 1^\circ$  unless otherwise noted.
2. Bending  $\leq$  Length\*1%
3. All pins are  $\pm 0.50$  [0.020]  $\pm$  0.1 [0.004]
4. Specifications subject to change without notice



**Device Selection Guide**

Model Number		Chip		Note
Common Column Anode	Common Column Cathode	Material	Emitting Color	
PDM8876A-G05	PDM8876C-G05	InGaN	True Green	Add “-BW” to end of part number for Black Face/White Segment
PDM8876A-G17	PDM8876C-G17	AlInGaP	Yellow Green	
PDM8876A-Y04	PDM8876C-Y04		Yellow	
PDM8876A-A11	PDM8876C-A11		Amber	
PDM8876A-R02	PDM8876C-R02		Orange-Red	
PDM8876A-R11	PDM8876C-R11		Red	
PDM8876A-R21	PDM8876C-R21		Deep Red	

**Absolute Maximum Ratings at Ta=25°C**

Parameter	Symbol	Rating		Unit
		G17/Y04/A11/R02/R11/R21	G05	
Power Dissipation per Dice	PAD	70	114	mW
Derating Liner from 25°C per Dice	--	0.33	0.4	mA/°C
Continuous Forward Current Per Dice	IAF	25	30	mA
Peak Current Per Dice (duty cycle 1/10, 1KHz)	IPF	90	100	mA
Reverse Voltage Per Dice	VR	5	5	V
Electrostatic Discharge (HBM)	ESD	/	1000	V
Operating Temperature	Topr	-35~+85		°C
Storage Temperature	Tstg	-35~+85		°C

Solder Conditions: 1/16 inch below seating plane for 3 -5 seconds at 260°C.

**Electrical and Optical Characteristics at Ta=25°C**

Parameter	Symbol	Chip	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Segment	VF	G05	--	3.2	3.8	V	IF=20mA
		G17/Y04/A11/R02/R11/R21	--	2	2.8		
Luminous Intensity Per Segment	Iv	G05	--	230	--	mcd	IF=10mA
		G17	--	16	--		
		Y04	--	50	--		
		A11	--	60	--		
		R02	--	40	--		
		R11	--	40	--		
Peak Emission Wavelength / Dominant Wavelength	$\lambda P/\lambda d$	G05	--	*/525	--	nm	IF=20mA
		G17	--	572/570	--		
		Y04	--	592/590	--		
		A11	--	612/605	--		
		R02	--	632/625	--		
		R11	--	644/630	--		
Reverse Current	IR		--	--	100	$\mu A$	VR=5V
Luminous Intensity Matching Ratio	Iv-m		--	--	2:1	--	IF=10mA

### Typical Electrical/Optical Characteristic Curves

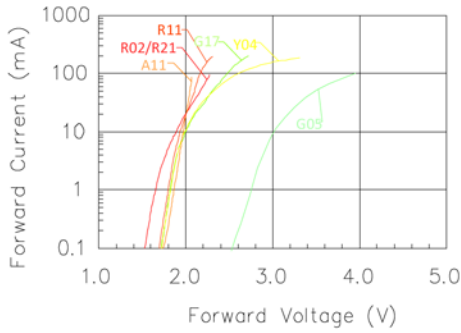


Fig 1. Forward Current vs. Forward Voltage

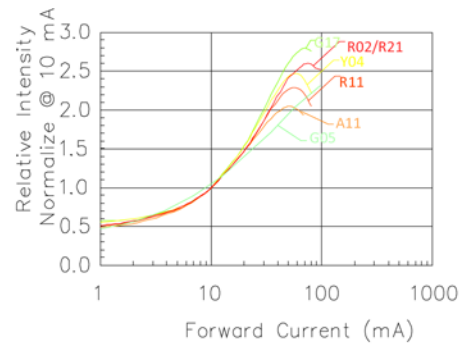


Fig 2. Relative Intensity vs. Forward Current

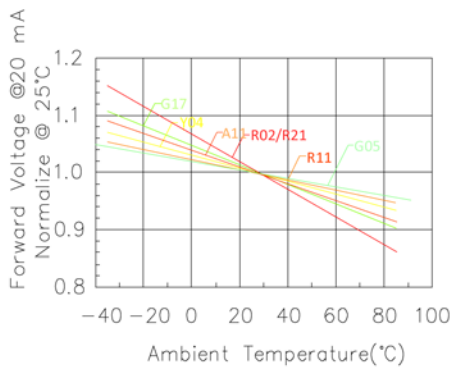


Fig 3. Forward Voltage vs. Temperature

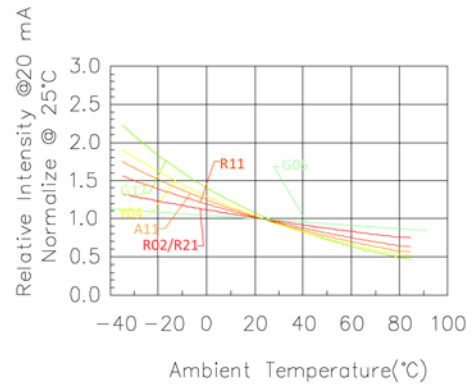


Fig 4. Relative Intensity vs. Temperature

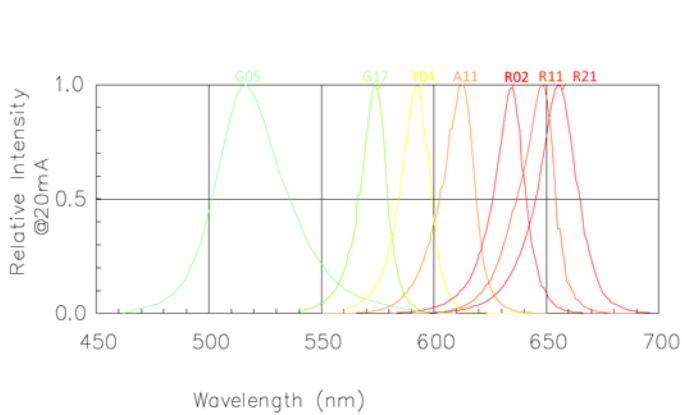


Fig 5. Relative Intensity vs. Wavelength

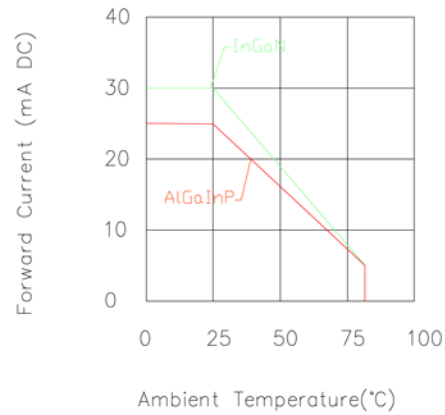


Fig 3. Forward Current vs. Ambient Temperature



**Luminous General lv Bin Grade (IF = 10mA)**

**Color Rank Limits (IF=20mA)**

Remark: Unit=mcd

\*Tolerance: ±20%

Remark: Unit=nm

\*Tolerance: ±1

**● Pure Green(G05)**

W	X	Y	1	2
119.791	155.730	202.450	263.185	342.142
155.729	202.449	263.184	342.141	444.785

1	2	3	4	5
515.0	518.0	520.0	522.0	524.0
518.0	520.0	522.0	524.0	527.0

**● Yellow Green(G17)**

L	M	N	P	Q
8.686	11.293	14.682	19.088	24.815
11.292	14.681	19.087	24.814	32.260

0	1	2	3	4
567.5	569.5	570.5	571.5	573.0
569.4	570.4	571.4	572.9	575.0

**● Yellow (Y04)**

Q	R	S	T	U
24.815	32.261	41.940	54.523	70.881
32.260	41.939	54.522	70.880	92.145

1	2	3	4	5
583.0	585.0	587.0	589.0	591.0
585.0	587.0	589.0	591.0	593.0

**● Amber (A11)**

R	S	T	U	V
32.261	41.940	54.523	70.881	92.146
41.939	54.522	70.880	92.145	119.790

**● Orange (R02)**

P	Q	R	S	T
19.088	24.815	32.261	41.940	54.523
24.814	32.260	41.939	54.522	70.880

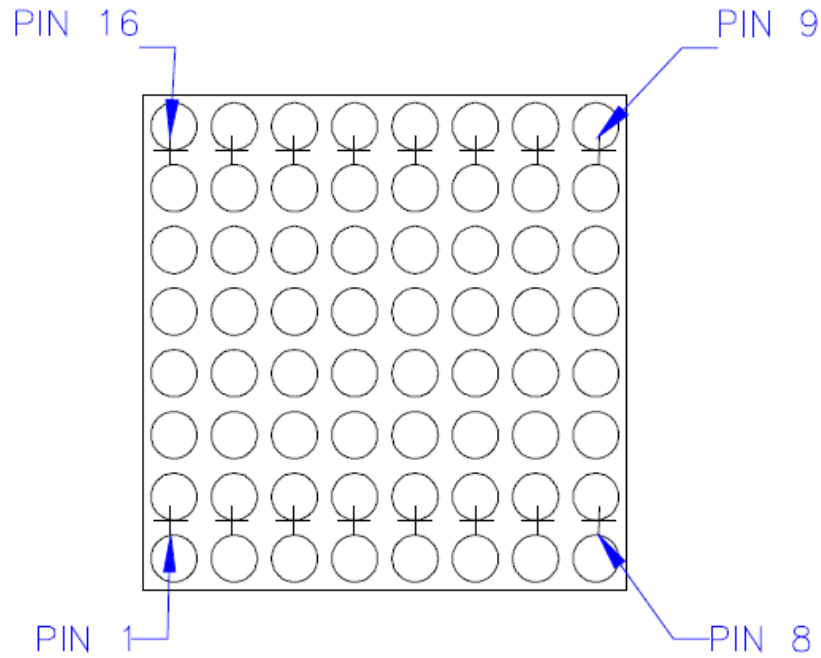
**● Red (R11)**

P	Q	R	S	T
19.088	24.815	32.261	41.940	54.523
24.814	32.260	41.939	54.522	70.880

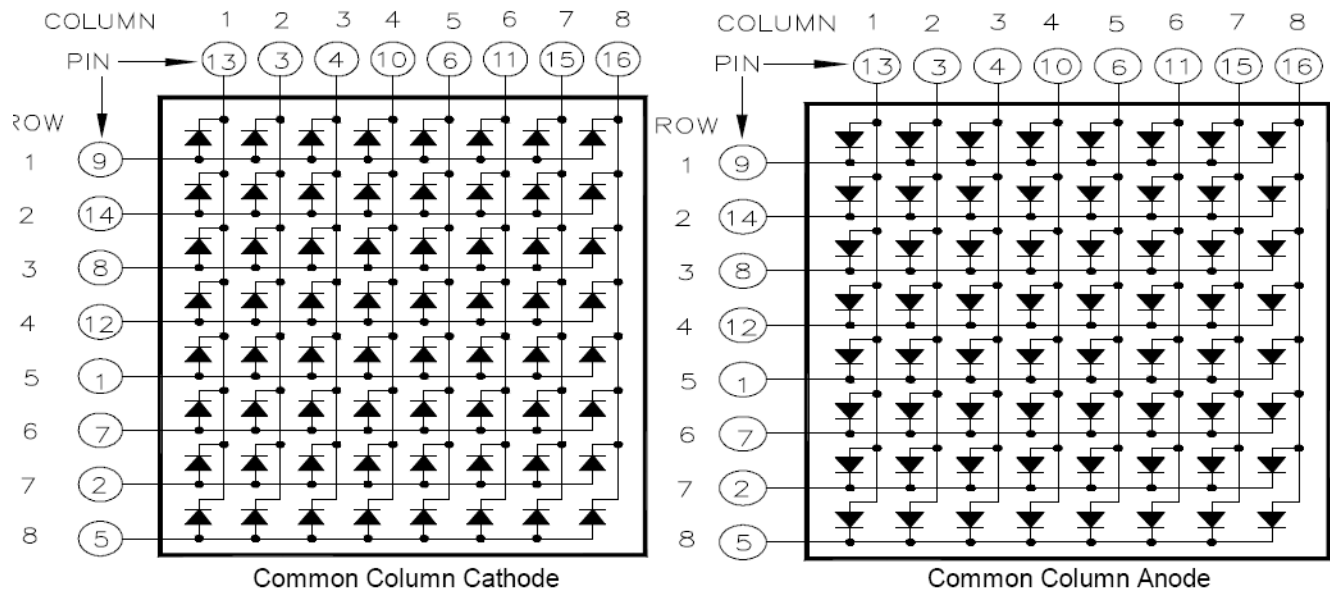
**● Deep Red(R21)**

L	M	N	P	Q
8.686	11.293	14.682	19.088	24.815
11.292	14.681	19.087	24.814	32.260

**All Light-On Segments Feature & Pad Position**



**Internal Circuit Diagram**

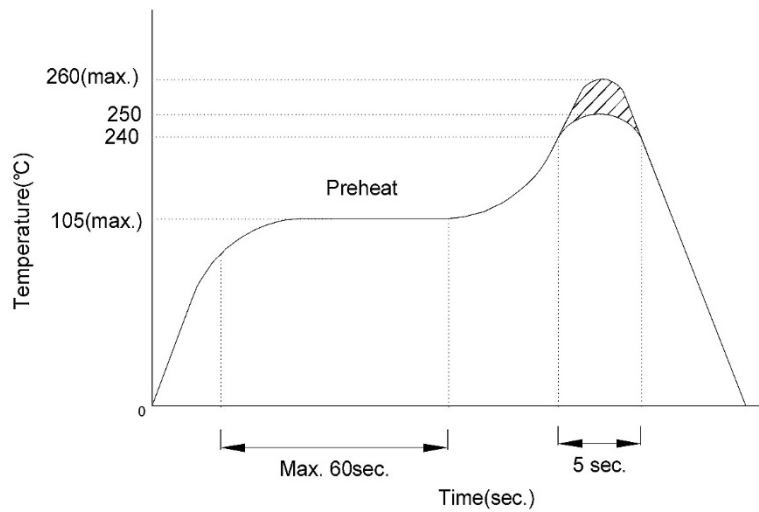


### *Precautions for Use*

#### 1. Recommended soldering conditions

##### 1.1. Wave soldering

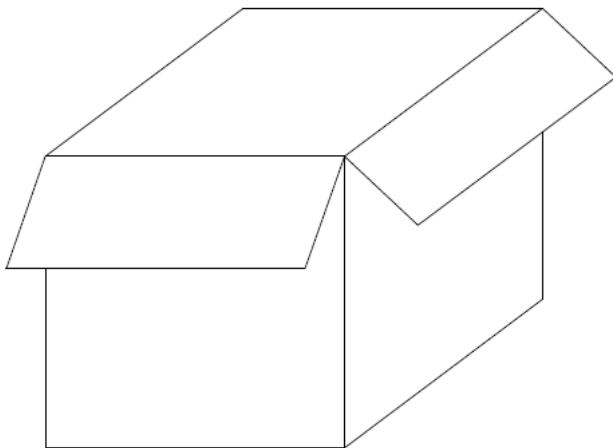
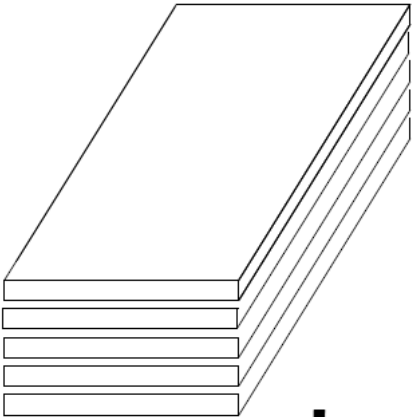
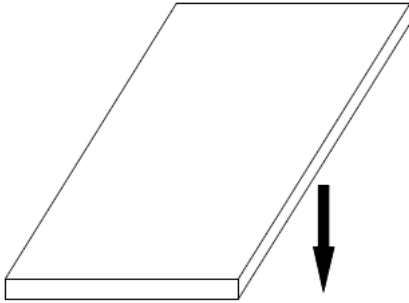
Basic SPEC is  $\leq 5$ sec. When  $260^{\circ}\text{C}$ . If temperature is higher, time should be shorter ( $+10^{\circ}\text{C} \rightarrow -1$ sec.).



##### 1.2. Soldering Iron:

Power dissipation of iron should be smaller than 15W and temp should be controllable. Soldering temperature should be under  $260^{\circ}\text{C}$ , time  $\leq 3$ sec.

### *Packing Specifications*



64 Pcs Per PE.foam  
PE.foam Size:  
L295xW195xH15mm

10 PE.foam Per Box  
Q'TY: 640 PCS  
Box Size:  
L300\*W205\*H240mm

Note: Specifications subject to change without notice.