

# 16 x 16 matrix displays

## LM-2256 Series

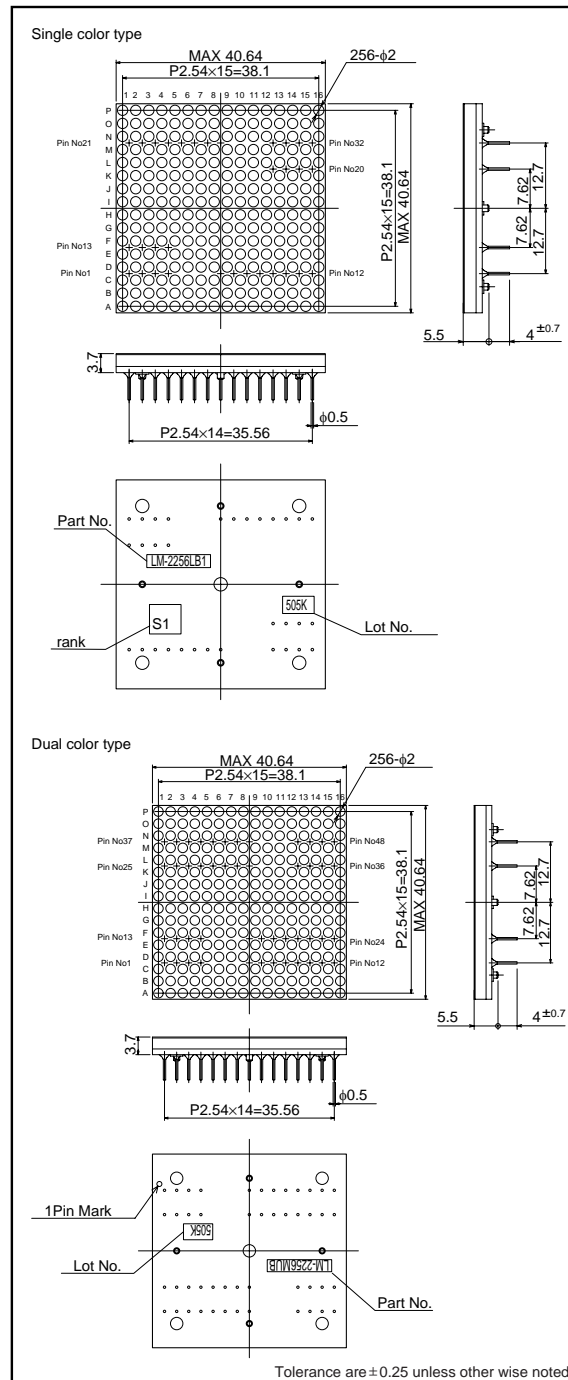
The LM-2256 series are 16 x 16 matrix displays which can be used in a wide variety of applications, including alpha-numeric, numeric, symbol, and graphic displays. Red is available, as well as a dual-color red / green type.

●Application  
Light sources for displays

●Features

- 1) 16 x 16 dot matrix  
Circular emitters.
- 2) External dimensions : 4.064 x40.64 x 5.5mm
- 3) Emitters : Circular, 2.0mm diameter
- 4) Black package.

●Dimensions (Unit: mm)

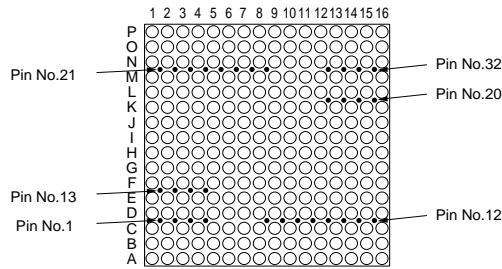


LED displays

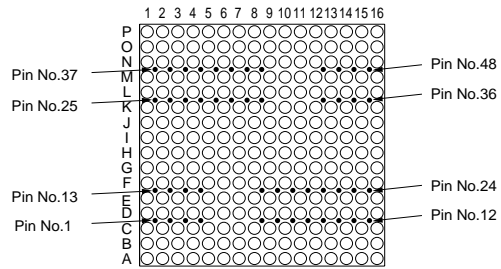
● Selection guide

Emitting color	Red	Red / Green
	Common	
Anode	—	LM-2256MUB
Cathode	LM-2256LB1	—

● Pin assignments (Top view)

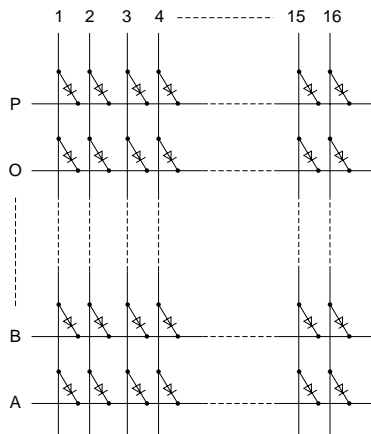


Single color type

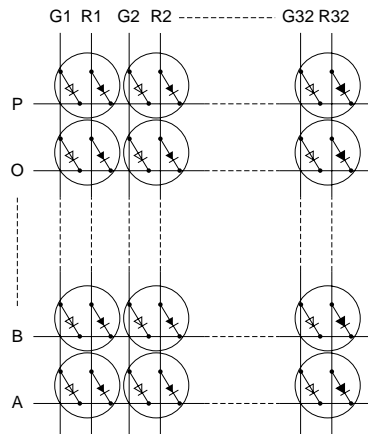


Dual color type

● Internal circuit schematic



Single color type



→ GREEN  
→ RED

Dual color type

## LED displays

## ●Pin assignment table

## Single-color type

Pin No.	Function	Pin No.	Function
1	A Cathode	17	J Cathode
2	C Cathode	18	L Cathode
3	D Cathode	19	K Cathode
4	B Cathode	20	I Cathode
5	9 Anode	21	1 Anode
6	10 Anode	22	2 Anode
7	11 Anode	23	3 Anode
8	12 Anode	24	4 Anode
9	13 Anode	25	5 Anode
10	14 Anode	26	6 Anode
11	15 Anode	27	7 Anode
12	16 Anode	28	8 Anode
13	H Cathode	29	O Cathode
14	F Cathode	30	M Cathode
15	E Cathode	31	N Cathode
16	G Cathode	32	P Cathode

## Dual – color type

Pin No.	Function	Pin No.	Function
1	A Cathode	25	R1 Anode
2	C Cathode	26	R2 Anode
3	D Cathode	27	R3 Anode
4	B Cathode	28	R4 Anode
5	G9 Anode	29	R5 Anode
6	G10 Anode	30	R6 Anode
7	G11 Anode	31	R7 Anode
8	G12 Anode	32	R8 Anode
9	G13 Anode	33	J Cathode
10	G14 Anode	34	L Cathode
11	G15 Anode	35	K Cathode
12	G16 Anode	36	I Cathode
13	H Cathode	37	G1 Anode
14	F Cathode	38	G2 Anode
15	E Cathode	39	G3 Anode
16	G Cathode	40	G4 Anode
17	R9 Anode	41	G5 Anode
18	R10 Anode	42	G6 Anode
19	R11 Anode	43	G7 Anode
20	R12 Anode	44	G8 Anode
21	R13 Anode	45	O Cathode
22	R14 Anode	46	M Cathode
23	R15 Anode	47	N Cathode
24	R16 Anode	48	P Cathode

## ●Absolute maximum ratings (Ta=25°C)

## Single – color type

Parameter	Symbol	LB1	Unit
		Red	
Power dissipation	P <sub>D</sub>	50	mW/dot
Forward current	I <sub>F</sub>	20	mA/dot
Peak forward current	I <sub>FP</sub>	60*	mA/dot
Reverse voltage	V <sub>R</sub>	3	V
Operating temperature	Topr	-20 to +60	°C
Storage temperature	Tstg	-25 to +85	°C

\* Pulse width 1msec duty 1 / 16

## Dual – color type

Parameter	Symbol	MUB		Unit
		Red	Green	
Power dissipation	P <sub>D</sub>	42	42	mW/dot
Forward current	I <sub>F</sub>	15	15	mA/dot
Peak forward current	I <sub>FP</sub>	60*	60*	mA/dot
Reverse voltage	V <sub>R</sub>	4	4	V
Operating temperature	Topr	-20 to +50		°C
Storage temperature	Tstg	-30 to +75		°C

\*Pulse width 1msec duty 1 / 16

## LED displays

## ●Electrical and optical characteristics (Ta=25°C)

Single – color type

Parameter	Symbol	Conditions	LB1			Unit
			Red			
			Min.	Typ.	Max.	
Forward voltage	$V_F$	$I_F=20\text{mA}$	–	1.75	2.5	V
Forward current	$I_R$	$V_R=3\text{V}$	–	–	100	$\mu\text{A}$
Peak wavelength	$\lambda_P$	$I_F=20\text{mA}$	–	660	–	nm
Spectral half-power bandwidth	$\Delta\lambda$	$I_F=20\text{mA}$	–	25	–	nm

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Parameter	Symbol	Conditions	MB			Unit
			Green			
			Min.	Typ.	Max.	
Forward voltage	$V_F$	$I_F=10\text{mA}$	–	2.1	2.8	V
Forward current	$I_R$	$V_R=3\text{V}$	–	–	100	$\mu\text{A}$
Peak wavelength	$\lambda_P$	$I_F=10\text{mA}$	–	563	–	nm
Spectral half-power bandwidth	$\Delta\lambda$	$I_F=10\text{mA}$	–	40	–	nm

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Dual – color type

Parameter	Symbol	Conditions	MUB						Unit
			Red			Green			
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Forward voltage	$V_F$	$I_F=10\text{mA}$	–	2	2.8	–	2.1	2.8	V
Reverse current	$I_R$	$V_R=3\text{V}$	–	–	100	–	–	100	$\mu\text{A}$
Peak wavelength	$\lambda_P$	$I_F=10\text{mA}$	–	635	–	–	563	–	nm
Spectral half-power bandwidth	$\Delta\lambda$	$I_F=10\text{mA}$	–	40	–	–	40	–	nm

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## ●Luminous intensity

Color	Type	Min.	Typ.	Max.	Unit
Red	LB1	36	72	–	mcd
Red	MUB	0.22	0.63	–	mcd
Green		0.56	1.6	–	mcd

Note : Measured at  $I_F = 10\text{mA}$  (LB1 :  $I_F=20\text{mA}$ )

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