16 × 16 matrix displays

LM-1256 Series

The LM-1256 series are 16 × 16 matrix displays which can be used in a wide variety of applications, including alphabet, numeric, symbol, and graphic displays. Bright red and red are available, as well as a dual-color red/green type.

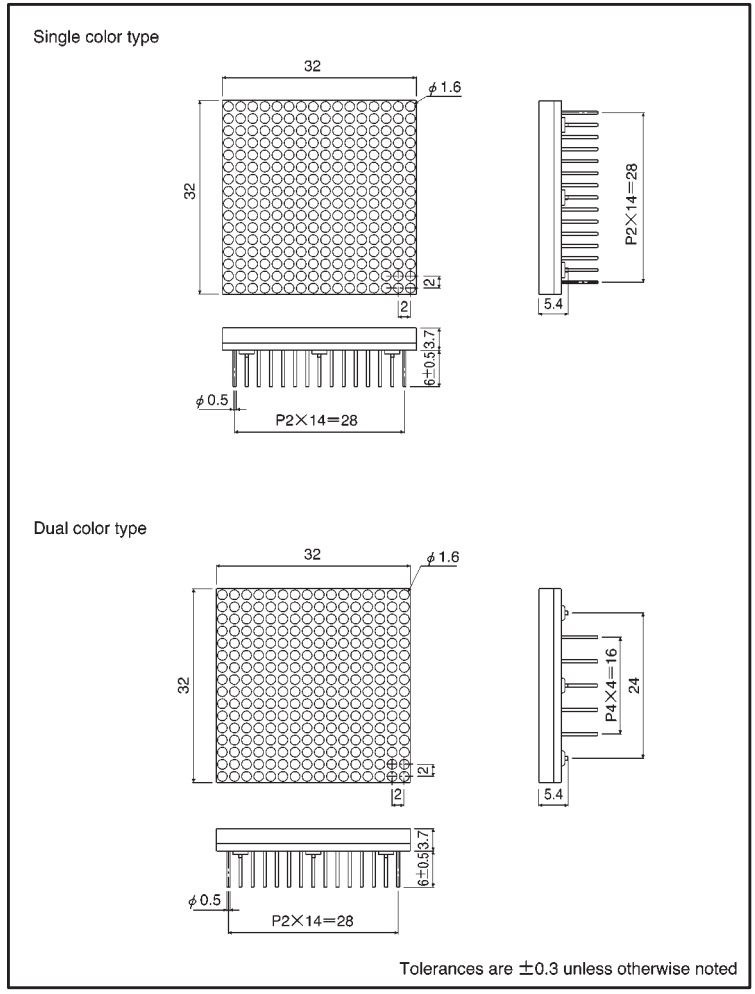
●Applications

Light sources for displays

●Features

1) 16 × 16 dot matrix
   Circular emitters.
2) External dimensions: 32 × 32 × 5.4 mm
3) Emitters: Circular, 1.6 mm diameter
4) Black package.

●External dimensions (Units: mm)

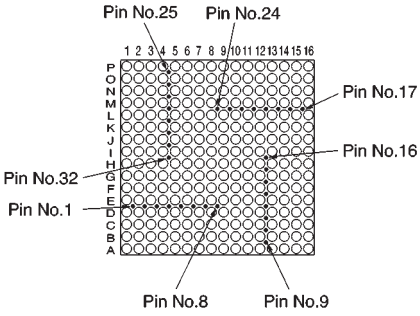


●Selection guide

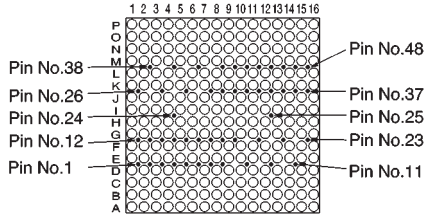
Emitting color / Common	Red*	Red	Red / Green
Anode	LM-1256LB	—	—
Cathode	—	LM-1256VB	LM-1256MUM

* Bright red

●Pin assignments

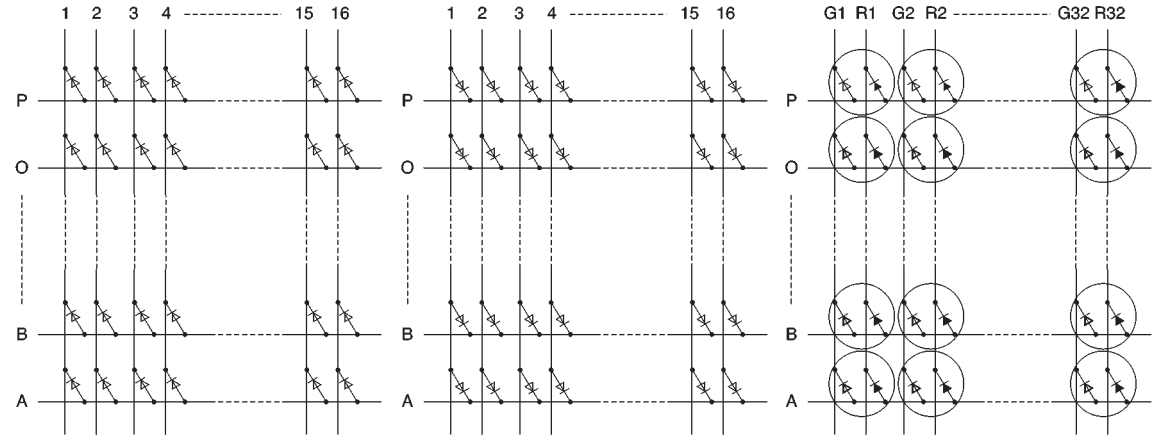


Single color type



Dual color type

●Internal circuit schematic



Single color type (LB)

Single color tpe (VB)

Dual color type

●Pin assignment table

Single-color type (LB)

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

Single-color type (VB)

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

Dual-color type

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

●Absolute maximum ratings (Ta = 25°C)

Single-color type

Parameter	Symbol	LB	VB	Unit
		Red*2	Red	
Power dissipation	P_D	2.4	2.7	W
Forward current	I_F	15	15	mA
Peak forward current	I_{FP}	60*1	60*1	mA
Reverse voltage	V_R	3	3	V
Operating temperature	Topr	−20～+50		℃
Storage temperature	Tstg	−25～+75		℃

*1 Pulse width 1msec duty 1 / 16
*2 Bright red

Dual-color type

Parameter	Symbol	MUM		Unit
		Red	Green	
Power dissipation	P_D	2.7	2.7	W
Forward current	I_F	15	15	mA
Peak forward current	I_{FP}	60*	60*	mA
Reverse voltage	V_R	4	4	V
Operating temperature	Topr	−20～+50		℃
Storage temperature	Tstg	−25～+75		℃

* Pulse width 1msec duty 1 / 16

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

Single-color type

Parameter	Symbol	Conditions	LB			VB			Unit
			Red*1			Red			
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Forward voltage	V_F	I_F=10mA	—	1.75	2.5	—	2.0	2.8	V
Reverse current	I_R	V_R=3V	—	—	100	—	—	100	μA
Peak wavelength	λ_P	I_F=10mA	—	660	—	—	650	—	nm
Spectral half-power bandwidth	$\Delta\lambda$	I_F=10mA	—	25	—	—	40	—	nm

◎Not designed for radiation resistance.

*1 I_F = 20mA

Dual-color type

Parameter	Symbol	Conditions	MUM						Unit
			Red			Green			
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Forward voltage	V_F	I_F=10mA	—	2.0	2.8	—	2.1	2.8	V
Reverse current	I_R	V_R=3V	—	—	100	—	—	100	μA
Peak wavelength	λ_P	I_F=10mA	—	635	—	—	563	—	nm
Spectral half-power bandwidth	$\Delta\lambda$	I_F=10mA	—	40	—	—	40	—	nm

◎Not designed for radiation resistance.

●Luminous intensity

Color	Type	Min.	Typ.	Max.	Unit
Red*1	LB	0.9	2.5	—	mcd
Red	VB	0.22	0.63	—	mcd
Red	MUM	0.22	0.63	—	mcd
Green		0.56	1.6	—	mcd

Note: Measured at I_F = 10mA

*1 I_F = 20mA