

# 7 × 10 matrix displays

## LM-0701 Series

The LM-0701 series are 7 × 10 matrix displays which can be used in a wide variety of applications, including alpha-bet, numeric, symbol, and graphic displays. A single-color bright red type and a dual-color red/green type are available.

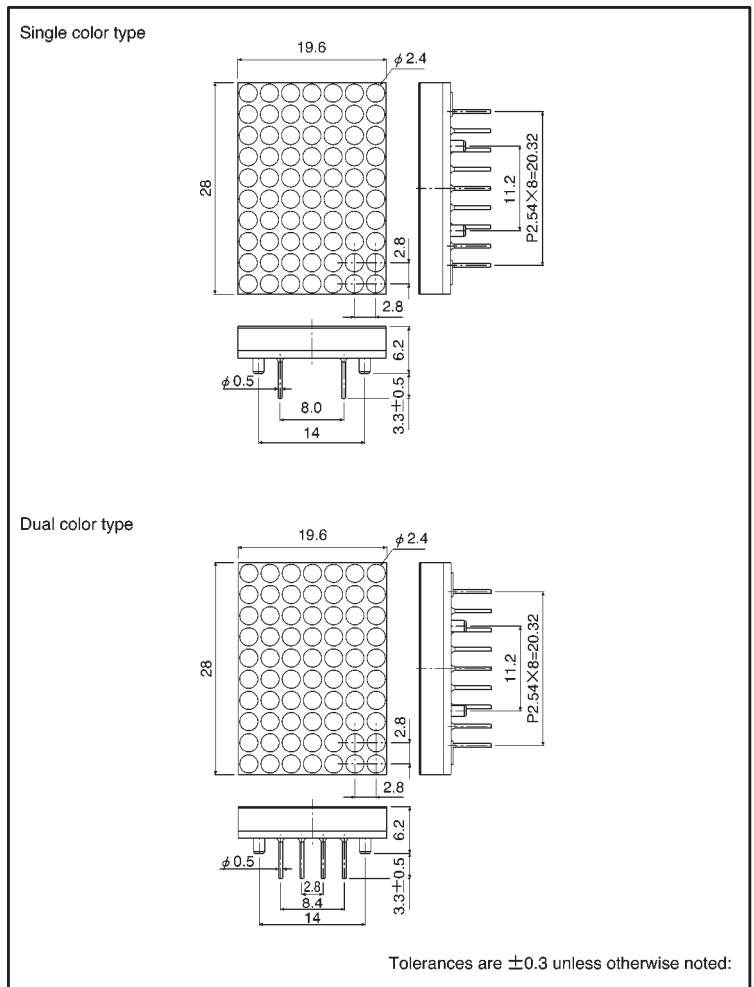
### ●Applications

Light sources for displays

### ●Features

- 1) 7 × 10 dot matrix  
Circular emitters.
- 2) External dimensions: 28 × 19.6 × 6.2 mm
- 3) Emitter diameter: 2.4 mm.
- 4) Black package.

### ●External dimensions (Units: mm)

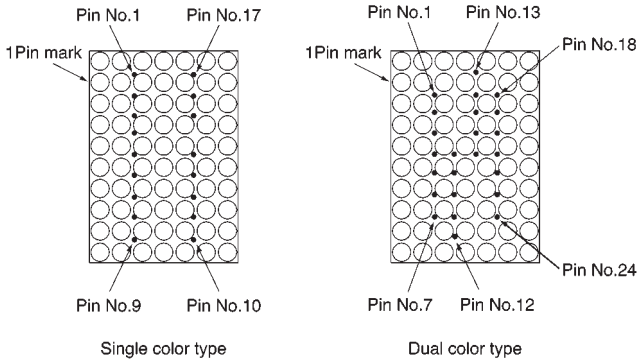


### ●Selection guide

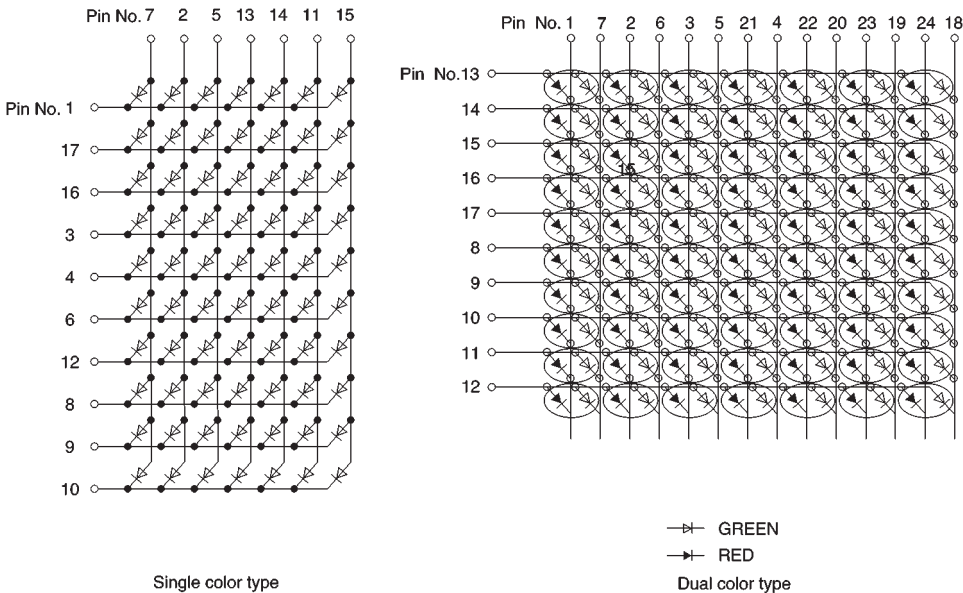
Emitting color	Red*	Red / Green
	Common	LM-0701LB
Anode	—	LM-0701MUM
Cathode	—	—

\* Bright red

## ● Pin assignments



## ● Internal circuit schematic



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

## Single-color type

Parameter	Symbol	LB	Unit
		Red*2	
Power dissipation	P <sub>D</sub>	2.0	W
Forward current	I <sub>F</sub>	30	mA
Peak forward current	I <sub>FP</sub>	80*1	mA
Reverse voltage	V <sub>R</sub>	3	V
Operating temperature	T <sub>opr</sub>	-25~+60	°C
Storage temperature	T <sub>stg</sub>	-30~+85	°C

\*1 Pulse width 1msec duty 1 / 10

\*2 Bright red

## Dual-color type

Parameter	Symbol	MUM		Unit
		Red	Green	
Power dissipation	$P_D$	35	35	mW / dot
Forward current	$I_F$	15	15	mA
Peak forward current	$I_{FP}$	60*	60*	mA
Reverse voltage	$V_R$	3	3	V
Operating temperature	$T_{opr}$	-20~+50		°C
Storage temperature	$T_{stg}$	-25~+75		°C

\* Pulse width 1msec duty 1 / 10

● Electrical and optical characteristics ( $T_a = 25^\circ\text{C}$ )

## Single-color type

Parameter	Symbol	Conditions	LB			Unit
			Red			
			Min.	Typ.	Max.	
Forward voltage	$V_F$	$I_F=10\text{mA}$	—	1.75	2.5	V
Reverse current	$I_R$	$V_R=3\text{V}$	—	—	10	$\mu\text{A}$
Peak wavelength	$\lambda_P$	$I_F=10\text{mA}$	—	660	—	nm
Spectral line half width	$\Delta\lambda$	$I_F=20\text{mA}$	—	25	—	nm

©Not designed for radiation resistance.

## Dual-color type

Parameter	Symbol	Conditions	MUM						Unit
			Red			Green			
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Forward voltage	$V_F$	$I_F=10\text{mA}$	—	2.0	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 line half width	$\Delta\lambda$	$I_F=10\text{mA}$	—	40	—	—	40	—	nm

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## ● Luminous intensity

Color	Type	Min.	Typ.	Max.	Unit
Red*1	LB	1.4	5.0	—	mcd
Red	MUM	0.56	1.6	—	mcd
Green		0.9	2.5	—	mcd

Note: Measured at  $I_F = 10\text{mA}$ \*1  $I_F = 20\text{mA}$