

5 × 7 matrix displays

LM-2035 Series

The LM-2035 series are 5 × 7 matrix displays which can be used in a wide variety of applications, including alpha-bet, numeric, symbol, and graphic displays. Bright red, red and green are available, as well as a dual-color red/green type.

●Applications

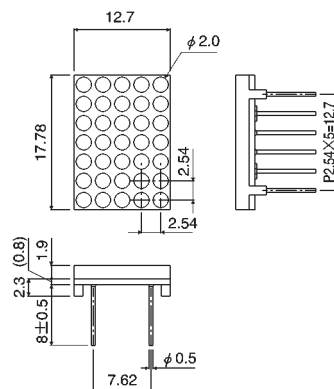
Light sources for displays

●Features

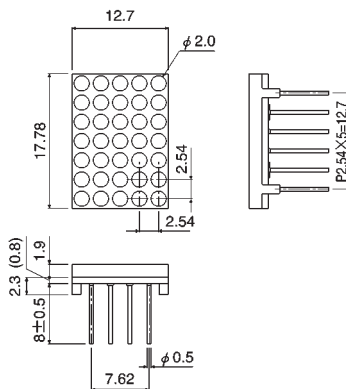
- 1) 5 × 7 dot matrix
Circular emitters.
- 2) External dimensions: 17.78 × 12.7 × 4.2 mm
- 3) Emitters: Circular, 2.0 mm diameter
- 4) Black package.

●External dimensions (Units: mm)

Single color type



Dual color type



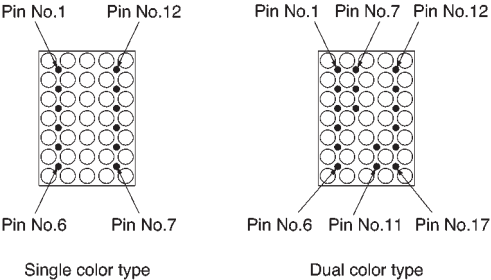
Tolerances are ±0.25 unless otherwise noted

●Selection guide

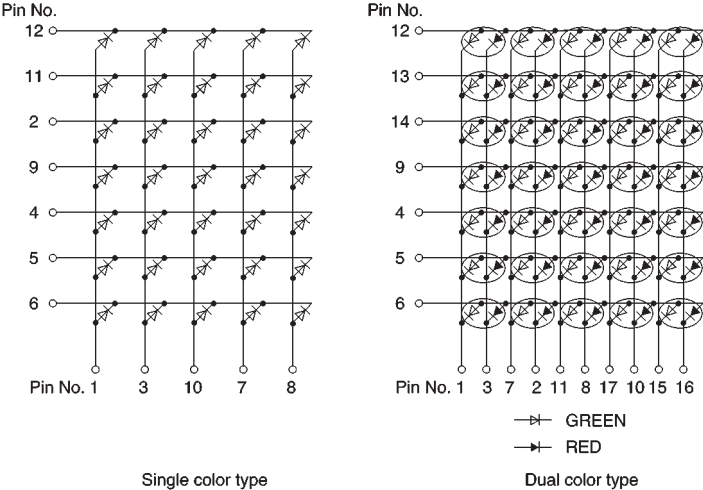
Emitting color	Red*	Red	Green	Red / Green
Common				
Anode	LM-2035LB	LM-2035VB	LM-2035MB	—
Cathode	—	—	—	LM-2035MUM

* Bright red

● Pin assignments



● Internal circuit schematic



● Absolute maximum ratings (Ta = 25°C)

Single-color type

Parameter	Symbol	LB*2	VB	MB	Unit
		Red	Red	Green	
Power dissipation	P _D	1.4	1.23	1.23	W
Forward current	I _F	30	15	15	mA
Peak forward current	I _{FP}	80*1	60*1	60*1	mA
Reverse voltage	V _R	3	3	3	V
Operating temperature	T _{opr}	−25~+60	−25~+75		°C
Storage temperature	T _{stg}	−30~+85	−30~+85		°C

*1 Pulse width 1msec duty 1 / 5

*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	4	4	V
Operating temperature	T_{opr}	$-20 \sim +50$		$^{\circ}\text{C}$
Storage temperature	T_{stg}	$-25 \sim +75$		$^{\circ}\text{C}$

* Pulse width 1msec duty 1 / 5

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

Single-color type

Parameter	Symbol	Conditions	LB			VB			MB			Unit
			Red*1			Red			Green			
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Forward voltage	V _F	I _F =10mA	—	1.75	2.5	—	2.0	2.8	—	2.1	2.8	V
Reverse current	I _R	V _R =3V	—	—	10	—	—	100	—	—	100	μA
Peak wavelength	λ _P	I _F =10mA	—	660	—	—	650	—	—	563	—	nm
Spectral line half width	Δλ	I _F =10mA	—	25	—	—	40	—	—	40	—	nm

⊙Not designed for radiation resistance.

*1 $I_F = 20\text{mA}$

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	μ A
Peak wavelength	λ _P	I _F =10mA	—	635	—	—	563	—	nm
Spectral line half width	Δ λ	I _F =10mA	—	40	—	—	40	—	nm

⊙Not designed for radiation resistance.

●Luminous intensity

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

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