

# 5 × 7 matrix displays

## LM-0354 / LM-0355 Series

The LM-0354 and LM-0355 series are 5 × 7 matrix displays which can be used in a wide variety of applications, including alphabet, numeric, symbol, and graphic displays. Four single-color types (bright red, red, orange and green) and two dual-color types (bright red/green and red/green) are available with circular or large circular emitters to allow easy incorporation into the apparatus design.

### ●Applications

Light sources for displays

### ●Features

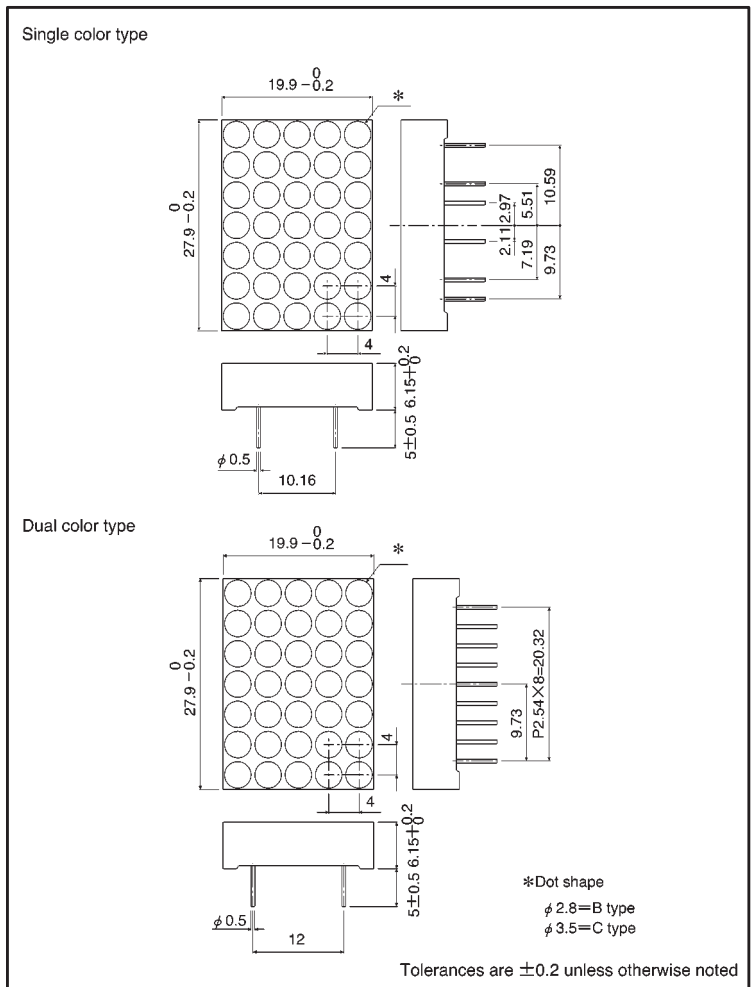
- 1) 5 × 7 dot matrix  
Circular and large circular emitters.
- 2) External dimensions: 27.9 × 19.9 × 6.15 mm
- 3) Circular emitter diameter: 2.8 mm;  
large circular emitter diameter: 3.5 mm.
- 4) Black package, colored emitters (dual-color emitters are milky white).

### ●Selection guide

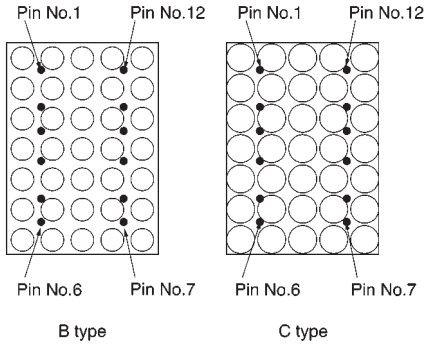
Emitting color	Common					
	Red*	Red	Orange	Green	Red* / Green	Red / Green
Anode	—	LM-0355VRB	LM-0355DUB	LM-0355MGB	—	LM-0355MVWB
	LM-0355LRC	LM-0355VRC	LM-0355DUC	LM-0355MGC	LM-0355MLWC	—
Cathode	—	LM-0354VRB	LM-0354DUB	LM-0354MGB	—	—
	LA-0354LRC	LM-0354VRC	LM-0354DUC	LM-0354MGC	LM-0354MLWC	—

\* Bright red

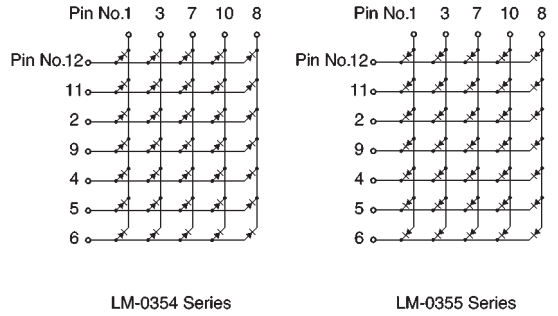
### ●External dimensions (Units: mm)



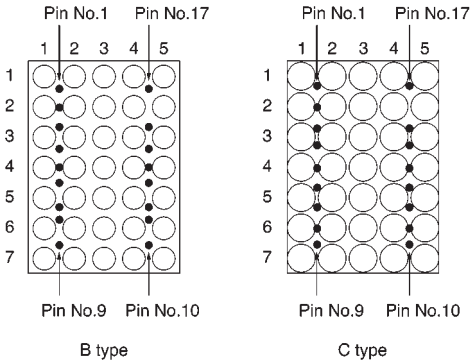
● Pin assignments  
Single-color type



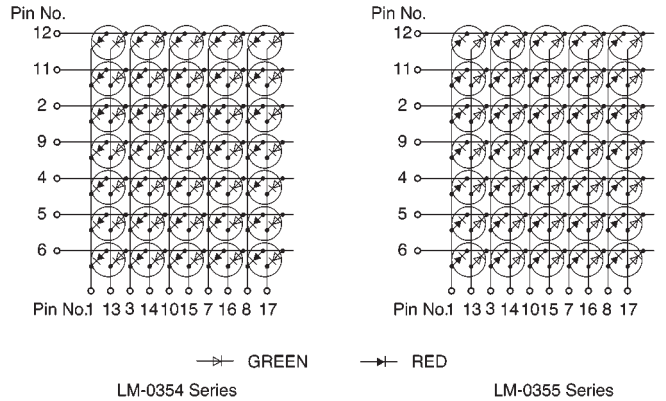
● Internal circuit schematic  
Single-color type



● Pin assignments  
Dual-color type



● Internal circuit schematic  
Dual-color type



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

## Single-color type

Parameter	Symbol	LR*2	VR	DU	MG	Unit
Power dissipation	P <sub>D</sub>	2.8	1.23	1.23	1.23	W
Forward current	I <sub>F</sub>	30	15	15	15	mA
Peak forward current	I <sub>FP</sub>	60*1	60*1	60*1	60*1	mA
Reverse voltage	V <sub>R</sub>	4	3	3	3	V
Operating temperature	T <sub>opr</sub>	-25~+60	-25~+75			°C
Storage temperature	T <sub>stg</sub>	-30~+85	-30~+85			°C

\*1 Pulse width 1msec duty 1 / 5

\*2 Bright red

## Dual-color type

Parameter	Symbol	MVWB		MLWC		Unit
		Red	Green	Red*2	Green	
Power dissipation	P <sub>D</sub>	35	35	35	35	mW/dot
Forward current	I <sub>F</sub>	12.5	12.5	25	12.5	mA
Peak forward current	I <sub>FP</sub>	60*1	60*1	60*1	60*1	mA
Reverse voltage	V <sub>R</sub>	3	3	3	3	V
Operating temperature	T <sub>opr</sub>	-20~+65				°C
Storage temperature	T <sub>stg</sub>	-25~+75				°C

\*1 Pulse width 1msec duty 1 / 5

\*2 Bright red

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

## Single-color type

Parameter	Symbol	Conditions	LR*1			VR			DU			MG			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =10mA	—	1.75	2.5	—	2.0	2.8	—	2.1	2.8	—	2.1	2.8	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> =3V	—	—	100	—	—	100	—	—	100	—	—	100	μA
Peak wavelength	λ <sub>P</sub>	I <sub>F</sub> =10mA	—	660	—	—	650	—	—	610	—	—	563	—	nm
Spectral line half width	Δλ	I <sub>F</sub> =10mA	—	25	—	—	40	—	—	40	—	—	40	—	nm

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\* I<sub>F</sub> = 20mA, V<sub>R</sub> = 4V

## Dual-color type

Parameter	Symbol	Conditions	MVWB						MLWC						Unit
			Red			Green			Red*1			Green			
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Forward voltage	$V_F$	$I_F=10mA$	—	2.0	2.8	—	2.1	2.5	—	1.75	2.5	—	2.1	2.8	V
Reverse current	$I_R$	$V_R=3V$	—	—	100	—	—	100	—	—	100	—	—	100	$\mu A$
Peak wavelength	$\lambda_P$	$I_F=10mA$	—	650	—	—	563	—	—	660	—	—	563	—	nm
Spectral line half width	$\Delta \lambda$	$I_F=10mA$	—	40	—	—	40	—	—	25	—	—	40	—	nm

©Not designed for radiation resistance.

\*1  $I_F = 20mA$

## ●Luminous intensity

Color	Type	Min.	Typ.	Max.	Unit
Red*1	LR	2.2	6.3	—	mcd
Red	VR	0.56	1.6	—	mcd
Orange	DU	0.56	1.6	—	mcd
Green	MG	1.4	4.0	—	mcd
Red	MVWB	0.56	1.6	—	mcd
Green		1.4	4.0	—	mcd
Red*1	MLWC	2.2	6.3	—	mcd
Green		1.4	4.0	—	mcd

Note: Measured at  $I_F = 10mA$

\*1  $I_F = 20mA$