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.

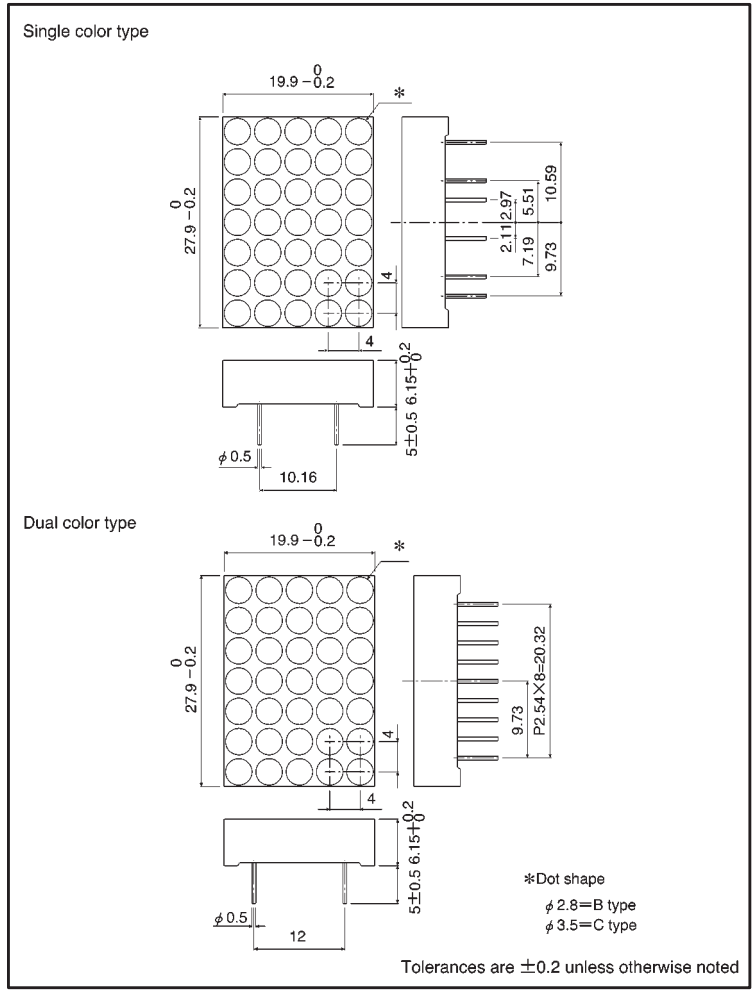
●Applications

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).

●External dimensions (Units: mm)

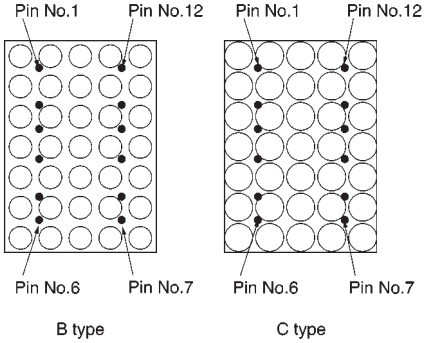


●Selection guide

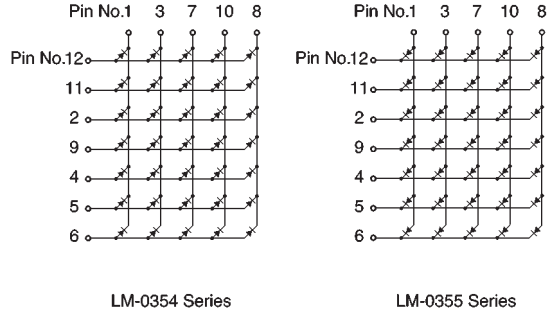
Common \ Emitting color	Red*	Red	Orange	Green	Red* / Green	Red / Green
Anode	—	LM-0355VRB	LM-0355DUB	LM-0355MGB	—	LM-0355MVWB
	LM-0355LRC	LM-0355VRC	LM-0355DUC	LM-0355MGC	LM-0355MLWC	—
Cathode	—	LM-0354VRB	LM-0354DUB	LM-0354MGB	—	—
	LA-0354LRC	LM-0354VRC	LM-0354DUC	LM-0354MGC	LM-0354MLWC	—

* Bright red

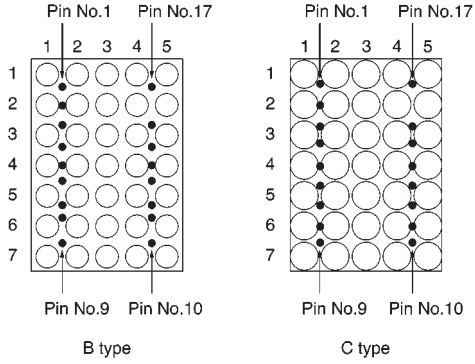
●Pin assignments
Single-color type



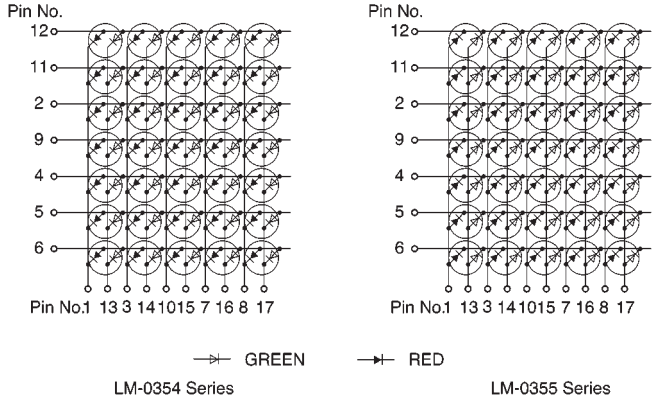
●Internal circuit schematic
Single-color type



●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_D	2.8	1.23	1.23	1.23	W
Forward current	I_F	30	15	15	15	mA
Peak forward current	I_{FP}	60*1	60*1	60*1	60*1	mA
Reverse voltage	V_R	4	3	3	3	V
Operating temperature	Topr	−25～+60	−25～+75			℃
Storage temperature	Tstg	−30～+85	−30～+85			℃

*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_D	35	35	35	35	mW/dot
Forward current	I_F	12.5	12.5	25	12.5	mA
Peak forward current	I_{FP}	60*1	60*1	60*1	60*1	mA
Reverse voltage	V_R	3	3	3	3	V
Operating temperature	Topr	−20～+65				℃
Storage temperature	Tstg	−25～+75				℃

*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_F	I_F=10mA	—	1.75	2.5	—	2.0	2.8	—	2.1	2.8	—	2.1	2.8	V
Reverse current	I_R	V_R=3V	—	—	100	—	—	100	—	—	100	—	—	100	μA
Peak wavelength	λ_P	I_F=10mA	—	660	—	—	650	—	—	610	—	—	563	—	nm
Spectral line half width	$\Delta\lambda$	I_F=10mA	—	25	—	—	40	—	—	40	—	—	40	—	nm

◎ Not designed for radiation resistance.
* I_F = 20mA, V_R = 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	μA
Peak wavelength	λ_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