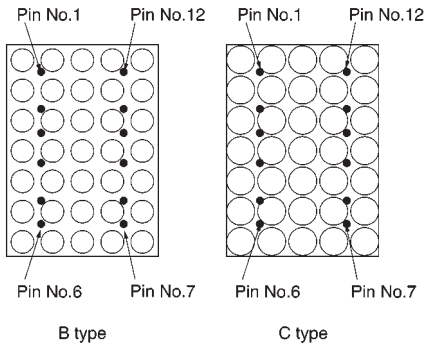


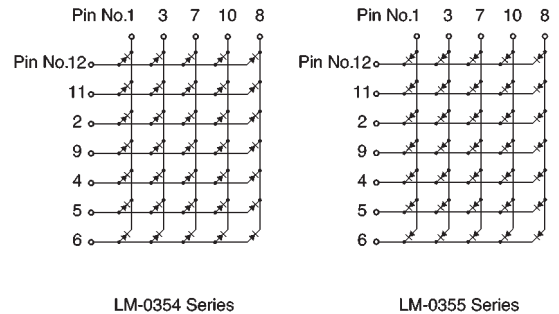
● Pin assignments

Single-color type



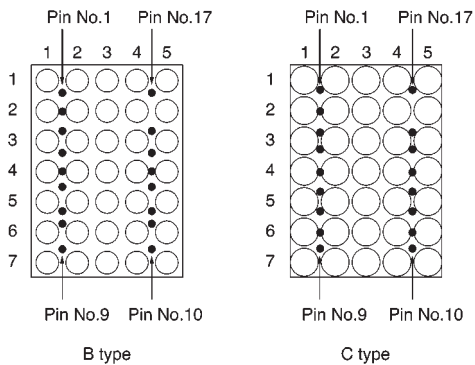
● Internal circuit schematic

Single-color type



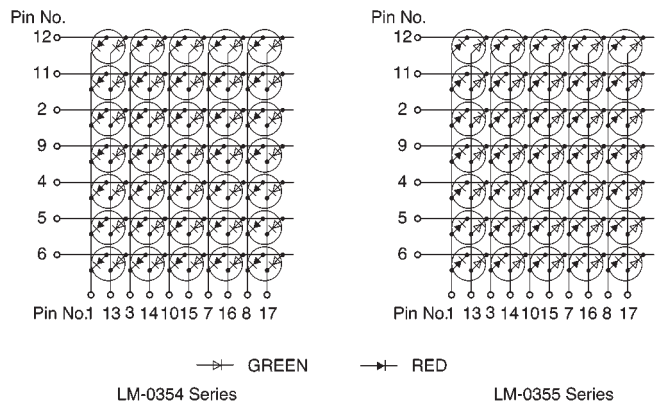
● Pin assignments

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	T _{opr}	-25~+60				°C
Storage temperature	T _{stg}	-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 _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	T _{opr}	-20~+65				°C
Storage temperature	T _{stg}	-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 _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	Δλ	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	Δλ	I _F =10mA	—	40	—	—	40	—	—	25	—	—	40	—	nm

◎Not designed for radiation resistance.

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

●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 $I_F = 10\text{mA}$

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