# High efficiency, single-digit numerical displays
## LA-121 AK Series

The LA-121 AK series are two-color, high luminance LED numerical displays designed to allow use even in bright locations. Red, green and orange displays are possible.

●Features
1) Height of character : 25.4 mm.
2) Dimensions : 22.8 × 33 × 9 mm.
3) A common anode configuration and a common cathode configuration are available.
4) The package surface is painted black and the segments are milky white.
5) High luminance, clear display.
6) Red, green and orange displays are possible.

●External dimensions (Units: mm)



Tolerances are ±0.25 unless otherwise noted:

●Selection guide

| Emitting color<br>Common | Red / Green |
|---|---|
| Anode | LA-121MLA |
| Cathode | LA-121MLK |

●Pin assignments



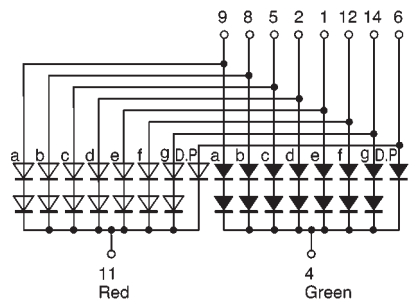| Pin No. | Function | Pin No. | Function |
|---|---|---|---|
| 1 | Segment "e" | 8 | Segment "b" |
| 2 | Segment "d" | 9 | Segment "a" |
| 3 | — | 10 | — |
| 4 | Green Common | 11 | Red Common |
| 5 | Segment "c" | 12 | Segment "f" |
| 6 | D.P | 13 | — |
| 7 | — | 14 | Segment "g" |

ROHM

●Internal circuit schematic (example of common cathode)



●Absolute maximum ratings (Ta = 25°C)

| Parameter | Symbol | Red LA-121MLA / MLK | Green LA-121MLA / MLK | Unit |
|---|---|---|---|---|
| Power dissipation | $P_D$ | 900 | 750 | |
| Power dissipation | $P_D$ / seg | 120 (60) | 100 (50) | |
| Forward current | $I_F$ | 30 | 20 | |
| Peak forward current | $I_{FP}$ | 80* | 60* | |
| Reverse voltage | $V_R$ | 8 (4) | 8 (4) | |
| Operating temperature | Topr | −25〜+75 | | |
| Storage temperature | Tstg | −25〜+85 | | |

✳ Pulse width 1ms duty 1 / 5
( ) is D.P value

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

| Parameter | Symbol | Conditions | Red Min. | Red Typ. | Red Max. | Green Min. | Green Typ. | Green Max. | Unit |
|---|---|---|---|---|---|---|---|---|---|
| Forward voltage | $V_F$ | $I_F$=20mA | — | 3.5 (1.75) | 4 (2) | — | 4.4 (2.2) | 5 (2.5) | V |
| Reverse current | $I_R$ | $V_R$=3V | — | — | 100 | — | — | 100 | μA |
| Peak wavelength | $\lambda_P$ | $I_F$=20mA | — | 660 | — | — | 563 | — | nm |
| Spectral line half width | $\Delta\lambda$ | $I_F$=20mA | — | 25 | — | — | 40 | — | nm |

◎Not designed for radiation resistance.
( ) is D.P value

●Luminous intensity

| Color | $\lambda_P$ | Type | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Red | 660 | LA-121MLA | 36 | 100 | — | mcd |
| Red | 660 | LA-121MLK | 36 | 100 | — | mcd |
| Green | 563 | LA-121MLA | 36 | 100 | — | mcd |
| Green | 563 | LA-121MLK | 36 | 100 | — | mcd |

Note: Measured at $I_F$ = 20mA