

High efficiency, single-digit numeric displays

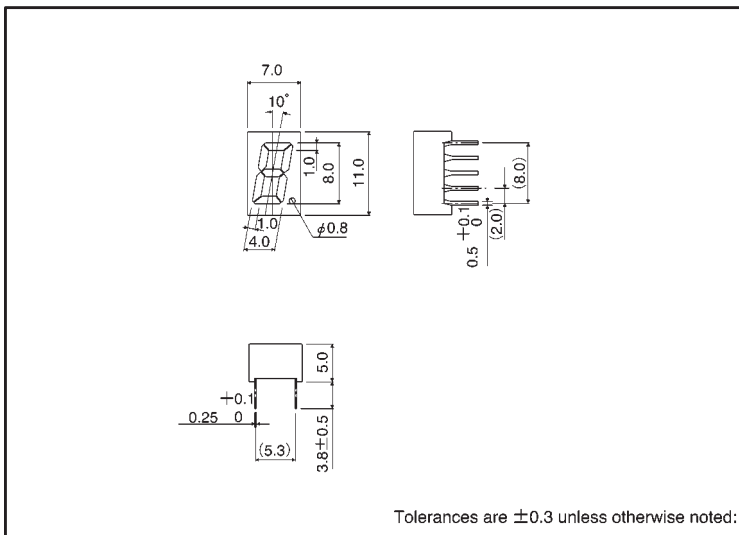
LA-301 BL Series

The LA-301 BL series were designed to meet the need for 8 mm single-digit numeric displays. These LED numeric displays use GaAsP on GaP for the emitting material (with the exception of green) and are housed in an epoxy resin package. They are single-digit displays with a character height of 8 mm.

●Features

- 1) Large display with small exterior dimensions.
- 2) Compact package with little worrisome light leakage from segment.
- 3) Red, orange, yellow, and green are available in common anode and common cathode configurations.
- 4) The package surface is painted black and the segments are colored the display color.

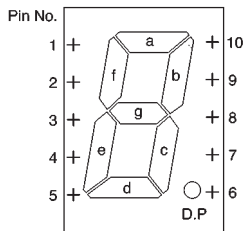
●External dimensions (Units: mm)



●Selection guide

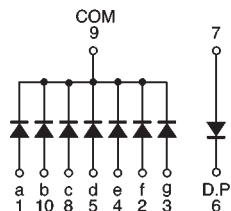
| Emitting color | Red | Orange | Yellow | Green |
|----------------|----------|----------|----------|----------|
| Common | | | | |
| Anode | LA-301VB | LA-301DB | LA-301YB | LA-301MB |
| Cathode | LA-301VL | LA-301DL | LA-301YL | LA-301ML |

●Pin assignments, BL series

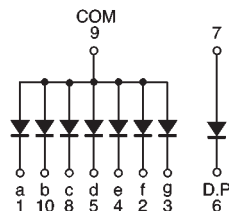


| Pin No. | Function |
|---------|-------------|
| 1 | Segment "a" |
| 2 | Segment "f" |
| 3 | Segment "g" |
| 4 | Segment "e" |
| 5 | Segment "d" |
| 6 | D.P Cathode |
| 7 | D.P Anode |
| 8 | Segment "c" |
| 9 | Common |
| 10 | Segment "b" |

● Internal circuit schematic (example of common cathode)



(example of common cathode)

● Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

| Parameter | Symbol | Red | Orange | Yellow | Green | Unit |
|-----------------------|--------------------|----------------|---------------|---------------|---------------|------------------|
| | | LA-301VB / VL | LA-301DB / DL | LA-301YB / YL | LA-301MB / ML | |
| Power dissipation | P_D | 320 | 320 | 320 | 480 | mW |
| Power dissipation | P_D / seg | 40 | 40 | 40 | 60 | mW |
| Forward current | I_F | 15 | 15 | 15 | 20 | mA |
| Peak forward current | I_{FP} | 60* | 60* | 60* | 60* | mA |
| Reverse voltage | V_R | 3 | 3 | 3 | 3 | V |
| Operating temperature | T_{opr} | $-25 \sim +75$ | | | | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | $-30 \sim +85$ | | | | $^\circ\text{C}$ |

* Pulse width 1ms duty 1 / 5

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

| Parameter | Symbol | Conditions | Red | | | Orange | | | Yellow | | | Green | | | Unit |
|--------------------------|------------------|---------------------|------|------|------|--------|------|------|--------|------|------|-------|------|------|---------------|
| | | | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | |
| Forward voltage | V_F | $I_F = 10\text{mA}$ | — | 2.0 | 2.8 | — | 2.0 | 2.8 | — | 2.1 | 2.8 | — | 2.1 | 2.8 | V |
| Reverse current | I_R | $V_R = 3\text{V}$ | — | — | 100 | — | — | 100 | — | — | 100 | — | — | 100 | μA |
| Peak wavelength | λ_P | $I_F = 10\text{mA}$ | — | 650 | — | — | 610 | — | — | 585 | — | — | 563 | — | nm |
| Spectral line half width | $\Delta \lambda$ | $I_F = 10\text{mA}$ | — | 40 | — | — | 40 | — | — | 40 | — | — | 40 | — | nm |

○ Not designed for radiation resistance.

● Luminous intensity

| Color | λ_P | Type | Min. | Typ. | Max. | Unit |
|--------|-------------|----------|------|------|------|------|
| Red | 650 | LA-301VB | 3.6 | 10 | — | mcd |
| | | LA-301VL | | | | |
| Orange | 610 | LA-301DB | 2.2 | 6.3 | — | mcd |
| | | LA-301DL | | | | |
| Yellow | 585 | LA-301YB | 2.2 | 6.3 | — | mcd |
| | | LA-301YL | | | | |
| Green | 563 | LA-301MB | 3.6 | 10 | — | mcd |
| | | LA-301ML | | | | |

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