

Single Digit LED Numeric Display

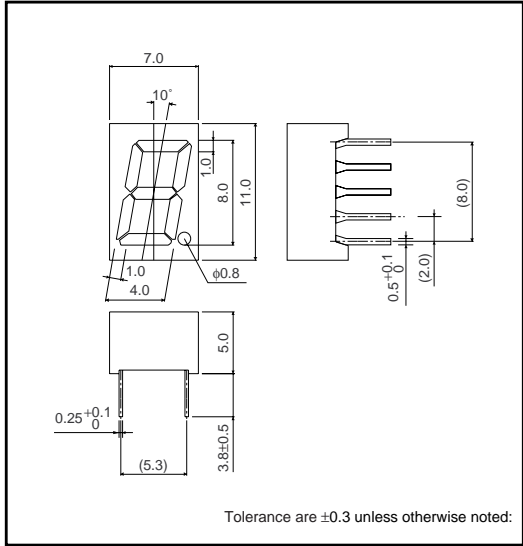
LA-301 B / L Series

LA-301 B / L series is developed because of the demand for small single digit LED Numeric Display. Materials of emission are GaAsP on GaP, AlGaInP, GaP and GaN. This is the height of a letter 8mm, single digit LED Numeric Display that is packed by epoxy resin.

●Features

- 1) The height of a letter is 8mm.
- 2) The light don't leak from the segment in spite of the small package.
- 3) The package of surface color is black. Color of segment is colored in emitting color. (Blue color is only milky white)
- 4) Each color has anode common and cathode common respectively.

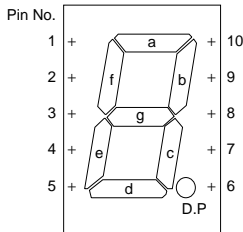
●External dimensions (Unit : mm)



●Selection guide

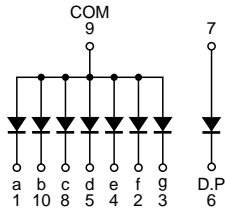
| Emitting color Common | Red | Red (High brightness) | Orange (High brightness) | Yellow (High brightness) | Green | Blue |
|--------------------------|----------|--------------------------|-----------------------------|-----------------------------|----------|----------|
| | Anode | LA-301VB | LA-301AB | LA-301EB | LA-301XB | LA-301MB |
| Cathode | LA-301VL | LA-301AL | LA-301EL | LA-301XL | LA-301ML | LA-301BL |

●Pin assignments

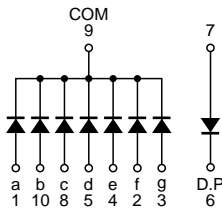


| Pin No. | Function |
|---------|-------------|
| 1 | Segment "a" |
| 2 | Segment "f" |
| 3 | Segment "g" |
| 4 | Segment "e" |
| 5 | Segment "d" |
| 6 | D.P Cathode |
| 7 | D.P Anode |
| 8 | Segment "c" |
| 9 | Common |
| 10 | Segment "b" |

●Equivalent circuit (anode common)



(cathode common)



LED displays

●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Red | Red (High brightness) | Orange (High brightness) | Yellow (High brightness) | Green | Blue | Unit |
|-----------------------|----------------------|---------------|-----------------------|--------------------------|--------------------------|---------------|---------------|------|
| | | LA-301VB / VL | LA-301AB / AL | LA-301EB / EL | LA-301XB / XL | LA-301MB / ML | LA-301BB / BL | |
| Power dissipation | P _D | 320 | 520 | 520 | 520 | 480 | 336 | mW |
| Power dissipation | P _D / seg | 40 | 65 | 65 | 65 | 60 | 42 | mW |
| Forward current | I _F | 15 | 25 | 25 | 25 | 20 | 10 | mA |
| Peak forward current | I _{FP} | 60 *1 | 50 *2 | 50 *2 | 50 *2 | 60 *1 | 50 *2 | mA |
| Reverse voltage | V _R | 5 | 5 | 5 | 5 | 5 | 5 | V |
| Operating temperature | T _{opr} | -25 to +75 | | | | | | °C |
| Storage temperature | T _{stg} | -30 to +85 | | | | | | °C |

*1 Pulse width 1ms Duty 1 / 5

*2 Pulse width 0.1ms Duty 1 / 10

●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Conditions | Red | | Red (High brightness) | | Orange (High brightness) | | Yellow (High brightness) | | Green | | Blue | | Unit |
|--------------------------|----------------|----------------------|------|------|-----------------------|------|--------------------------|------|--------------------------|------|-------|------|------|------|------|
| | | | Typ. | Max. | Typ. | Max. | Typ. | Max. | Typ. | Max. | Typ. | Max. | Typ. | Max. | |
| Forward voltage | V _F | I _F =10mA | 2.0 | 2.8 | 2.05* | 2.6* | 2.05* | 2.6* | 2.05* | 2.6* | 2.1 | 2.8 | 3.6 | 4.2 | V |
| Reverse current | I _R | V _R =3V | — | 100 | — | 100 | — | 100 | — | 100 | — | 100 | — | 100 | μA |
| Peak wavelength | λ _P | I _F =10mA | 650 | — | 626* | — | 610* | — | 589* | — | 563 | — | 470 | — | nm |
| Spectral line half width | Δλ | I _F =10mA | 40 | — | 18* | — | 17* | — | 15* | — | 40 | — | 26 | — | nm |

©The products are not radiations resistant.

* Shows the number on the condition of I_F=20mA.

●Luminous intensity

| Color | λ _P (nm) | Type | Min. | Typ. | Unit |
|--------------------------|---------------------|----------|------|------|------|
| Red | 650 | LA-301VB | 3.6 | 10 | mcd |
| | | LA-301VL | | | |
| Red (High brightness) | 626 | LA-301AB | 36 | 90 | mcd |
| | | LA-301AL | | | |
| Orange (High brightness) | 610 | LA-301EB | 36 | 90 | mcd |
| | | LA-301EL | | | |
| Yellow (High brightness) | 589 | LA-301XB | 36 | 90 | mcd |
| | | LA-301XL | | | |
| Green | 563 | LA-301MB | 3.6 | 10 | mcd |
| | | LA-301ML | | | |
| Blue | 470 | LA-301BB | 14 | 56 | mcd |
| | | LA-301BL | | | |

© A condition of measurement is I_F=10mA.

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