

# High efficiency, two-digit numeric displays

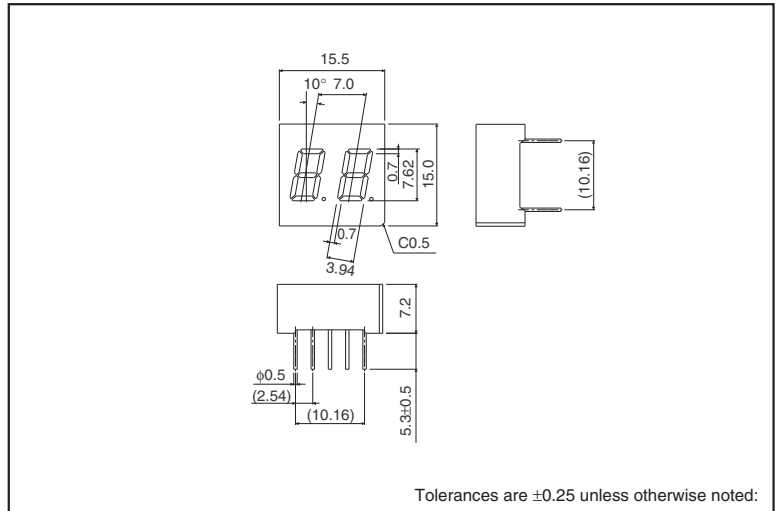
## LB-302FP Series

The LB-302FP series were designed to meet the need for multi-digit numeric displays. These two-digit LED numeric displays have a character height of 7.62 mm.

### ●Features

- 1) Height of character : 7.62 mm
- 2) High efficiency in a compact package.
- 3) Common anode and common cathode configurations are available for red and green.
- 4) The package surface is painted black and the segments are milky white.

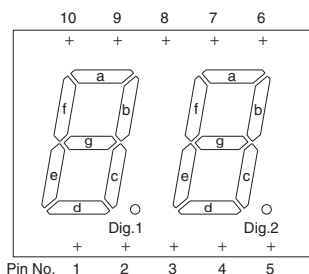
### ●Dimensions (Unit : mm)



### ●Selection guide

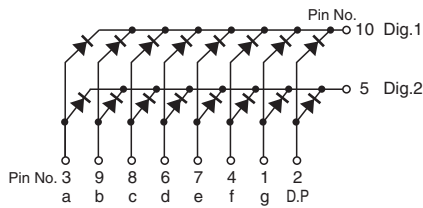
| Emitting color | Common   |          |
|----------------|----------|----------|
|                | Red      | Green    |
| Anode          | LB-302VF | LB-302MF |
| Cathode        | LB-302VP | LB-302MP |

### ●Pin assignments



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

●Internal circuit schematic (example of common cathode)



●Absolute maximum ratings (Ta = 25°C)

| Parameter             | Symbol             | Red           | Green         | Unit |
|-----------------------|--------------------|---------------|---------------|------|
|                       |                    | LB-302VF / VP | LB-302MF / MP |      |
| Power dissipation     | $P_D$              | 800           | 960           | mW   |
| Power dissipation     | $P_D / \text{seg}$ | 50            | 60            | mW   |
| Forward current       | $I_F$              | 15            | 20            | mA   |
| Peak forward current  | $I_{FP}$           | 60*           | 60*           | mA   |
| Reverse voltage       | $V_R$              | 5             | 5             | V    |
| Operating temperature | $T_{opr}$          | -25 to +75    |               | °C   |
| Storage temperature   | $T_{stg}$          | -30 to +85    |               | °C   |

\* Pulse width 1ms duty 1 / 5

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

| Parameter                | Symbol          | Conditions          | Red  |      |      | Green |      |      | Unit          |
|--------------------------|-----------------|---------------------|------|------|------|-------|------|------|---------------|
|                          |                 |                     | Min. | Typ. | Max. | Min.  | Typ. | Max. |               |
| Forward voltage          | $V_F$           | $I_F = 10\text{mA}$ | -    | 2.0  | 2.8  | -     | 2.1  | 2.8  | V             |
| Reverse current          | $I_R$           | $V_R = 5\text{V}$   | -    | -    | 100  | -     | -    | 100  | $\mu\text{A}$ |
| Peak wavelength          | $\lambda_P$     | $I_F = 10\text{mA}$ | -    | 650  | -    | -     | 563  | -    | nm            |
| Spectral line half width | $\Delta\lambda$ | $I_F = 10\text{mA}$ | -    | 40   | -    | -     | 40   | -    | nm            |

© Not designed for radiation resistance.

● Luminous intensity

| Color | $\lambda_P$ | Type          | Min. | Typ. | Max. | Unit |
|-------|-------------|---------------|------|------|------|------|
| Red   | 650         | LB-302VF / VP | 2.2  | 6.3  | -    | mcd  |
| Green | 563         | LB-302MF / MP | 3.6  | 9.0  | -    | mcd  |

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

●Electrical and optical characteristic curves

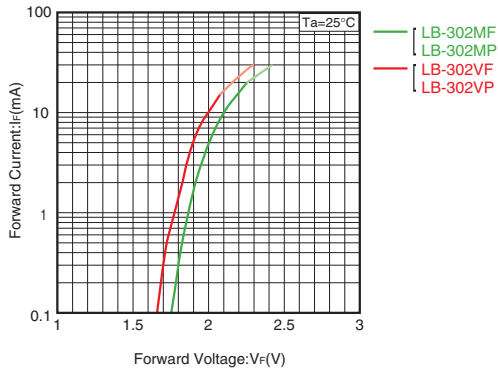


Fig.1 Forward Current - Forward Voltage

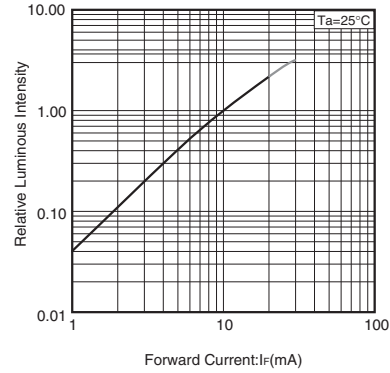


Fig.2 Relative Luminous Intensity - Forward Current

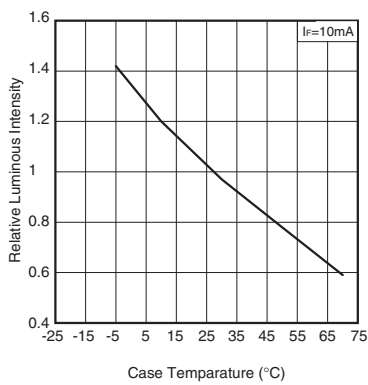


Fig.3 Relative Luminous Intensity - Case Temperature

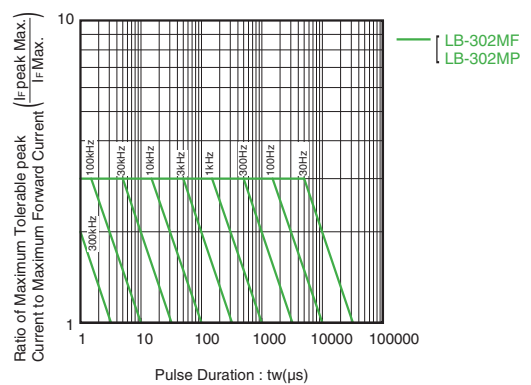


Fig.4 Ratio of Maximum Tolerable Peak Current - Pulse Duration ( I )

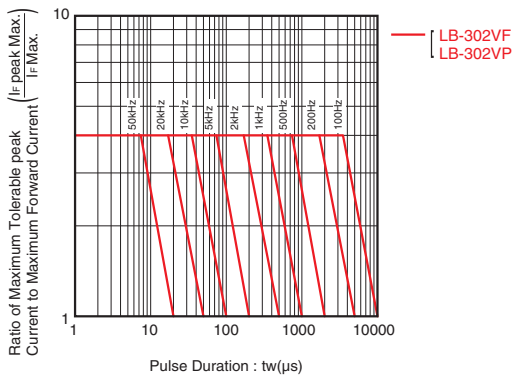


Fig.5 Ratio of Maximum Tolerable Peak Current - Pulse Duration ( II )

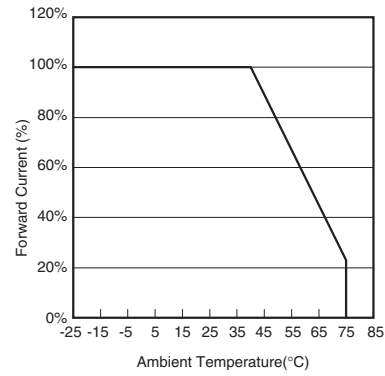


Fig.6 Derating

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