

By Category PDF

Category LED Displays

Opto Devices

# LED Displays

**High Brightness LED Numeric Displays** ..... 257

**Surface Mount LED Numeric Displays** ..... 257

**LED Numeric Displays** ..... 258

Single Digit LED Numeric Displays ..... 258




Two Digit LED Numeric Displays ..... 258

Three Digit LED Numeric Display ..... 258


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|--|--|
| <b>LED Displays</b>                        |  |
| High Brightness LED Numeric Displays P.257 | Surface Mount LED Numeric Displays P.257 |
| LED Numeric Displays P.258                 |  |

## High Brightness LED Numeric Displays

High brightness, low power consumption, and high reliability.

| Single Digit LED Numeric Displays  |              |                |   |                                     |   |                                    |   |   |   |                     |                                |                    |                                 |             |                     |                                 |           |                     |
|--|--------------|----------------|---|-------------------------------------|---|------------------------------------|---|---|---|---------------------|--------------------------------|--------------------|---------------------------------|-------------|---------------------|---------------------------------|-----------|---------------------|
| Shape  | Part No.     | Emitting Color | Absolute Maximum Ratings (T <sub>a</sub> =25°C) |                                     |   |                                    | Absolute Maximum Ratings                    |   | Electrical and Optical Characteristics (T <sub>a</sub> =25°C) |                     |                                |                    |                                 |             |                     |                                 |           |                     |
|  |              |                | Power Dissipation P <sub>o</sub> (mW)           | Forward Current I <sub>F</sub> (mA) | Peak Forward Current I <sub>FP</sub> * (mA) | Reverse Voltage V <sub>R</sub> (V) | Operating Temperature T <sub>opr</sub> (°C) | Storage Temperature T <sub>stg</sub> (°C) | Forward Voltage V <sub>F</sub>                                |                     | Reverse Current I <sub>R</sub> |                    | Light Wavelength Peak Half-wave |             |                     | Brightness/Digit I <sub>v</sub> |           |                     |
|  |              |                |   |                                     |   |                                    |   |   | Typ (V)   | I <sub>F</sub> (mA) | Max (μA)                       | V <sub>R</sub> (V) | λ <sub>p</sub> Typ (nm)         | Δλ Typ (nm) | I <sub>F</sub> (mA) | Min (mcd)                       | Typ (mcd) | I <sub>F</sub> (mA) |
|  Character Height: 8mm<br>External Dimensions: (7x11)       | LAP-301VB/VL | Red            | 448   | 20                                  | 60  | 5                                  | -25 to +75                                  | -30 to +85                                | 1.9   | 10                  | 100                            | 3                  | 650                             | 20          | 10                  | 14                              | 36        | 10                  |
|  | LAP-301MB/ML | Green          | 448   | 20                                  | 60  | 5                                  | -25 to +75                                  | -30 to +85                                | 1.9   | 10                  | 100                            | 3                  | 572                             | 20          | 10                  | 36                              | 100       | 10                  |
|  | LAP-301DB/DL | Orange         | 448   | 20                                  | 60  | 5                                  | -25 to +75                                  | -30 to +85                                | 1.9   | 10                  | 100                            | 3                  | 605                             | 20          | 10                  | 56                              | 250       | 10                  |
|  Character Height: 10.16mm<br>External Dimensions: (9.6x13) | LAP-401VD/VN | Red            | 448   | 20                                  | 60  | 5                                  | -25 to +75                                  | -30 to +85                                | 1.9   | 10                  | 100                            | 3                  | 650                             | 20          | 10                  | 14                              | 36        | 10                  |
|  | LAP-401MD/MN | Green          | 448   | 20                                  | 60  | 5                                  | -25 to +75                                  | -30 to +85                                | 1.9   | 10                  | 100                            | 3                  | 572                             | 20          | 10                  | 36                              | 100       | 10                  |
|  | LAP-401DD/DN | Orange         | 448   | 20                                  | 60  | 5                                  | -25 to +75                                  | -30 to +85                                | 1.9   | 10                  | 100                            | 3                  | 605                             | 20          | 10                  | 56                              | 250       | 10                  |
|  Character Height: 14.6mm<br>External Dimensions: (12.5x19) | LAP-601VB/VL | Red            | 448   | 20                                  | 60  | 5                                  | -25 to +75                                  | -30 to +85                                | 1.9   | 10                  | 100                            | 3                  | 650                             | 20          | 10                  | 14                              | 36        | 10                  |
|  | LAP-601MB/ML | Green          | 448   | 20                                  | 60  | 5                                  | -25 to +75                                  | -30 to +85                                | 1.9   | 10                  | 100                            | 3                  | 572                             | 20          | 10                  | 36                              | 100       | 10                  |
|  | LAP-601DB/DL | Orange         | 448   | 20                                  | 60  | 5                                  | -25 to +75                                  | -30 to +85                                | 1.9   | 10                  | 100                            | 3                  | 605                             | 20          | 10                  | 56                              | 250       | 10                  |


Note: \*I<sub>FP</sub> measured under duty≤1/5, Pulse width≤1ms

| Two Digit LED Numeric Displays   |                |                |   |                                     |   |                                    |   |   |   |                     |                                |                    |                                 |             |                     |                                 |           |                     |
|--|----------------|----------------|---|-------------------------------------|---|------------------------------------|---|---|---|---------------------|--------------------------------|--------------------|---------------------------------|-------------|---------------------|---------------------------------|-----------|---------------------|
| Shape  | Part No.       | Emitting Color | Absolute Maximum Ratings (T <sub>a</sub> =25°C) |                                     |   |                                    | Absolute Maximum Ratings                    |   | Electrical and Optical Characteristics (T <sub>a</sub> =25°C) |                     |                                |                    |                                 |             |                     |                                 |           |                     |
|  |                |                | Power Dissipation P <sub>o</sub> (mW)           | Forward Current I <sub>F</sub> (mA) | Peak Forward Current I <sub>FP</sub> * (mA) | Reverse Voltage V <sub>R</sub> (V) | Operating Temperature T <sub>opr</sub> (°C) | Storage Temperature T <sub>stg</sub> (°C) | Forward Voltage V <sub>F</sub>                                |                     | Reverse Current I <sub>R</sub> |                    | Light Wavelength Peak Half-wave |             |                     | Brightness/Digit I <sub>v</sub> |           |                     |
|  |                |                |   |                                     |   |                                    |   |   | Typ (V)   | I <sub>F</sub> (mA) | Max (μA)                       | V <sub>R</sub> (V) | λ <sub>p</sub> Typ (nm)         | Δλ Typ (nm) | I <sub>F</sub> (mA) | Min (mcd)                       | Typ (mcd) | I <sub>F</sub> (mA) |
|  Character Height: 14.3mm<br>External Dimensions: (25x19) | LBP-602VA2/VK2 | Red            | 896   | 20                                  | 60  | 5                                  | -25 to +75                                  | -30 to +85                                | 1.9   | 10                  | 100                            | 3                  | 650                             | 20          | 10                  | 14                              | 36        | 10                  |
|  | LBP-602MA2/MK2 | Green          | 896   | 20                                  | 60  | 5                                  | -25 to +75                                  | -30 to +85                                | 1.9   | 10                  | 100                            | 3                  | 572                             | 20          | 10                  | 36                              | 100       | 10                  |
|  | LBP-602DA2/DK2 | Orange         | 896   | 20                                  | 60  | 5                                  | -25 to +75                                  | -30 to +85                                | 1.9   | 10                  | 100                            | 3                  | 605                             | 20          | 10                  | 56                              | 250       | 10                  |

Note: \*I<sub>FP</sub> measured under duty≤1/5, Pulse width≤1ms

## Surface Mount LED Numeric Displays





ROHM's LED numeric displays are compatible with automatic reflow processes.

| Single Digit LED Numeric Displays  |              |                |   |                                     |   |                                    |   |   |   |                     |                                |                    |                                 |             |                     |                                 |           |                     |
|--|--------------|----------------|---|-------------------------------------|---|------------------------------------|---|---|---|---------------------|--------------------------------|--------------------|---------------------------------|-------------|---------------------|---------------------------------|-----------|---------------------|
| Shape  | Part No.     | Emitting Color | Absolute Maximum Ratings (T <sub>a</sub> =25°C) |                                     |   |                                    | Absolute Maximum Ratings                    |   | Electrical and Optical Characteristics (T <sub>a</sub> =25°C) |                     |                                |                    |                                 |             |                     |                                 |           |                     |
|  |              |                | Power Dissipation P <sub>o</sub> (mW)           | Forward Current I <sub>F</sub> (mA) | Peak Forward Current I <sub>FP</sub> * (mA) | Reverse Voltage V <sub>R</sub> (V) | Operating Temperature T <sub>opr</sub> (°C) | Storage Temperature T <sub>stg</sub> (°C) | Forward Voltage V <sub>F</sub>                                |                     | Reverse Current I <sub>R</sub> |                    | Light Wavelength Peak Half-wave |             |                     | Brightness/Digit I <sub>v</sub> |           |                     |
|  |              |                |   |                                     |   |                                    |   |   | Typ (V)   | I <sub>F</sub> (mA) | Max (μA)                       | V <sub>R</sub> (V) | λ <sub>p</sub> Typ (nm)         | Δλ Typ (nm) | I <sub>F</sub> (mA) | Min (mcd)                       | Typ (mcd) | I <sub>F</sub> (mA) |
|  Character Height: 8mm<br>External Dimensions: (6.8x11) | LF-3011VA/VK | Red            | 320   | 15                                  | 60  | 5                                  | -25 to +75                                  | -30 to +85                                | 2.0   | 10                  | 100                            | 3                  | 650                             | 40          | 10                  | 3.6                             | 10        | 10                  |
|  | LF-3011MA/MK | Green          | 480   | 20                                  | 60  | 5                                  | -25 to +75                                  | -30 to +85                                | 2.1   | 10                  | 100                            | 3                  | 563                             | 40          | 10                  | 3.6                             | 10        | 10                  |

Note: \*I<sub>FP</sub> measured under duty≤1/5, Pulse width≤1ms




# LED Numeric Displays

These single digit numeric displays are 8 to 14.6mm in height and available in a range of colors.


| Single Digit LED Numeric Displays  |             |                        |   |                                     |   |                                    |                                 |                               |   |                     |                                |                    |                         |             |                     |                                 |           |                     |
|--|-------------|------------------------|---|-------------------------------------|---|------------------------------------|---------------------------------|-------------------------------|---|---------------------|--------------------------------|--------------------|-------------------------|-------------|---------------------|---------------------------------|-----------|---------------------|
| Shape  | Part No.    | Emitting Color         | Absolute Maximum Ratings (T <sub>a</sub> =25°C) |                                     |   |                                    | Absolute Maximum Ratings        |                               | Electrical and Optical Characteristics (T <sub>a</sub> =25°C) |                     |                                |                    |                         |             |                     |                                 |           |                     |
|  |             |                        | Power Dissipation P <sub>D</sub> (mW)           | Forward Current I <sub>F</sub> (mA) | Peak Forward Current I <sub>FP</sub> * (mA) | Reverse Voltage V <sub>R</sub> (V) | Operating Temperature Topr (°C) | Storage Temperature Tstg (°C) | Forward Voltage V <sub>F</sub>                                |                     | Reverse Current I <sub>R</sub> |                    | Light Wavelength        |             |                     | Brightness/Digit I <sub>v</sub> |           |                     |
|  |             |                        |   |                                     |   |                                    |                                 |                               | Typ (V)   | I <sub>F</sub> (mA) | Max (μA)                       | V <sub>R</sub> (V) | λ <sub>p</sub> Typ (nm) | Δλ Typ (nm) | I <sub>F</sub> (mA) | Min (mcd)                       | Typ (mcd) | I <sub>F</sub> (mA) |
| <br>Character Height: 8mm<br>External Dimensions: (7x11)       | LA-301VB/VL | Red                    | 320   | 15                                  | 60  | 5                                  | -25 to +75                      | -30 to +85                    | 2.0   | 10                  | 100                            | 3                  | 650                     | 40          | 10                  | 3.6                             | 10        | 10                  |
|  | LA-301MB/ML | Green                  | 480   | 20                                  | 60  | 5                                  | -25 to +75                      | -30 to +85                    | 2.1   | 10                  | 100                            | 3                  | 563                     | 40          | 10                  | 3.6                             | 10        | 10                  |
|  | LA-301AB/AL | High Brightness Red    | 520   | 25                                  | 50  | 5                                  | -25 to +75                      | -30 to +85                    | 2.05  | 20                  | 100                            | 3                  | 626                     | 18          | 20                  | 36                              | 90        | 10                  |
|  | LA-301EB/EL | High Brightness Orange | 520   | 25                                  | 50  | 5                                  | -25 to +75                      | -30 to +85                    | 2.05  | 20                  | 100                            | 3                  | 610                     | 17          | 20                  | 36                              | 90        | 10                  |
| <br>Character Height: 10.16mm<br>External Dimensions: (9.6x13) | LA-401VD/VN | Red                    | 320   | 15                                  | 60  | 5                                  | -25 to +75                      | -30 to +85                    | 2.0   | 10                  | 100                            | 3                  | 650                     | 40          | 10                  | 5.6                             | 16        | 10                  |
|  | LA-401MD/MN | Green                  | 480   | 20                                  | 60  | 5                                  | -25 to +75                      | -30 to +85                    | 2.1   | 10                  | 100                            | 3                  | 563                     | 40          | 10                  | 5.6                             | 16        | 10                  |
|  | LA-401AD/AN | High Brightness Red    | 520   | 25                                  | 50  | 5                                  | -25 to +75                      | -30 to +85                    | 2.05  | 20                  | 100                            | 3                  | 626                     | 18          | 20                  | 36                              | 90        | 10                  |
|  | LA-401ED/EN | High Brightness Orange | 520   | 25                                  | 50  | 5                                  | -25 to +75                      | -30 to +85                    | 2.05  | 20                  | 100                            | 3                  | 610                     | 17          | 20                  | 36                              | 90        | 10                  |
| <br>Character Height: 13mm<br>External Dimensions: (12.5x17.5) | LA-501VD/VN | Red                    | 480   | 20                                  | 60  | 5                                  | -25 to +75                      | -30 to +85                    | 2.0   | 10                  | 100                            | 3                  | 650                     | 40          | 10                  | 5.6                             | 16        | 10                  |
|  | LA-501MD/MN | Green                  | 480   | 20                                  | 60  | 5                                  | -25 to +75                      | -30 to +85                    | 2.1   | 10                  | 100                            | 3                  | 563                     | 40          | 10                  | 5.6                             | 16        | 10                  |
| <br>Character Height: 14.6mm<br>External Dimensions: (12.5x19) | LA-601VB/VL | Red                    | 480   | 20                                  | 60  | 5                                  | -25 to +75                      | -30 to +85                    | 2.0   | 10                  | 100                            | 3                  | 650                     | 40          | 10                  | 5.6                             | 14        | 10                  |
|  | LA-601MB/ML | Green                  | 480   | 20                                  | 60  | 5                                  | -25 to +75                      | -30 to +85                    | 2.1   | 10                  | 100                            | 3                  | 563                     | 40          | 10                  | 9.0                             | 22        | 10                  |
|  | LA-601AB/AL | High Brightness Red    | 520   | 25                                  | 50  | 5                                  | -25 to +75                      | -30 to +85                    | 2.05  | 20                  | 100                            | 3                  | 626                     | 18          | 20                  | 36                              | 90        | 10                  |
|  | LA-601EB/EL | High Brightness Orange | 520   | 25                                  | 50  | 5                                  | -25 to +75                      | -30 to +85                    | 2.05  | 20                  | 100                            | 3                  | 610                     | 17          | 20                  | 36                              | 90        | 10                  |

Note1: \*I<sub>FP</sub> measured under duty≤1/5, Pulse width≤1ms, High Brightness and Blue I<sub>FP</sub> measured under duty≤1/10, Pulse width≤0.1 ms

These two digit numeric displays are 10.16 to 14.3mm in height and available in a range of colors.

| Two Digit LED Numeric Displays  |               |                        |   |                                     |   |                                    |                                 |                               |   |                     |                                |                    |                         |             |                     |                                 |           |                     |
|---|---------------|------------------------|---|-------------------------------------|---|------------------------------------|---------------------------------|-------------------------------|---|---------------------|--------------------------------|--------------------|-------------------------|-------------|---------------------|---------------------------------|-----------|---------------------|
| Shape   | Part No.      | Emitting Color         | Absolute Maximum Ratings (T <sub>a</sub> =25°C) |                                     |   |                                    | Absolute Maximum Ratings        |                               | Electrical and Optical Characteristics (T <sub>a</sub> =25°C) |                     |                                |                    |                         |             |                     |                                 |           |                     |
|   |               |                        | Power Dissipation P <sub>D</sub> (mW)           | Forward Current I <sub>F</sub> (mA) | Peak Forward Current I <sub>FP</sub> * (mA) | Reverse Voltage V <sub>R</sub> (V) | Operating Temperature Topr (°C) | Storage Temperature Tstg (°C) | Forward Voltage V <sub>F</sub>                                |                     | Reverse Current I <sub>R</sub> |                    | Light Wavelength        |             |                     | Brightness/Digit I <sub>v</sub> |           |                     |
|   |               |                        |   |                                     |   |                                    |                                 |                               | Typ (V)   | I <sub>F</sub> (mA) | Max (μA)                       | V <sub>R</sub> (V) | λ <sub>p</sub> Typ (nm) | Δλ Typ (nm) | I <sub>F</sub> (mA) | Min (mcd)                       | Typ (mcd) | I <sub>F</sub> (mA) |
| <br>Character Height: 10.16mm<br>External Dimensions: (24x18) | LB-402VD/VN   | Red                    | 640   | 15                                  | 60  | 5                                  | -25 to +75                      | -30 to +85                    | 2.0   | 10                  | 100                            | 3                  | 650                     | 40          | 10                  | 5.6                             | 16        | 10                  |
|   | LB-402MD/MN   | Green                  | 960   | 20                                  | 60  | 5                                  | -25 to +75                      | -30 to +85                    | 2.1   | 10                  | 100                            | 3                  | 563                     | 40          | 10                  | 9.0                             | 25        | 10                  |
| <br>Character Height: 13mm<br>External Dimensions: (25x17.5)  | LB-502VD/VN   | Red                    | 960   | 20                                  | 60  | 5                                  | -25 to +75                      | -30 to +85                    | 2.0   | 10                  | 100                            | 3                  | 650                     | 40          | 10                  | 5.6                             | 16        | 10                  |
|   | LB-502MD/MN   | Green                  | 960   | 20                                  | 60  | 5                                  | -25 to +75                      | -30 to +85                    | 2.1   | 10                  | 100                            | 3                  | 563                     | 40          | 10                  | 9.0                             | 25        | 10                  |
| <br>Character Height: 14.3mm<br>External Dimensions: (25x19)  | LB-602VA2/VK2 | Red                    | 960   | 20                                  | 60  | 5                                  | -25 to +75                      | -30 to +85                    | 2.0   | 10                  | 100                            | 3                  | 650                     | 40          | 10                  | 5.6                             | 16        | 10                  |
|   | LB-602MA2/MK2 | Green                  | 960   | 20                                  | 60  | 5                                  | -25 to +75                      | -30 to +85                    | 2.1   | 10                  | 100                            | 3                  | 563                     | 40          | 10                  | 9.0                             | 25        | 10                  |
|   | LB-602AA2/AK2 | High Brightness Red    | 1,040   | 25                                  | 50  | 5                                  | -25 to +75                      | -30 to +85                    | 2.05  | 20                  | 100                            | 3                  | 626                     | 18          | 20                  | 36                              | 90        | 10                  |
|   | LB-602EA2/EK2 | High Brightness Orange | 1,040   | 25                                  | 50  | 5                                  | -25 to +75                      | -30 to +85                    | 2.05  | 20                  | 100                            | 3                  | 610                     | 17          | 20                  | 36                              | 90        | 10                  |

Note: \*I<sub>FP</sub> measured under duty≤1/5, Pulse width≤1ms, High Brightness and Blue I<sub>FP</sub> measured under duty≤1/10, Pulse width≤0.1 ms

| Three Digit LED Numeric Display  |             |                |   |                                     |   |                                    |                                 |                               |   |                     |                                |                    |                         |             |                     |                                 |           |                     |
|--|-------------|----------------|---|-------------------------------------|---|------------------------------------|---------------------------------|-------------------------------|---|---------------------|--------------------------------|--------------------|-------------------------|-------------|---------------------|---------------------------------|-----------|---------------------|
| Shape  | Part No.    | Emitting Color | Absolute Maximum Ratings (T <sub>a</sub> =25°C) |                                     |   |                                    | Absolute Maximum Ratings        |                               | Electrical and Optical Characteristics (T <sub>a</sub> =25°C) |                     |                                |                    |                         |             |                     |                                 |           |                     |
|  |             |                | Power Dissipation P <sub>D</sub> (mW)           | Forward Current I <sub>F</sub> (mA) | Peak Forward Current I <sub>FP</sub> * (mA) | Reverse Voltage V <sub>R</sub> (V) | Operating Temperature Topr (°C) | Storage Temperature Tstg (°C) | Forward Voltage V <sub>F</sub>                                |                     | Reverse Current I <sub>R</sub> |                    | Light Wavelength        |             |                     | Brightness/Digit I <sub>v</sub> |           |                     |
|  |             |                |   |                                     |   |                                    |                                 |                               | Typ (V)   | I <sub>F</sub> (mA) | Max (μA)                       | V <sub>R</sub> (V) | λ <sub>p</sub> Typ (nm) | Δλ Typ (nm) | I <sub>F</sub> (mA) | Min (mcd)                       | Typ (mcd) | I <sub>F</sub> (mA) |
| <br>Character Height: 14.3mm<br>External Dimensions: (37.5x18) | LB-603VF/VP | Red            | 960   | 15                                  | 60  | 5                                  | -25 to +75                      | -30 to +85                    | 2.0   | 10                  | 100                            | 3                  | 650                     | 40          | 10                  | 5.6                             | 16        | 10                  |

Note: \*I<sub>FP</sub> measured under duty≤1/5, Pulse width≤1ms