

# PLX

Radial Lead Type, Long Life Assurance

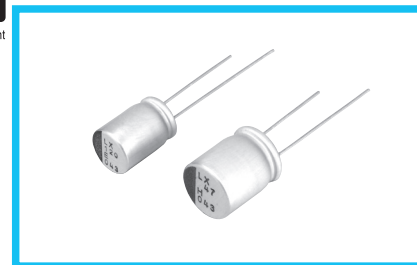


- High reliability, High voltage (to 50V).
- Low ESR, High ripple current.
- Long life of 3000 hours at 125°C.
- Radial lead type:
- Lead free flow soldering condition correspondence.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).
- AEC-Q200 compliant. Please contact us for details.

PLX



PLV



## Specifications

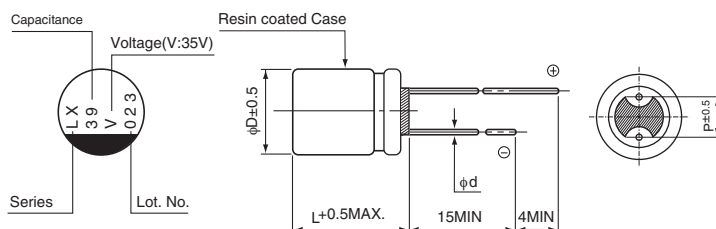
| Item                                                 | Performance Characteristics                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------------------|-------|-----------------------------------------------|-----------|-----------------------------------------------|-----------------------|---------------------------------------------------|
| Category Temperature Range                           | -55 to +125°C                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| Rated Voltage Range                                  | 16 to 50V                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| Rated Capacitance Range                              | 22 to 390μF                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| Capacitance Tolerance                                | ±20% at 120Hz, 20°C                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| Tangent of loss angle (tan δ)                        | Less than or equal to the specified value at 120Hz, 20°C                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| ESR (※ 1)                                            | Less than or equal to the specified value at 100kHz, 20°C                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| Leakage Current (※ 2)                                | Less than or equal to the specified value. After 2 minutes' application of rated voltage at 20°C                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| Temperature Characteristics<br>(Max.Impedance Ratio) | Z+125°C / Z+20°C ≤ 1.25 (100kHz)<br>Z-55°C / Z+20°C ≤ 1.25                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| Endurance                                            | The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 3000 hours at 125°C.                                                                                                                                                                                                   | <table><tr><td>Capacitance change</td><td>Within ± 20% of initial value (※3)</td></tr><tr><td>tan δ</td><td>150% or less of the initial specified value</td></tr><tr><td>ESR (※ 1)</td><td>150% or less of the initial specified value</td></tr><tr><td>Leakage current (※ 2)</td><td>Less than or equal to the initial specified value</td></tr></table>                     | Capacitance change | Within ± 20% of initial value (※3)                 | tan δ | 150% or less of the initial specified value   | ESR (※ 1) | 150% or less of the initial specified value   | Leakage current (※ 2) | Less than or equal to the initial specified value |
| Capacitance change                                   | Within ± 20% of initial value (※3)                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| tan δ                                                | 150% or less of the initial specified value                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| ESR (※ 1)                                            | 150% or less of the initial specified value                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| Leakage current (※ 2)                                | Less than or equal to the initial specified value                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| Damp Heat<br>(Steady State)                          | The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 60°C, 90% RH.                                                                                                                                                                                            | <table><tr><td>Capacitance change</td><td>Within ± 20% of initial value (※3)</td></tr><tr><td>tan δ</td><td>150% or less of the initial specified value</td></tr><tr><td>ESR (※ 1)</td><td>150% or less of the initial specified value</td></tr><tr><td>Leakage current (※ 2)</td><td>Less than or equal to the initial specified value</td></tr></table>                     | Capacitance change | Within ± 20% of initial value (※3)                 | tan δ | 150% or less of the initial specified value   | ESR (※ 1) | 150% or less of the initial specified value   | Leakage current (※ 2) | Less than or equal to the initial specified value |
| Capacitance change                                   | Within ± 20% of initial value (※3)                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| tan δ                                                | 150% or less of the initial specified value                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| ESR (※ 1)                                            | 150% or less of the initial specified value                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| Leakage current (※ 2)                                | Less than or equal to the initial specified value                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| Resistance to Soldering Heat                         | After soldering the capacitor under the soldering conditions prescribed here as preheat at 150 to 200°C for 60 to 180 seconds and peak temperature at 265°C for 10 seconds or less, the capacitor shall meet the specifications listed at right, provided that its temperature profile is measured at both of terminal ends facing the soldering side. | <table><tr><td>Capacitance change</td><td>Within ± 10% of the initial capacitance value (※3)</td></tr><tr><td>tan δ</td><td>130% or less than the initial specified value</td></tr><tr><td>ESR (※ 1)</td><td>130% or less than the initial specified value</td></tr><tr><td>Leakage current (※ 2)</td><td>Less than or equal to the initial specified value</td></tr></table> | Capacitance change | Within ± 10% of the initial capacitance value (※3) | tan δ | 130% or less than the initial specified value | ESR (※ 1) | 130% or less than the initial specified value | Leakage current (※ 2) | Less than or equal to the initial specified value |
| Capacitance change                                   | Within ± 10% of the initial capacitance value (※3)                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| tan δ                                                | 130% or less than the initial specified value                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| ESR (※ 1)                                            | 130% or less than the initial specified value                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| Leakage current (※ 2)                                | Less than or equal to the initial specified value                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |
| Marking                                              | Navy blue print on the case top                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                    |       |                                               |           |                                               |                       |                                                   |

※ 1 ESR should be measured at both of the terminal ends closest to the capacitor body.

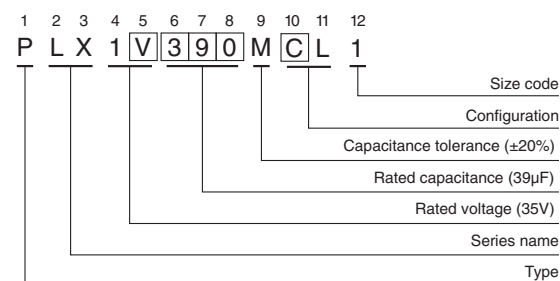
※ 2 Conditioning : If any doubt arises, measure the leakage current after the voltage treatment of applying DC rated voltage continuously to the capacitor for 120 minutes at 105°C.

※ 3 Initial value : The value before test of examination of resistance to soldering.

## Dimensions



## Type numbering system (Example : 35V 39μF)



| (mm) |         |          |           |
|------|---------|----------|-----------|
| Size | φ8 × 9L | φ8 × 12L | φ10 × 13L |
| φD   | 8.0     | 8.0      | 10.0      |
| L    | 8.5     | 11.5     | 12.5      |
| P    | 3.5     | 3.5      | 5.0       |
| φd   | 0.6     | 0.6      | 0.6       |

| Voltage |    |    |    |    |    |
|---------|----|----|----|----|----|
| V       | 16 | 20 | 25 | 35 | 50 |
| Code    | C  | D  | E  | V  | H  |

## Frequency coefficient of rated ripple current

| Frequency   | 120Hz | 1kHz | 10kHz | 100kHz or more |
|-------------|-------|------|-------|----------------|
| Coefficient | 0.05  | 0.30 | 0.70  | 1.00           |

Please refer to page 20 about the end seal configuration.

●Dimension table in next page.

PLX

## ■ Dimensions

| Rated Voltage<br>(V)(code) | Surge Voltage<br>(V) | Rated Capacitance<br>( $\mu$ F) | Case Size<br>$\phi$ D $\times$ L (mm) | tan $\delta$ | Leakage Current<br>( $\mu$ A) | ESR (m $\Omega$ )<br>(at 100kHz 20°C) | Rated Ripple<br>(mAmps)       |                                                   | Part Number  |
|----------------------------|----------------------|---------------------------------|---------------------------------------|--------------|-------------------------------|---------------------------------------|-------------------------------|---------------------------------------------------|--------------|
|                            |                      |                                 |                                       |              |                               |                                       | $\leq 105^\circ\text{C}$ (*3) | $105^\circ\text{C} < \leq 125^\circ\text{C}$ (*3) |              |
| 16<br>(1C)                 | 18.4                 | 150                             | 8 $\times$ 9                          | 0.12         | 480                           | 26                                    | 2100                          | 810                                               | PLX1C151MCL1 |
|                            |                      | 220                             | 8 $\times$ 12                         | 0.12         | 704                           | 25                                    | 2400                          | 930                                               | PLX1C221MDL1 |
|                            |                      | 390                             | 10 $\times$ 13                        | 0.12         | 1248                          | 23                                    | 2900                          | 1130                                              | PLX1C391MDL1 |
| 20<br>(1D)                 | 23.0                 | 120                             | 8 $\times$ 9                          | 0.12         | 480                           | 27                                    | 2000                          | 800                                               | PLX1D121MCL1 |
|                            |                      | 150                             | 8 $\times$ 12                         | 0.12         | 600                           | 26                                    | 2300                          | 910                                               | PLX1D151MDL1 |
|                            |                      | 270                             | 10 $\times$ 13                        | 0.12         | 1080                          | 24                                    | 2800                          | 1110                                              | PLX1D271MDL1 |
| 25<br>(1E)                 | 28.7                 | 82                              | 8 $\times$ 9                          | 0.12         | 410                           | 28                                    | 2000                          | 780                                               | PLX1E820MCL1 |
|                            |                      | 120                             | 8 $\times$ 12                         | 0.12         | 600                           | 27                                    | 2300                          | 890                                               | PLX1E121MDL1 |
|                            |                      | 180                             | 10 $\times$ 13                        | 0.12         | 900                           | 25                                    | 2800                          | 1080                                              | PLX1E181MDL1 |
| 35<br>(1V)                 | 40.2                 | 39                              | 8 $\times$ 9                          | 0.12         | 273                           | 33                                    | 1800                          | 720                                               | PLX1V390MCL1 |
|                            |                      | 56                              | 8 $\times$ 12                         | 0.12         | 392                           | 31                                    | 2100                          | 830                                               | PLX1V560MDL1 |
|                            |                      | 100                             | 10 $\times$ 13                        | 0.12         | 700                           | 28                                    | 2700                          | 1040                                              | PLX1V101MDL1 |
| 50<br>(1H)                 | 57.5                 | 22                              | 8 $\times$ 9                          | 0.12         | 220                           | 35                                    | 1800                          | 700                                               | PLX1H220MCL1 |
|                            |                      | 27                              | 8 $\times$ 12                         | 0.12         | 270                           | 33                                    | 2000                          | 810                                               | PLX1H270MDL1 |
|                            |                      | 47                              | 10 $\times$ 13                        | 0.12         | 470                           | 29                                    | 2600                          | 1020                                              | PLX1H470MDL1 |

(\*3) Ambient temperature of a capacitor

- Please refer to page 20, 21, 22 about the formed or taped product spec.
- Please refer to page 3 for the minimum order quantity.



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Электрон  
Связь**

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