# RUZ Series

Features

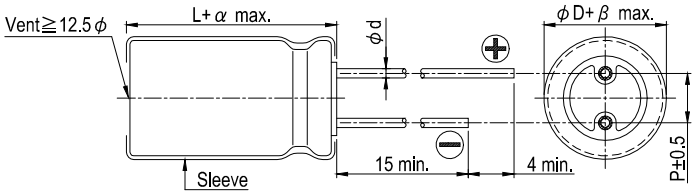
- 125℃, 3,000 ~ 5,000 hours assured
- Low impedance and high-ripple current
- For automobile modules and other high temperature applications
- RoHS Compliant




Specifications

| Items | Performance |
|---|---|
| Category Temperature Range | -40℃ ~ +125℃ |
| Capacitance Tolerance | ± 20% (at 120 Hz, 20℃) |
| Leakage Current (at 20℃) | I = 0.03CV or 4 (μA) whichever is greater (after 1 minutes)<br>Where, C = rated capacitance in μF, V = rated DC working voltage in V. |
| Tanδ (at 120 Hz, 20℃) | Rated Voltage: 25 / 35 / 50 / 63 / 80 / 100<br>Tanδ (max.): 0.14 / 0.12 / 0.10 / 0.10 / 0.08 / 0.08<br>When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase. |
| Low Temperature Characteristics (at 120 Hz) | Impedance ratio shall not exceed the values given in the table below.<br>Rated Voltage: 25 / 35 / 50 / 63 / 80 / 100<br>Impedance Ratio Z(-25℃) / Z(+20℃): 2 / 2 / 2 / 2 / 2 / 2<br>Impedance Ratio Z(-40℃) / Z(+20℃): 4 / 4 / 4 / 4 / 4 / 4<br>When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase |
| Endurance | Test Time: 3,000 Hrs for L ≦ 25mm; 5,000 Hrs for L > 25mm<br>Capacitance Change: Within ± 30% of initial value<br>Tanδ: Less than 300% of specified value<br>Leakage Current: Within specified value<br>* The above specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied with rated ripple current for 3,000 / 5,000 hours at 125℃. |
| Shelf Life Test | Test Time: 1,000 Hrs<br>Capacitance Change: Within ± 30% of initial value<br>Tanδ: Less than 300% of specified value<br>Leakage Current: Within specified value<br>* The above specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 125℃ without voltage applied. |
| Ripple Current and Frequency Multipliers | Freq. (Hz) / Cap. (μF): 120 / 1k / 10k / 100k<br>200: 0.40 / 0.82 / 0.93 / 1.00<br>330 ~ 560: 0.50 / 0.85 / 0.94 / 1.00<br>680 ~ 1,800: 0.60 / 0.87 / 0.95 / 1.00<br>2,200 ~ 3,900: 0.75 / 0.90 / 0.95 / 1.00<br>4,700 ~ 6,800: 0.85 / 0.95 / 0.98 / 1.00 |

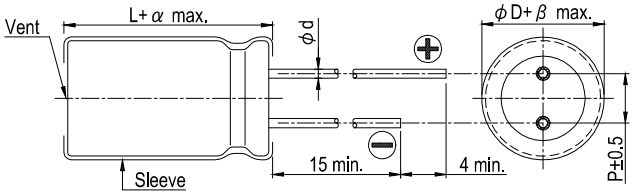
Diagram of Dimensions




Lead Spacing and Diameter Unit: mm

| φD | 12.5 | 16 | 18 |
|---|---|---|---|
| P | 5.0 | 7.5 | 7.5 |
| φd | 0.6 | 0.8 | |
| α | 2.0 | | |
| β | 0.5 | | |

The case size of 16×20 and 18×25 are suitable for below diagram:






All product specifications in the catalog are subject to change without notice. (Cat. 2025E3)

Dimension: ϕD × L(mm)
Impedance: Ω/ at 100k Hz, 20°C
Ripple Current: mA/rms at 100 kHz, 125°C

Dimension and Permissible Ripple Current

| Rated Volt. ($V_{DC}$) / Cap. (μF) | Contents | 25V (1E) | | | 35V (1V) | | | 50V (1H) | | | 63V (1J) | | | 80V (1K) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ϕD×L | Imp. | mA | ϕD×L | Imp. | mA | ϕD×L | Imp. | mA | ϕD×L | Imp. | mA | ϕD×L | Imp. | mA |
| 330 | 331 | | | | | | | | | | | | | 16×20 | 0.085 | 1,790 |
| 470 | 471 | | | | | | | 12.5×20 | 0.065 | 1,500 | 16×20 | 0.085 | 1,790 | 16×25 | 0.061 | 2,030 |
| 560 | 561 | | | | | | | | | | | | | 18×25 | 0.049 | 2,280 |
| 680 | 681 | | | | 12.5×20 | 0.044 | 1820 | 12.5×25<br>16×20 | 0.048<br>0.043 | 1,900<br>2,040 | 16×25 | 0.061 | 2,030 | 16×35.5 | 0.044 | 2,580 |
| 820 | 821 | | | | | | | 12.5×30 | 0.041 | 2,150 | | | | 16×40<br>18×35.5 | 0.036<br>0.035 | 2,900<br>2,890 |
| 1,000 | 102 | | | | 12.5×25 | 0.033 | 2,400 | 12.5×35<br>16×25 | 0.034<br>0.031 | 2,510<br>2,620 | 16×35.5<br>18×25 | 0.044<br>0.049 | 2,580<br>2,280 | | | |
| 1,200 | 122 | 12.5×20 | 0.044 | 1,820 | 12.5×30<br>16×20 | 0.029<br>0.034 | 2,560<br>2,280 | 12.5×40<br>18×25 | 0.028<br>0.029 | 2,870<br>2,750 | 16×40 | 0.036 | 2,900 | 18×40 | 0.030 | 3,210 |
| 1,500 | 152 | | | | 12.5×35 | 0.024 | 2,970 | 16×35.5 | 0.023 | 3,300 | 18×35.5 | 0.035 | 2,890 | | | |
| 1,800 | 182 | 12.5×25<br>16×20 | 0.033<br>0.034 | 2,400<br>2,280 | 12.5×40<br>16×25 | 0.021<br>0.026 | 3,600<br>3,100 | | | | 18×40 | 0.030 | 3,210 | | | |
| 2,200 | 222 | 12.5×30 | 0.029 | 2,560 | 18×25 | 0.024 | 3,200 | 16×40<br>18×35.5 | 0.020<br>0.022 | 3,720<br>3,510 | | | | | | |
| 2,700 | 272 | 12.5×35<br>16×25 | 0.024<br>0.026 | 2,970<br>3,100 | 16×35.5 | 0.020 | 3,590 | 18×40 | 0.018 | 3,940 | | | | | | |
| 3,300 | 332 | 12.5×40 | 0.021 | 3,600 | 16×40<br>18×35.5 | 0.017<br>0.019 | 4,300<br>4,200 | | | | | | | | | |
| 3,900 | 392 | 16×35.5<br>18×25 | 0.020<br>0.024 | 3,590<br>3,200 | | | | | | | | | | | | |
| 4,700 | 472 | | | | 18×40 | 0.016 | 4,600 | | | | | | | | | |
| 5,600 | 562 | 16×40<br>18×35.5 | 0.017<br>0.019 | 4,300<br>4,200 | | | | | | | | | | | | |
| 6,800 | 682 | 18×40 | 0.016 | 4,600 | | | | | | | | | | | | |

| Rated Volt. ($V_{DC}$) / Cap. (μF) | Contents | 100V (2A) | | |
|---|---|---|---|---|
| | | ϕD×L | Imp. | mA |
| 200 | 201 | 16×20 | 0.11 | 1,580 |
| 330 | 331 | 16×25<br>18×25 | 0.079<br>0.064 | 1,990<br>2,110 |
| 470 | 471 | 16×35.5 | 0.056 | 2,500 |
| 560 | 561 | 16×40<br>18×35.5 | 0.046<br>0.044 | 2,700<br>2,690 |
| 680 | 681 | 18×40 | 0.039 | 2,880 |

Part Numbering System

| RUZ series | 1200μF | ± 20% | 25V | Bulk Package | Gas Type | 12.5ϕ×20L | General Purpose |
|---|---|---|---|---|---|---|---|
| **RUZ** | **122** | **M** | **1E** | **BK** | **-** | **1320** | |
| Series | Capacitance | Capacitance Tolerance | Rated Voltage | Lead Configuration and Package | Rubber Type | Case Size | Application |

Note: For more details, please refer to “Part Numbering System - Radial Type” on page 139.