

RUZ Series

Features

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



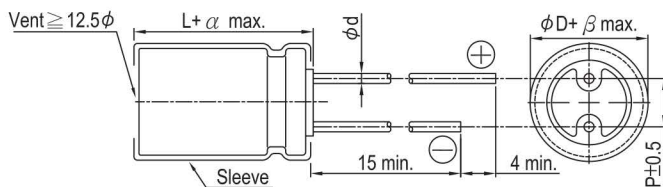
AEC-Q200 Qualified Parts Available: Use "LS" or "KS" Suffix

Specifications

Items	Performance																																		
Category Temperature Range	-40°C ~ +125°C																																		
Capacitance Tolerance	± 20% (at 120 Hz, 20°C)																																		
Leakage Current (at 20°C)	I = 0.03CV or 4 (μA) whichever is greater (after 1 minutes) Where, C = rated capacitance in μF, V = rated DC working voltage in V.																																		
Tanδ (at 120 Hz, 20°C)	<table border="1"> <tr> <th>Rated Voltage</th> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> </tr> <tr> <th>Tanδ (max)</th> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.10</td> <td>0.08</td> <td>0.08</td> </tr> </table> <p>When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase.</p>	Rated Voltage	25	35	50	63	80	100	Tanδ (max)	0.14	0.12	0.10	0.10	0.08	0.08																				
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Low Temperature Characteristics (at 120 Hz)	<p>Impedance ratio shall not exceed the values given in the table below.</p> <table border="1"> <tr> <th colspan="2">Rated Voltage</th> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> </tr> <tr> <th rowspan="2">Impedance Ratio</th> <th>Z(-25°C) / Z(+20°C)</th> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <th>Z(-40°C) / Z(+20°C)</th> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> </tr> </table> <p>When the capacitance exceeds 1000μF, 0.02 shall be added every 1000μF increase</p>	Rated Voltage		25	35	50	63	80	100	Impedance Ratio	Z(-25°C) / Z(+20°C)	2	2	2	2	2	2	Z(-40°C) / Z(+20°C)	4	4	4	4	4	4											
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Endurance	<table border="1"> <tr> <th>Test Time</th> <td>3,000 Hrs for L ≤ 25mm; 5,000 Hrs for L > 25mm</td> </tr> <tr> <th>Capacitance Change</th> <td>Within ±30% of initial value</td> </tr> <tr> <th>Tanδ</th> <td>Less than 300% of specified value</td> </tr> <tr> <th>Leakage Current</th> <td>Within specified value</td> </tr> </table> <p>* The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied with rated ripple current for 3,000 / 5,000 hours at 125°C.</p>	Test Time	3,000 Hrs for L ≤ 25mm; 5,000 Hrs for L > 25mm	Capacitance Change	Within ±30% of initial value	Tanδ	Less than 300% of specified value	Leakage Current	Within specified value																										
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Shelf Life Test	<table border="1"> <tr> <th>Test Time</th> <td>1,000 Hrs</td> </tr> <tr> <th>Capacitance Change</th> <td>Within ±30% of initial value</td> </tr> <tr> <th>Tanδ</th> <td>Less than 300% of specified value</td> </tr> <tr> <th>Leakage Current</th> <td>Within specified value</td> </tr> </table> <p>* The above specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 125°C without voltage applied.</p>	Test Time	1,000 Hrs	Capacitance Change	Within ±30% of initial value	Tanδ	Less than 300% of specified value	Leakage Current	Within specified value																										
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Ripple Current and Frequency Multipliers	<table border="1"> <tr> <th rowspan="2">Cap. (μF)</th> <th colspan="4">Freq. (Hz)</th> </tr> <tr> <th>120</th> <th>1k</th> <th>10k</th> <th>100k</th> </tr> <tr> <td>200</td> <td>0.40</td> <td>0.82</td> <td>0.93</td> <td>1.00</td> </tr> <tr> <td>330 ~ 560</td> <td>0.50</td> <td>0.85</td> <td>0.94</td> <td>1.00</td> </tr> <tr> <td>680 ~ 1,800</td> <td>0.60</td> <td>0.87</td> <td>0.95</td> <td>1.00</td> </tr> <tr> <td>2,200 ~ 3,900</td> <td>0.75</td> <td>0.90</td> <td>0.95</td> <td>1.00</td> </tr> <tr> <td>4,700 ~ 6,800</td> <td>0.85</td> <td>0.95</td> <td>0.98</td> <td>1.00</td> </tr> </table>	Cap. (μF)	Freq. (Hz)				120	1k	10k	100k	200	0.40	0.82	0.93	1.00	330 ~ 560	0.50	0.85	0.94	1.00	680 ~ 1,800	0.60	0.87	0.95	1.00	2,200 ~ 3,900	0.75	0.90	0.95	1.00	4,700 ~ 6,800	0.85	0.95	0.98	1.00
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Radial

Diagram of Dimensions

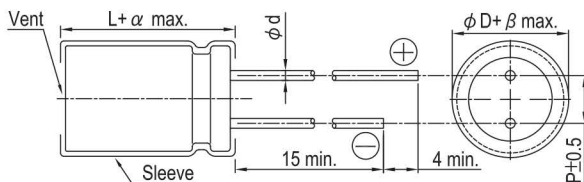


Lead Spacing and Diameter

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:



Dimension: $\phi D \times L$ (mm)
 Impedance: Ω / at 100k Hz, 20°C
 Ripple Current: mA/rms at 100 k Hz, 125°C

Dimension and Permissible Ripple Current

Rated Volt. (Vdc)		25V (1E)			35V (1V)			50V (1H)			63V (1J)			80V (1K)		
Cap. (µF)	Contents	$\phi D \times L$	Imp.	mA	$\phi D \times L$	Imp.	mA	$\phi D \times L$	Imp.	mA	$\phi D \times L$	Imp.	mA	$\phi D \times L$	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
680	681				12.5×20	0.044	1,820	12.5×25 16×20	0.048 0.043	1,900 2,040				18×25	0.049	2,280
820	821							12.5×30	0.041	2,150	16×25	0.061	2,030	16×35.5	0.044	2,580
1,000	102				12.5×25	0.033	2,400	12.5×35 16×25	0.034 0.031	2,510 2,620				16×40 18×35.5	0.036 0.035	2,900 2,890
1,200	122	12.5×20	0.044	1,820	12.5×30 16×20	0.029 0.034	2,560 2,280	12.5×40 18×25	0.028 0.029	2,870 2,750	16×35.5 18×25	0.044 0.049	2,580 2,280			
1,500	152				12.5×35	0.024	2,970	16×35.5	0.023	3,300	16×40	0.036	2,900	18×40	0.030	3,210
1,800	182	12.5×25 16×20	0.033 0.034	2,400 2,280	12.5×40 16×25	0.021 0.026	3,600 3,100				18×35.5	0.035	2,890			
2,200	222	12.5×30	0.029	2,560	18×25	0.024	3,200	16×40 18×35.5	0.020 0.022	3,720 3,510	18×40	0.030	3,210			
2,700	272	12.5×35 16×25	0.024 0.026	2,970 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 18×35.5	0.017 0.019	4,300 4,200									
3,900	392	16×35.5 18×25	0.020 0.024	3,590 3,200												
4,700	472				18×40	0.016	4,600									
5,600	562	16×40 18×35.5	0.017 0.019	4,300 4,200												
6,800	682	18×40	0.016	4,600												

Rated Volt. (Vdc)		100V (2A)		
Cap. (µF)	Contents	$\phi D \times L$	Imp.	mA
200	201	16×20	0.11	1,580
330	331	16×25 18×25	0.079 0.064	1,990 2,110
470	471	16×35.5	0.056	2,500
560	561	16×40 18×35.5	0.046 0.044	2,700 2,890
680	681	18×40	0.039	2,880

Part Numbering System

RUZ series 1200µF ±20% 25V Bulk Package Gas Type 12.5 ϕ ×20L Pb-free and PET sleeve

RUZ **122** **M** **1E** **BK** - **1320** **S**

Series Capacitance Capacitance Tolerance Rated Voltage Lead Configuration and Package Rubber Type Case Size Lead Wire and Sleeve type

For automotive application, please replace "S" suffix with an "LS" or "KS" suffix, for non-safety critical and safety critical applications respectively

Note: For more details, please refer to "Part Numbering System (Radial Type)" on page 13.

Radial