



## • Specifications

| Items                        | Characteristics  |                                      |
|------------------------------|--|--------------------------------------|
| Temperature range            | -55 to +105°C  |                                      |
| Rated voltage range          | 16 to 50Vdc  |                                      |
| Capacitance range            | 10 to 3,300μF  |                                      |
| Capacitance tolerance        | ±20% [M] (at 20°C, 120Hz)  |                                      |
| Tangent of loss angle        | Less than or equal to the value of Standard Ratings (at 20°C, 120Hz)   |                                      |
| Leakage current              | Less than or equal to the value of Standard Ratings (at 20°C, after 2 minutes)   |                                      |
| ESR                          | Less than or equal to the value of Standard Ratings  |                                      |
| Characteristics of impedance | $Z_{+105^{\circ}\text{C}}/Z_{+20^{\circ}\text{C}} \leq 1.25$ , $Z_{-55^{\circ}\text{C}}/Z_{+20^{\circ}\text{C}} \leq 1.25$ at 100kHz |                                      |
| Endurance                    | 105°C, 5,000 hrs at rated voltage  |                                      |
|                              | Appearance   | No significant damage                |
|                              | Capacitance change   | Within±20% of the initial value      |
|                              | Tangent of loss angle (tanδ)   | ≤150% of the initial specified value |
|                              | ESR(mΩ)  | ≤150% of the initial specified value |
|                              | Leakage current  | ≤The initial specified value         |
| Damp Heat (Steady State)     | 60°C, 90 to 95% RH, 1,000 hrs, No-applied Voltage  |                                      |
|                              | Appearance   | No significant damage                |
|                              | Capacitance change   | Within±20% of the initial value      |
|                              | Tangent of loss angle (tanδ)   | ≤150% of the initial specified value |
|                              | ESR(mΩ)  | ≤150% of the initial specified value |
|                              | Leakage current  | ≤The initial specified value         |
| Resistance to soldering heat | Flow method (260±5°C, 10s)   |                                      |
|                              | Appearance   | No significant damage                |
|                              | Capacitance change   | Within±10% of the initial value      |
|                              | Tangent of loss angle (tanδ)   | ≤130% of the initial specified value |
|                              | ESR(mΩ)  | ≤130% of the initial specified value |
|                              | Leakage current  | ≤The initial specified value         |

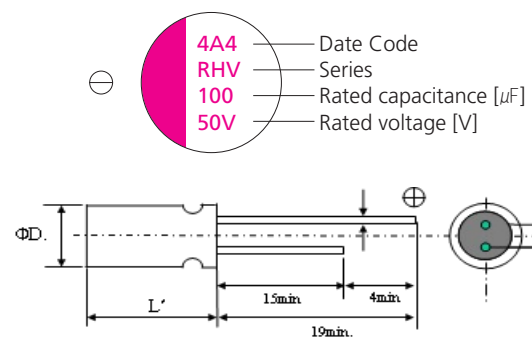
## • Size List

(unit: mm)

| RV (SV) | 16 (18.4) | 20 (23) | 25 (28.7) | 32 (36.8) | 35 (40.2) | 50 (57.5) |
|---------|-----------|---------|-----------|-----------|-----------|-----------|
| 10      |           |         |           |           |           | 6.3×6     |
| 22      |           |         |           | 6.3×6     | 6.3×6     | 8×7       |
| 27      |           |         | 6.3×6     |           |           |           |
| 39      |           |         |           |           | 8×7       | 8×11.5    |
| 47      |           |         | 6.3×6     |           | 8×7       | 8×11.5    |
| 56      |           |         | 6.3×6     |           |           | 8×11.5    |
| 68      |           |         |           | 8×7       | 8×7       | 10×11.5   |
| 82      |           |         | 8×7       |           | 8×11.5    |           |
| 100     |           |         | 8×7       |           | 8×11.5    | 10×11.5   |
| 120     |           | 6.3×6   |           | 8×11.5    | 10×11.5   | 8×11.5    |
| 150     | 6.3×6     |         |           |           | 10×11.5   |           |
| 180     | 6.3×6     | 8×7     | 8×11.5    |           |           |           |
| 220     |           | 8×11.5  | 8×11.5    | 10×11.5   | 10×11.5   | 10×11.5   |
| 270     | 8×7       |         |           |           | 8×11.5    |           |
| 330     |           |         | 10×11.5   |           | 10×11.5   |           |
| 390     |           | 8×11.5  | 10×11.5   |           |           |           |
| 470     |           |         | 10×11.5   |           |           |           |
| 560     | 8×11.5    | 10×11.5 |           |           |           |           |
| 680     |           |         | 10×11.5   |           | 10×16     |           |
| 1000    | 10×11.5   |         | 10×16     |           |           |           |
| 1200    | 8×15      |         | 8×23      |           |           |           |
| 1500    | 10×11.5   |         |           |           |           |           |
| 1800    | 8×21      |         |           |           |           |           |
| 2200    | 10×16     |         | 10×23     |           |           |           |
| 3300    | 10×21     |         |           |           |           |           |

RV: Rated Voltage [V] SV: Surge Voltage [V] (at room temperature)

## • Marking and Dimensions



(unit: mm)

| Size    | ØD±0.5 | L    | L'           | P±0.5 | Ød   |
|---------|--------|------|--------------|-------|------|
| 6.3×6   | 6.3    | 6.0  | Lmax         | 2.5   | 0.45 |
| 8×7     | 8.0    | 7.0  |              | 3.5   | 0.45 |
| 8×11.5  | 8.0    | 11.5 | L + 1.0 max. | 3.5   | 0.60 |
| 10×11.5 | 10.0   | 11.5 |              | 5.0   | 0.60 |
| 8×15    | 8.0    | 15.0 |              | 3.5   | 0.60 |
| 10×16   | 10.0   | 16.0 |              | 5.0   | 0.60 |
| 8×21    | 8.0    | 21.0 |              | 3.5   | 0.60 |
| 10×21   | 10.0   | 21.0 |              | 5.0   | 0.60 |
| 8×23    | 8.0    | 23.0 |              | 3.5   | 0.60 |
| 10×23   | 10.0   | 23.0 |              | 5.0   | 0.60 |

• Standard Ratings

| Rated Voltage [Vdc] | Rated Capacitance [μF] | Size ØD x L [mm] | ESR (20°C, 100kHz) [mΩ] [max.] | Rated Ripple Current (105°C, 100kHz) [mArms] | Tangent of Loss Angel [max.] | Leakage Current [μA, max.] | Part Number   |
|---------------------|------------------------|------------------|--------------------------------|--|------------------------------|----------------------------|---------------|
| 16                  | 150                    | 6.3 x 6          | 30                             | 2590   | 0.12                         | 480                        | 16RHV150MC6   |
|                     | 180                    | 6.3 x 6          | 22                             | 3300   | 0.12                         | 576                        | 16RHV180MC6   |
|                     | 270                    | 8 x 7            | 22                             | 3300   | 0.12                         | 864                        | 16RHV270MD7   |
|                     | 560                    | 8 x 11.5         | 14                             | 4950   | 0.12                         | 1792                       | 16RHV560MD11  |
|                     | 1000                   | 10 x 11.5        | 12                             | 5400   | 0.12                         | 3200                       | 16RHV1000ME11 |
|                     | 1200                   | 8 x 15           | 11                             | 7000   | 0.12                         | 2880                       | 16RHV1200MD15 |
|                     | 1500                   | 10 x 11.5        | 12                             | 5600   | 0.12                         | 4800                       | 16RHV1500ME11 |
|                     | 1800                   | 8 x 21           | 9                              | 7500   | 0.12                         | 4320                       | 16RHV1800MD21 |
|                     | 2200                   | 10 x 16          | 11                             | 8100   | 0.12                         | 5280                       | 16RHV2200ME16 |
|                     | 3300                   | 10 x 21          | 11                             | 10000  | 0.12                         | 7920                       | 16RHV3300ME21 |
| 20                  | 120                    | 6.3 x 6          | 25                             | 3200   | 0.12                         | 480                        | 20RHV120MC6   |
|                     | 180                    | 8 x 7            | 25                             | 3200   | 0.12                         | 720                        | 20RHV180MD7   |
|                     | 220                    | 8 x 11.5         | 24                             | 3320   | 0.12                         | 880                        | 20RHV220MD11  |
|                     | 390                    | 8 x 11.5         | 14                             | 4950   | 0.12                         | 1560                       | 20RHV390MD11  |
|                     | 560                    | 10 x 11.5        | 12                             | 5400   | 0.12                         | 2240                       | 20RHV560ME11  |
|                     | 25                     | 27               | 6.3 x 6                        | 40   | 2450                         | 0.12                       | 135           |
| 47                  |                        | 6.3 x 6          | 30                             | 2800   | 0.12                         | 235                        | 25RHV47MC6    |
| 56                  |                        | 6.3 x 6          | 30                             | 2800   | 0.12                         | 280                        | 25RHV56MC6    |
| 82                  |                        | 8 x 7            | 28                             | 3000   | 0.12                         | 410                        | 25RHV82MD7    |
| 100                 |                        | 8 x 7            | 28                             | 3000   | 0.12                         | 500                        | 25RHV100MD7   |
| 180                 |                        | 8 x 11.5         | 16                             | 4650   | 0.12                         | 900                        | 25RHV180MD11  |
| 220                 |                        | 8 x 11.5         | 16                             | 4650   | 0.12                         | 1100                       | 25RHV220MD11  |
| 330                 |                        | 10 x 11.5        | 14                             | 5000   | 0.12                         | 1650                       | 25RHV330ME11  |
| 390                 |                        | 10 x 11.5        | 14                             | 5000   | 0.12                         | 1950                       | 25RHV390ME11  |
| 470                 |                        | 10 x 11.5        | 14                             | 5000   | 0.12                         | 2350                       | 25RHV470ME11  |
| 680                 |                        | 10 x 11.5        | 14                             | 5000   | 0.12                         | 3400                       | 25RHV680ME11  |
| 1000                |                        | 10 x 16          | 10                             | 5600   | 0.12                         | 2500                       | 25RHV1000ME16 |
| 1200                |                        | 8 x 23           | 10                             | 5600   | 0.12                         | 3000                       | 25RHV1200MD23 |
| 2200                |                        | 10 x 23          | 10                             | 8100   | 0.12                         | 5500                       | 25RHV2200ME23 |
| 32                  | 22                     | 6.3 x 6          | 35                             | 2700   | 0.12                         | 140                        | 32RHV22MC6    |
|                     | 68                     | 8 x 7            | 25                             | 3200   | 0.12                         | 435                        | 32RHV68MD7    |
|                     | 120                    | 8 x 11.5         | 20                             | 4000   | 0.12                         | 768                        | 32RHV120MD11  |
|                     | 220                    | 10 x 11.5        | 18                             | 4650   | 0.12                         | 1408                       | 32RHV220ME11  |
| 35                  | 22                     | 6.3 x 6          | 35                             | 2600   | 0.12                         | 154                        | 35RHV22MC6    |
|                     | 39                     | 8 x 7            | 30                             | 2800   | 0.12                         | 273                        | 35RHV39MD7    |
|                     | 47                     | 8 x 7            | 30                             | 2800   | 0.12                         | 329                        | 35RHV47MD7    |
|                     | 68                     | 8 x 7            | 28                             | 3000   | 0.12                         | 476                        | 35RHV68MD7    |
|                     | 82                     | 8 x 11.5         | 20                             | 4000   | 0.12                         | 574                        | 35RHV82MD11   |
|                     | 100                    | 8 x 11.5         | 20                             | 4000   | 0.12                         | 700                        | 35RHV100MD11  |
|                     | 120                    | 10 x 11.5        | 18                             | 4400   | 0.12                         | 840                        | 35RHV120ME11  |
|                     | 150                    | 10 x 11.5        | 18                             | 4400   | 0.12                         | 1050                       | 35RHV150ME11  |
|                     | 220                    | 10 x 11.5        | 18                             | 4650   | 0.12                         | 1540                       | 35RHV220ME11  |
|                     | 270                    | 8 x 11.5         | 20                             | 4200   | 0.12                         | 1890                       | 35RHV270MD11  |
| 330                 | 10 x 11.5              | 17               | 4650                           | 0.12   | 2310                         | 35RHV330ME11               |               |
| 680                 | 10 x 16                | 14               | 5000                           | 0.12   | 4760                         | 35RHV680ME16               |               |
| 50                  | 10                     | 6.3 x 6          | 40                             | 2500   | 0.12                         | 100                        | 50RHV10MC6    |
|                     | 22                     | 8 x 7            | 35                             | 2700   | 0.12                         | 220                        | 50RHV22MD7    |
|                     | 39                     | 8 x 11.5         | 25                             | 3800   | 0.12                         | 390                        | 50RHV39MD11   |
|                     | 47                     | 8 x 11.5         | 25                             | 3800   | 0.12                         | 470                        | 50RHV47MD11   |
|                     | 56                     | 8 x 11.5         | 25                             | 3800   | 0.12                         | 560                        | 50RHV56MD11   |
|                     | 68                     | 10 x 11.5        | 20                             | 4300   | 0.12                         | 680                        | 50RHV68ME11   |
|                     | 100                    | 10 x 11.5        | 20                             | 4300   | 0.12                         | 1000                       | 50RHV100ME11  |
|                     | 120                    | 8 x 11.5         | 20                             | 3900   | 0.12                         | 1200                       | 50RHV120MD11  |
|                     | 220                    | 10 x 11.5        | 25                             | 4650   | 0.12                         | 2200                       | 50RHV220ME11  |

Conductive Polymer Hybrid Aluminum Electrolytic Capacitors Radial Lead Type

Conductive Polymer Hybrid Aluminum Electrolytic Capacitors SMD Lead Type

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