

# UBR Series

+125°C, High Temperature, Low ESR

## Features

- High Temperature
- Low ESR
- RoHS Compliant



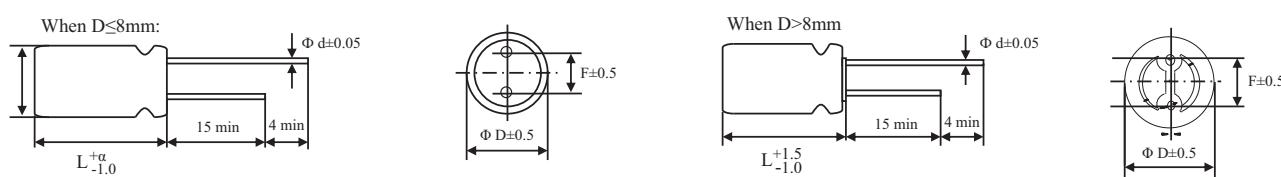
## Applications

- Suitable for DC-DC Converters, Voltage Regulators, Decoupling Applications for Computer Motherboards, etc.

## Specifications

| Item   | Performance Characteristics  |                              |                              |   |                                 |
|--|--|------------------------------|------------------------------|---|---------------------------------|
| Operating Temperature Range                        | -55 to +125°C  |                              |                              |   |                                 |
| Rated Working Voltage Range                        | 2.5VDC to 35VDC  |                              |                              |   |                                 |
| Surge Voltage, SV                                  | SV=WVx1.15VDC (Normal temperature)   |                              |                              |   |                                 |
| Nominal Capacitance Range                          | 47 to 1200μF (120Hz, +20°C)  |                              |                              |   |                                 |
| Capacitance Tolerance                              | ±20% (120Hz, +20°C)  |                              |                              |   |                                 |
| $\tan \delta$                                      | 0.12 (120Hz, +20°C)  |                              |                              |   |                                 |
| Leakage Current, Lc                                | $I \leq 0.2CV$ or $280 (\mu A)$ whichever is greater measured, after 2 minutes application of rated working voltage at +20°C                                       |                              |                              |   |                                 |
| Temperature Characteristics, Impedance Ratio       | At -55°C 100kHz (Low temperature)  |                              |                              | $Z/Z_{20^\circ C} \leq 1.25$                |                                 |
|  | At +125°C 100kHz (High temperature)  |                              |                              | $Z/Z_{20^\circ C} \leq 1.25$                |                                 |
| Frequency Coefficient for Allowable Ripple Current | Frequency  | 120Hz $\leq f < 1\text{kHz}$ | 1kHz $\leq f < 10\text{kHz}$ | 10kHz $\leq f < 100\text{kHz}$              | 100kHz $\leq f < 500\text{kHz}$ |
|  | Coefficient  | 0.05                         | 0.30                         | 0.70  | 1.00                            |
| Endurance  | Test conditions<br>+125°C, 1,000 hours<br>Rated voltage applied  | $\Delta C/C$                 |                              | Within ±20% of the initial measured value   |                                 |
|  |  | $\tan \delta$                |                              | $\leq 200\%$ of the initial specified value |                                 |
|  |  | ESR                          |                              | $\leq 200\%$ of the initial specified value |                                 |
|  |  | Lc                           |                              | $\leq$ The Initial specified value          |                                 |
| Damp Heat Test (Steady State)                      | Test conditions<br>+60°C, 90% to 95% RH<br>1,000 hours<br>No applied voltage   | $\Delta C/C$                 |                              | Within ±20% of the initial measured value   |                                 |
|  |  | $\tan \delta$                |                              | $\leq 150\%$ of the initial specified value |                                 |
|  |  | ESR                          |                              | $\leq 150\%$ of the initial specified value |                                 |
|  |  | Lc                           |                              | $\leq$ The initial specified value          |                                 |
| Surge Voltage Test                                 | At normal temperature,<br>charge at surge voltage<br>for 30 sec. and discharge<br>via a $1k\Omega$ protective<br>resistor for 330 sec.<br>Repeat for 1,000 cycles. | $\Delta C/C$                 |                              | Within ±20% of the initial measured value   |                                 |
|  |  | $\tan \delta$                |                              | $\leq 150\%$ of the initial specified value |                                 |
|  |  | ESR                          |                              | $\leq 150\%$ of the initial specified value |                                 |
|  |  | Lc                           |                              | $\leq$ The initial specified value          |                                 |
| Others   | JIS-C-5101-4   |                              |                              |   |                                 |

## Dimensions



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## Size List

| RV<br>μF | Code | 2.5 (0E) | 4 (0G) | 6.3 (0J) | 16 (1C) | 25 (1E) | 35 (1V) |
|----------|------|----------|--------|----------|---------|---------|---------|
| 47       | 476  |          |        |          |         |         | F08     |
| 100      | 107  |          |        |          | E11     |         |         |
| 180      | 187  |          |        |          |         | F1A     |         |
| 220      | 227  |          |        |          | F08     | F1A     | G1B     |
| 270      | 277  |          |        |          |         | F1A     |         |
| 560      | 567  |          |        | F08      |         |         |         |
| 820      | 827  | E08      |        |          |         |         |         |
| 1200     | 128  | F1A      | G1B    |          |         |         |         |

RV: Rated Voltage

(Unit: mm)

| Size Code | E08     | E11      | F08   | F1A      | G1B       |
|-----------|---------|----------|-------|----------|-----------|
| ΦDxL      | 6.3 x 8 | 6.3 x 11 | 8 x 8 | 8 x 11.5 | 10 x 12.5 |
| F±0.5     | 2.5     | 2.5      | 3.5   | 3.5      | 5.0       |
| Φd        | 0.6     | 0.6      | 0.6   | 0.6      | 0.6       |
| α         | 1.0     | 1.5      | 1.0   |          | 1.5       |

## Characteristics List

| Rated Vol.<br>(V) | Rated Cap.<br>(μF) | Case Size<br>ΦD x L (mm) | Size Code | Part Number  | ESR<br>(mΩ, max/<br>20°C, 100kHz) | Rated Ripple<br>(mA rms/<br>125°C, 100kHz) | Rated Ripple<br>(mA rms/<br>105°C, 100kHz) | DF<br>(%max) | Leakage Current<br>(μA/2 mins) |
|-------------------|--------------------|--------------------------|-----------|--------------|-----------------------------------|--|--|--------------|--------------------------------|
| 2.5               | 820                | 6.3 x 8                  | E08       | UBR827M0EE08 | 12                                | 1680                                       | 5600                                       | 12           | 410                            |
| 2.5               | 1200               | 8 x 11.5                 | F1A       | UBR128M0EF1A | 10                                | 1830                                       | 6100                                       | 12           | 600                            |
| 4                 | 1200               | 10 x 12.5                | G1B       | UBR128M0GG1B | 10                                | 1830                                       | 6100                                       | 12           | 960                            |
| 6.3               | 560                | 8 x 8                    | F08       | UBR567M0JF08 | 12                                | 1710                                       | 5700                                       | 12           | 706                            |
| 16                | 100                | 6.3 x 11                 | E11       | UBR107M1CE11 | 24                                | 846  | 2820                                       | 12           | 320                            |
| 16                | 220                | 8 x 8                    | F08       | UBR227M1CF08 | 13                                | 1290                                       | 4300                                       | 12           | 704                            |
| 25                | 180                | 8 x 11.5                 | F1A       | UBR187M1EF1A | 35                                | 825  | 2750                                       | 12           | 900                            |
| 25                | 220                | 8 x 11.5                 | F1A       | UBR227M1EF1A | 40                                | 600  | 2000                                       | 12           | 1100                           |
| 25                | 270                | 8 x 11.5                 | F1A       | UBR277M1EF1A | 40                                | 600  | 2000                                       | 12           | 1350                           |
| 35                | 47                 | 8 x 8                    | F08       | UBR476M1VF08 | 90                                | 360  | 1200                                       | 12           | 329                            |
| 35                | 220                | 10 x 12.5                | G1B       | UBR227M1VG1B | 55                                | 735  | 2450                                       | 12           | 1540                           |

Specifications are subject to change without notice. Should a safety or technical concern arise regarding the product, please be sure to contact our sales offices or agents immediately.