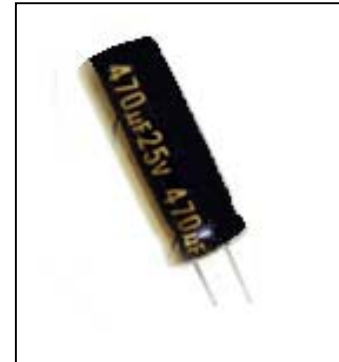


**Features:**

- Low Impedance
- High Ripple Current
- Wide Temperature range
- Long Life: 1000~5000 hours, 105°C

**Applications:**

- AV (TV, Video, Audio)
- Monitor/Computer
- OA/HA Communication
- Converter/Inverter
- SMPS



**Specifications:**

| Items  | Characteristics   |   |      |      |      |      |      |         |          |                |
|--|---|---|------|------|------|------|------|---------|----------|----------------|
| Capacitance Tolerance                              | ±20% (M) (120Hz,20°C)   |   |      |      |      |      |      |         |          |                |
| Rated Voltage Range (WV)                           | 6.3~100VDC  |   |      |      |      |      |      |         |          |                |
| Operating Temperature Range                        | -40 ~ +105°C  |   |      |      |      |      |      |         |          |                |
| Surge Voltage (V) (20°C)                           | WV  | 6.3                                       | 10   | 16   | 25   | 35   | 50   | 63      | 100      |                |
|  | SV  | 8   | 13   | 20   | 32   | 44   | 63   | 79      | 125      |                |
| Leakage Current (Max) (20°C)                       | I ≤ 0.01CV or 3µ A whichever is greater<br>(After rated voltage applied for 2 minutes)  |   |      |      |      |      |      |         |          |                |
|  | I= Leakage Current (µ A) C= Nominal Capacitance (µ F) V= Rated Voltage (V)  |   |      |      |      |      |      |         |          |                |
| Dissipation Factor (Max)<br>(tanδ) (120Hz, 20°C)   | WV  | 6.3                                       | 10   | 16   | 25   | 35   | 50   | 63      | 100      |                |
|  | tanδ  | 0.22                                      | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | 0.09    | 0.08     |                |
|  | When nominal capacitance is over 1000µ F,<br>tanδ shall be added 0.02 to the listed value with increase of every 1000µ F.               |   |      |      |      |      |      |         |          |                |
| Low Temperature Stability<br>Impedance Ratio (Max) | WV  | 6.3                                       | 10   | 16   | 25   | 35   | 50   | 63      | 100      |                |
|  | Z (120Hz)   | 6.3                                       | 10   | 16   | 25   | 35   | 50   | 63      | 100      |                |
|  | Z(-25°C) / Z(20°C)  | 2   | 2    | 2    | 2    | 2    | 2    | 2       | 2        |                |
|  | Z(-40°C) / Z(20°C)  | 3   | 3    | 3    | 3    | 3    | 3    | 3       | 3        |                |
| Load Life  | After applying rated voltage with max. ripple current for 1000~5000 hours at 105°C, the capacitor shall meet the following requirement. |   |      |      |      |      |      |         | Case(Ø)  | Life time(hrs) |
|  | Capacitance Change  | Within±25% of the initial value           |      |      |      |      |      |         | L=7      | 1000           |
|  | Dissipation Factor  | Not more than 200% of the specified value |      |      |      |      |      |         | ØD □ 6.3 | 2000           |
|  | Leakage Current   | Not more than the specified value         |      |      |      |      |      |         | ØD = 8   | 3000           |
|  |   |   |      |      |      |      |      | ØD = 10 | 4000     |                |
|  |   |   |      |      |      |      |      | ØD ≥ 13 | 5000     |                |
| Shelf Life   | After placed at 105°C without voltage applied for 1000 hours, the capacitor shall meet the same requirement as load life.               |   |      |      |      |      |      |         |          |                |
| Applicable standards                               | Refer to JIS C 5101   |   |      |      |      |      |      |         |          |                |

CASE SIZE (ØDxL(mm)) & MAX PERMISSIBLE RIPPLE CURRENT (RC(mArms) / 100KHz, 105°C &

MAX IMPEDANCE (Z(Ω) / 100KHz, 20°C)

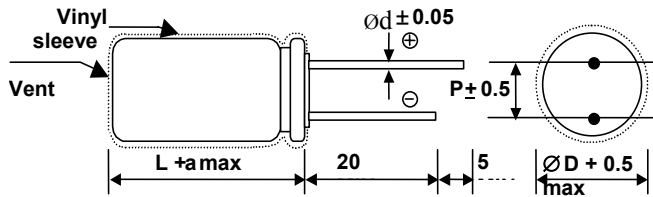
| WV<br>SPEC<br>µF | 6.3    |      |       | 10      |      |       | 16      |      |       | 25      |      |       | 35      |      |       |
|------------------|--------|------|-------|---------|------|-------|---------|------|-------|---------|------|-------|---------|------|-------|
|                  | ØDxL   | RC   | Z     | ØDxL    | RC   | Z     | ØDxL    | RC   | Z     | ØDxL    | RC   | Z     | ØDxL    | RC   | Z     |
| 10               |        |      |       |         |      |       |         |      |       |         |      |       | 4x7     | 130  | 0.96  |
| 15               |        |      |       |         |      |       |         |      |       | 4x7     | 130  | 0.94  | 5x7     | 190  | 0.57  |
| 18               |        |      |       |         |      |       | 4x7     | 130  | 0.92  | 5x7     | 170  | 0.69  | 5x7     | 210  | 0.47  |
| 27               |        |      |       | 4x7     | 130  | 0.89  | 5x7     | 190  | 0.61  | 5x7     | 210  | 0.46  | 5x11    | 225  | 0.37  |
| 33               |        |      |       | 5x7     | 160  | 0.75  | 5x7     | 210  | 0.45  | 5x11    | 210  | 0.42  | 5x11    | 250  | 0.30  |
| 39               | 4x7    | 130  | 0.85  | 5x7     | 175  | 0.64  | 5x11    | 205  | 0.43  | 5x11    | 225  | 0.36  | 6.3x7   | 300  | 0.25  |
| 47               | 5x7    | 175  | 0.70  | 5x7     | 190  | 0.53  | 5x11    | 230  | 0.36  | 5x11    | 250  | 0.30  | 8x7     | 345  | 0.19  |
|                  |        |      |       |         |      |       |         |      |       |         |      |       | 6.3x11  | 375  | 0.15  |
| 56               | 5x7    | 190  | 0.56  | 5x7     | 210  | 0.44  | 5x11    | 250  | 0.30  | 6.3x7   | 300  | 0.24  | 8x7     | 380  | 0.16  |
|                  |        |      |       |         |      |       |         |      |       |         |      |       | 6.3x11  | 410  | 0.13  |
| 68               | 5x7    | 210  | 0.43  | 5x11    | 210  | 0.44  | 6.3x7   | 300  | 0.24  | 8x7     | 310  | 0.22  | 8x11    | 510  | 0.12  |
|                  |        |      |       |         |      |       |         |      |       | 6.3x11  | 335  | 0.19  |         |      |       |
| 100              | 6.3x7  | 240  | 0.35  | 5x11    | 250  | 0.30  | 8x7     | 345  | 0.18  | 8x7     | 380  | 0.15  | 8x11    | 620  | 0.105 |
|                  | 5x11   | 200  | 0.43  |         |      |       | 6.3x11  | 365  | 0.16  | 6.3x11  | 410  | 0.13  |         |      |       |
| 120              | 6.3x7  | 265  | 0.29  | 6.3x7   | 300  | 0.23  | 8x7     | 380  | 0.15  | 8x11    | 560  | 0.12  | 8x11    | 680  | 0.088 |
|                  | 5x11   | 220  | 0.38  |         |      |       | 6.3x11  | 410  | 0.13  |         |      |       |         |      |       |
| 150              | 6.3x7  | 300  | 0.23  | 8x7     | 345  | 0.18  | 8x11    | 510  | 0.12  | 8x11    | 625  | 0.105 | 8x11    | 760  | 0.072 |
|                  | 5x11   | 250  | 0.30  |         |      |       |         |      |       |         |      |       |         |      |       |
| 180              | 8x7    | 340  | 0.18  | 8x7     | 380  | 0.15  | 8x11    | 560  | 0.11  | 8x11    | 685  | 0.088 | 8x16    | 905  | 0.068 |
|                  |        |      |       |         |      |       |         |      |       |         |      |       | 10x12.5 | 930  | 0.065 |
| 220              | 8x7    | 380  | 0.15  | 6.3x11  | 410  | 0.13  | 8x11    | 620  | 0.10  | 8x11    | 760  | 0.072 | 8x16    | 1000 | 0.056 |
|                  |        |      |       |         |      |       |         |      |       |         |      |       | 10x12.5 | 1030 | 0.053 |
| 270              | 6.3x11 | 370  | 0.16  | 8x11    | 575  | 0.12  | 8x11    | 685  | 0.088 | 8x16    | 900  | 0.068 | 8x20    | 1250 | 0.041 |
|                  |        |      |       |         |      |       |         |      |       | 10x12.5 | 930  | 0.065 |         |      |       |
| 330              | 6.3x11 | 410  | 0.13  | 8x11    | 635  | 0.10  | 8x11    | 760  | 0.072 | 8x16    | 1000 | 0.056 | 10x16   | 1430 | 0.038 |
|                  |        |      |       |         |      |       |         |      |       | 10x12.5 | 1030 | 0.053 |         |      |       |
| 470              | 8x11   | 680  | 0.086 | 8x11    | 760  | 0.072 | 8x16    | 1000 | 0.056 | 8x20    | 1250 | 0.041 | 10x20   | 1820 | 0.026 |
|                  |        |      |       |         |      |       | 10x12.5 | 1030 | 0.053 | 10x16   | 1430 | 0.038 |         |      |       |
| 560              | 8x11   | 760  | 0.072 | 8x16    | 905  | 0.068 | 8x20    | 1135 | 0.049 | 10x20   | 1650 | 0.032 | 10x25   | 2150 | 0.023 |
|                  |        |      |       | 10x12.5 | 935  | 0.064 | 10x16   | 1295 | 0.046 |         |      |       |         |      |       |
| 680              | 8x14   | 900  | 0.062 | 8x16    | 1000 | 0.056 | 8x20    | 1250 | 0.041 | 10x20   | 1820 | 0.026 | 13x20   | 2360 | 0.021 |
|                  |        |      |       | 10x12.5 | 1030 | 0.053 | 10x16   | 1430 | 0.038 |         |      |       |         |      |       |
| 820              | 8x16   | 1000 | 0.056 | 8x20    | 1130 | 0.050 | 10x20   | 1645 | 0.032 | 10x25   | 2150 | 0.023 | 13x25   | 2505 | 0.020 |
|                  |        |      |       | 10x16   | 1295 | 0.046 |         |      |       |         |      |       |         |      |       |
| 1000             | 8x16   | 1030 | 0.053 | 8x20    | 1250 | 0.041 | 10x20   | 1820 | 0.026 | 13x20   | 2360 | 0.021 | 13x25   | 2770 | 0.018 |
|                  |        |      |       | 10x16   | 1430 | 0.038 |         |      |       |         |      |       |         |      |       |
| 1200             | 8x20   | 1250 | 0.041 | 10x20   | 1820 | 0.026 | 10x25   | 2150 | 0.023 | 13x25   | 2505 | 0.020 | 13x30   | 3290 | 0.016 |
|                  | 10x16  | 1430 | 0.038 |         |      |       |         |      |       |         |      |       | 16x20   | 3140 | 0.018 |
| 1500             | 10x20  | 1820 | 0.026 | 10x25   | 2150 | 0.023 | 13x20   | 2360 | 0.021 | 13x25   | 2770 | 0.018 | 13x36   | 3400 | 0.015 |
| 1800             | 10x25  | 1940 | 0.025 | 13x20   | 2230 | 0.022 | 13x25   | 2505 | 0.020 | 13x30   | 3290 | 0.016 | 16x25   | 3460 | 0.016 |
|                  |        |      |       |         |      |       |         |      |       | 16x20   | 3140 | 0.018 |         |      |       |
| 2200             | 10x25  | 2150 | 0.023 | 13x20   | 2360 | 0.021 | 13x25   | 2770 | 0.018 | 13x36   | 3400 | 0.015 |         |      |       |
| 2700             | 13x20  | 2230 | 0.022 | 13x25   | 2505 | 0.020 | 13x30   | 3290 | 0.016 | 16x25   | 3460 | 0.016 |         |      |       |
|                  |        |      |       |         |      |       | 16x20   | 3140 | 0.018 |         |      |       |         |      |       |
| 3300             | 13x20  | 2360 | 0.021 | 13x25   | 2770 | 0.018 | 13x36   | 3400 | 0.015 |         |      |       |         |      |       |
| 3900             | 13x25  | 2770 | 0.018 | 13x30   | 3290 | 0.016 | 16x25   | 3460 | 0.016 |         |      |       |         |      |       |
|                  |        |      |       | 16x20   | 3140 | 0.018 |         |      |       |         |      |       |         |      |       |
| 4700             | 13x30  | 3290 | 0.016 | 13x36   | 3400 | 0.015 |         |      |       |         |      |       |         |      |       |
| 5600             | 13x36  | 3400 | 0.015 | 16x25   | 3460 | 0.016 |         |      |       |         |      |       |         |      |       |
|                  | 16x20  | 3140 | 0.018 |         |      |       |         |      |       |         |      |       |         |      |       |
| 6800             | 16x25  | 3460 | 0.016 |         |      |       |         |      |       |         |      |       |         |      |       |

**Ultra-Low Impedance Radial - Aluminum Electrolytic Capacitor**

(Continued) CASE SIZE (ØDxL(mm)) & MAX PERMISSIBLE RIPPLE CURRENT (RC(mArms) / 100KHz,105°C  
& MAX IMPEDANCE (Z(Ω) / 100KHz, 20°C)

| WV   | 50      |      |       | 63      |      |       | 100     |      |       |
|------|---------|------|-------|---------|------|-------|---------|------|-------|
| μF   | ØDxL    | RC   | Z     | ØDxL    | RC   | Z     | ØDxL    | RC   | Z     |
| 6.8  | 4x7     | 130  | 0.10  |         |      |       |         |      |       |
| 10   | 5x7     | 210  | 0.50  |         |      |       |         |      |       |
| 15   | 6.3x7   | 220  | 0.38  | 5x11    | 165  | 0.88  | 6.3x 11 | 210  | 0.57  |
|      | 5x11    | 215  | 0.48  |         |      |       |         |      |       |
| 22   | 6.3x7   | 300  | 0.26  | 6.3x11  | 220  | 0.65  | 8x11    | 325  | 0.44  |
|      | 5x11    | 240  | 0.34  |         |      |       |         |      |       |
| 27   | 8x7     | 340  | 0.21  | 6.3x11  | 240  | 0.43  | 8x11    | 360  | 0.36  |
| 33   | 8x7     | 380  | 0.17  | 6.3x11  | 270  | 0.35  | 8x14    | 376  | 0.30  |
| 39   | 6.3x11  | 325  | 0.16  | 8x11    | 385  | 0.31  | 8x16    | 450  | 0.25  |
| 47   | 6.3x11  | 355  | 0.15  | 8x11    | 420  | 0.26  | 10x15   | 450  | 0.24  |
| 56   | 6.3x11  | 390  | 0.14  | 8x11    | 500  | 0.22  | 8x20    | 570  | 0.19  |
| 68   | 8x11    | 600  | 0.11  | 8x16    | 610  | 0.19  | 10x16   | 580  | 0.18  |
|      |         |      |       | 10x12.5 | 625  | 0.18  |         |      |       |
| 82   | 8x11    | 660  | 0.090 | 8x16    | 670  | 0.16  | 10x20   | 750  | 0.13  |
|      |         |      |       | 10x12.5 | 690  | 0.15  | 13x16   | 735  | 0.13  |
| 100  | 8x11    | 730  | 0.074 | 10x15   | 800  | 0.12  | 10x25   | 880  | 0.12  |
| 120  | 8x16    | 950  | 0.065 | 8x20    | 820  | 0.12  | 13x20   | 1050 | 0.094 |
|      |         |      |       | 10x16   | 950  | 0.11  |         |      |       |
| 150  | 10x12.5 | 980  | 0.061 | 10x20   | 1005 | 0.096 | 13x25   | 1095 | 0.085 |
|      |         |      |       | 13x16   | 1040 | 0.098 |         |      |       |
| 180  | 8x20    | 1190 | 0.046 | 10x20   | 1100 | 0.080 | 13x25   | 1200 | 0.071 |
|      |         |      |       | 13x16   | 1140 | 0.082 |         |      |       |
| 220  | 10x16   | 1370 | 0.042 | 10x25   | 1300 | 0.073 | 13x30   | 1410 | 0.063 |
|      |         |      |       |         |      |       | 16x20   | 1300 | 0.071 |
| 270  | 10x20   | 1580 | 0.030 | 13x20   | 1500 | 0.060 | 13x36   | 1560 | 0.052 |
|      |         |      |       |         |      |       | 16x25   | 1600 | 0.053 |
|      |         |      |       |         |      |       | 18x20   | 1470 | 0.069 |
| 330  | 10x25   | 1870 | 0.028 | 13x25   | 1850 | 0.043 | 13x40   | 1700 | 0.046 |
| 390  | 13x20   | 1870 | 0.028 | 13x30   | 2050 | 0.047 | 16x32   | 1750 | 0.041 |
|      |         |      |       | 16x20   | 1810 | 0.054 | 18x25   | 1620 | 0.049 |
| 470  | 13x20   | 2050 | 0.027 | 13x30   | 2250 | 0.039 | 16x36   | 1890 | 0.033 |
|      |         |      |       | 16x20   | 1990 | 0.045 | 18x32   | 1775 | 0.039 |
| 560  | 13x25   | 2410 | 0.023 | 13x36   | 2450 | 0.035 | 16x40   | 2080 | 0.030 |
|      |         |      |       | 16x25   | 2550 | 0.032 | 18x36   | 2060 | 0.031 |
| 680  | 13x30   | 2860 | 0.021 | 13x40   | 2780 | 0.029 | 18x40   | 2570 | 0.028 |
|      |         |      |       | 18x20   | 2450 | 0.038 |         |      |       |
| 820  | 13x30   | 2960 | 0.019 | 16x32   | 2810 | 0.026 |         |      |       |
|      | 16x20   | 2730 | 0.023 | 18x25   | 2780 | 0.031 |         |      |       |
| 1000 | 16x32   | 3350 | 0.021 | 16x36   | 2840 | 0.021 |         |      |       |
|      |         |      |       | 16x32   | 3270 | 0.025 |         |      |       |
| 1200 |         |      |       | 16x40   | 3340 | 0.019 |         |      |       |
|      |         |      |       | 18x36   | 3310 | 0.020 |         |      |       |
| 1500 |         |      |       | 18x40   | 3420 | 0.018 |         |      |       |

**Dimensions:**



|    |      |     |     |     |     |     |     |     |
|----|------|-----|-----|-----|-----|-----|-----|-----|
| ØD | 4    | 5   | 6.3 | 8   | 10  | 13  | 16  | 18  |
| P  | 1.5  | 2.0 | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 | 7.5 |
| Ød | 0.45 | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 |
| a  | 1.0  | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 |

**Multiplier for Ripple Current:**

**Frequency Coefficient**

| Freq. (Hz) | 50   | 120  | 1K   | 10K  | 100K |
|------------|------|------|------|------|------|
| Cap (µ F)  |      |      |      |      |      |
| 10~390     | 0.60 | 0.70 | 0.85 | 0.95 | 1.00 |
| 470~1000   | 0.65 | 0.75 | 0.90 | 0.98 | 1.00 |
| 1200~6800  | 0.75 | 0.80 | 0.95 | 1.00 | 1.00 |

**Temperature coefficient**

|                          |     |     |      |
|--------------------------|-----|-----|------|
| Ambient Temperature (°C) | ≤65 | 85  | 105  |
| Coefficient              | 2.0 | 1.5 | 1.00 |

