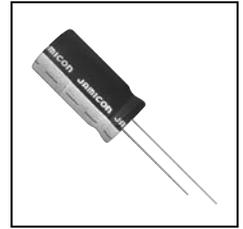


- Low impedance and long life with standing 5000 hours load life.
- Suitable for electronic ballast, adaptor and switching power.

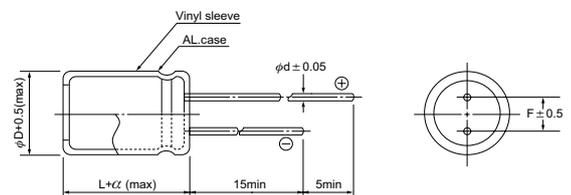


## SPECIFICATION

| Item                                       | Characteristic   |                                   |      |      |   |      |      |      |
|--|--|-----------------------------------|------|------|---|------|------|------|
| Operation Temperature Range                | -55 ~ +105°C   |                                   |      |      |   |      |      |      |
| Rated Working Voltage                      | 6.3 ~ 63VDC  |                                   |      |      |   |      |      |      |
| Capacitance Tolerance (120Hz 20°C)         | ±20%(M)  |                                   |      |      |   |      |      |      |
| Leakage Current<br>(20°C)                  | I ≤ 0.01CV or 3 (μA)<br>Whichever is greater after 2 minutes   |                                   |      |      | I : Leakage Current (μA)<br>C : Rated Capacitance (μF)<br>V : Working Voltage (V) |      |      |      |
| Surge Voltage<br>(20°C)                    | W.V.   | 6.3                               | 10   | 16   | 25  | 35   | 50   | 63   |
|  | S.V.   | 8                                 | 13   | 20   | 32  | 44   | 63   | 79   |
| Dissipation Factor (tan δ)<br>(120Hz 20°C) | Add 0.02 per 1000 μF for more than 1000 μF   |                                   |      |      |   |      |      |      |
|  | W.V.   | 6.3                               | 10   | 16   | 25  | 35   | 50   | 63   |
|  | tan δ  | 0.22                              | 0.19 | 0.16 | 0.14  | 0.12 | 0.10 | 0.09 |
| Low Temperature Stability                  | Impedance ratio at 120Hz   |                                   |      |      |   |      |      |      |
|  | Rated Voltage (V)  | 6.3                               | 10   | 16   | 25  | 35   | 50   | 63   |
|  | -25°C / +20°C  | 2                                 | 2    | 2    | 2   | 2    | 2    | 2    |
|  | -55°C / +20°C  | 3                                 | 3    | 3    | 3   | 3    | 3    | 3    |
| Load Life                                  | After hours (φ5~6.3mm 2000 hours, φ8mm 3000 hours, φD≥10mm 5000 hours) application of W.V. at +105°C, the capacitor shall meet the following limits. |                                   |      |      |   |      |      |      |
|  | Capacitance Change   | ≤ ±20% of initial value           |      |      |   |      |      |      |
|  | Dissipation Factor   | ≤ 200% of initial specified value |      |      |   |      |      |      |
|  | Leakage current  | ≤ initial specified value         |      |      |   |      |      |      |
| Shelf Life                                 | At + 105°C no voltage application after 1000 hours the capacitor shall meet the following limits.<br>(with voltage treatment)                        |                                   |      |      |   |      |      |      |
|  | Capacitance Change   | ≤ ±20% of initial value           |      |      |   |      |      |      |
|  | Dissipation Factor   | ≤ 150% of initial specified value |      |      |   |      |      |      |
|  | Leakage current  | ≤ 200% of initial specified value |      |      |   |      |      |      |

## DIMENSIONS (mm)

| φD | 5   | 6.3 | 8   | 10  | 12.5 | 16  | 18  |
|----|-----|-----|-----|-----|------|-----|-----|
| F  | 2.0 | 2.5 | 3.5 | 5.0 | 5.0  | 7.5 | 7.5 |
| d  | 0.5 | 0.5 | 0.6 | 0.6 | 0.6  | 0.8 | 0.8 |
| α  | 1.5 | 1.5 | 1.5 | 1.5 | 1.5  | 1.5 | 1.5 |



## RIPPLE CURRENT COEFFICIENTS

| Temperature(°c) | 65   | 75   | 85   | 95   | 105  |
|-----------------|------|------|------|------|------|
| Multiplier      | 2.12 | 1.92 | 1.69 | 1.50 | 1.00 |

| Frequency(Hz) | 60         | 120  | 400  | 1k   | 10k  | 100k |
|---------------|------------|------|------|------|------|------|
| W.V.          | Multiplier |      |      |      |      |      |
| 6.3~16V       | 0.45       | 0.60 | 0.83 | 0.94 | 0.98 | 1.00 |
| 25~35V        | 0.38       | 0.50 | 0.75 | 0.90 | 0.97 | 1.00 |
| 50V           | 0.36       | 0.46 | 0.70 | 0.88 | 0.94 | 1.00 |

● CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)  
 Max impedance : Ω 100kHz  
 Max ripple current : A(rms) 105°C 100kHz

| V(Code) |      | 6.3 (0J) |         |       |       | 10 (1A) |         |       |       | 16 (1C) |         |       |       |      |
|---------|------|----------|---------|-------|-------|---------|---------|-------|-------|---------|---------|-------|-------|------|
| μF      | Code | Item     | DxL     | IMP.  |       | R.C.    | DxL     | IMP.  |       | R.C.    | DxL     | IMP.  |       | R.C. |
|         |      |          |         | 20°C  | -10°C |         |         | 20°C  | -10°C |         |         | 20°C  | -10°C |      |
| 47      |      | 470      |         |       |       |         |         |       |       |         | 5x11    | 0.568 | 1.421 | 0.15 |
| 68      |      | 680      |         |       |       |         |         |       |       |         | 5x11    | 0.500 | 1.250 | 0.18 |
| 100     |      | 101      |         |       |       |         | 5x11    | 0.500 | 1.250 | 0.21    | 6.3x11  | 0.367 | 0.918 | 0.25 |
| 220     |      | 221      | 6.3x11  | 0.308 | 0.769 | 0.34    | 6.3x11  | 0.249 | 0.623 | 0.35    | 8x11.5  | 0.190 | 0.474 | 0.43 |
| 330     |      | 331      | 6.3x11  | 0.246 | 0.615 | 0.42    | 8x11.5  | 0.169 | 0.423 | 0.51    | 10x12.5 | 0.114 | 0.285 | 0.55 |
| 470     |      | 471      | 8x11.5  | 0.178 | 0.446 | 0.58    | 8x11.5  | 0.139 | 0.346 | 0.60    | 10x12.5 | 0.093 | 0.233 | 0.66 |
| 680     |      | 681      | 10x12.5 | 0.081 | 0.203 | 0.74    | 10x12.5 | 0.077 | 0.194 | 0.76    | 10x16   | 0.074 | 0.184 | 0.88 |
| 1000    |      | 102      | 8x20    | 0.066 | 0.166 | 1.08    | 10x16   | 0.063 | 0.158 | 1.03    | 10x20   | 0.060 | 0.150 | 1.18 |
| 1200    |      | 122      | 10x16   | 0.058 | 0.144 | 1.09    | 10x20   | 0.055 | 0.137 | 1.24    | 10x25   | 0.052 | 0.130 | 1.43 |
| 1500    |      | 152      | 10x20   | 0.049 | 0.123 | 1.30    | 10x25   | 0.047 | 0.116 | 1.48    | 12.5x20 | 0.044 | 0.111 | 1.48 |
| 2200    |      | 222      | 10x25   | 0.038 | 0.094 | 1.68    | 12.5x20 | 0.036 | 0.090 | 1.67    | 12.5x25 | 0.034 | 0.086 | 1.91 |
| 3300    |      | 332      | 12.5x20 | 0.032 | 0.079 | 1.87    | 12.5x25 | 0.030 | 0.075 | 2.12    | 16x25   | 0.029 | 0.057 | 2.20 |
| 4700    |      | 472      | 12.5x30 | 0.027 | 0.067 | 2.47    | 16x25   | 0.025 | 0.051 | 2.35    | 16x31.5 | 0.024 | 0.048 | 2.67 |
| 6800    |      | 682      | 16x25   | 0.024 | 0.048 | 2.53    | 16x31.5 | 0.023 | 0.045 | 2.85    | 18x35.5 | 0.022 | 0.043 | 3.28 |
| 10000   |      | 103      | 16x31.5 | 0.022 | 0.043 | 3.00    | 18x35.5 | 0.021 | 0.041 | 3.43    | 18x40   | 0.019 | 0.039 | 3.67 |
| 15000   |      | 153      | 18x35.5 | 0.020 | 0.041 | 3.61    | 18x40   | 0.019 | 0.039 | 3.85    |         |       |       |      |

| V(Code) |      | 25 (1E) |         |       |       | 35 (1V) |         |       |       |      |
|---------|------|---------|---------|-------|-------|---------|---------|-------|-------|------|
| μF      | Code | Item    | DxL     | IMP.  |       | R.C.    | DxL     | IMP.  |       | R.C. |
|         |      |         |         | 20°C  | -10°C |         |         | 20°C  | -10°C |      |
| 4.7     |      | 4R7     |         |       |       |         | 5x11    | 1.912 | 4.781 | 0.07 |
| 10      |      | 100     |         |       |       |         | 5x11    | 1.498 | 3.745 | 0.10 |
| 22      |      | 220     |         |       |       |         | 5x11    | 0.817 | 2.043 | 0.14 |
| 33      |      | 330     |         |       |       |         | 5x11    | 0.636 | 1.589 | 0.17 |
| 47      |      | 470     | 5x11    | 0.539 | 1.348 | 0.19    | 6.3x11  | 0.510 | 1.275 | 0.24 |
| 68      |      | 680     | 6.3x11  | 0.419 | 1.049 | 0.26    | 6.3x11  | 0.397 | 0.991 | 0.28 |
| 100     |      | 101     | 6.3x11  | 0.349 | 0.871 | 0.31    | 8x11.5  | 0.330 | 0.824 | 0.40 |
| 220     |      | 221     | 8x11.5  | 0.180 | 0.450 | 0.54    | 10x12.5 | 0.128 | 0.319 | 0.63 |
| 330     |      | 331     | 10x12.5 | 0.108 | 0.270 | 0.70    | 10x16   | 0.102 | 0.255 | 0.85 |
| 470     |      | 471     | 10x16   | 0.088 | 0.221 | 0.92    | 10x20   | 0.084 | 0.209 | 1.12 |
| 680     |      | 681     | 10x20   | 0.070 | 0.175 | 1.22    | 12.5x20 | 0.066 | 0.165 | 1.44 |
| 1000    |      | 102     | 12.5x20 | 0.057 | 0.143 | 1.58    | 12.5x25 | 0.054 | 0.135 | 1.93 |
| 1200    |      | 122     | 12.5x20 | 0.050 | 0.124 | 1.73    | 12.5x30 | 0.047 | 0.117 | 2.29 |
| 1500    |      | 152     | 12.5x25 | 0.042 | 0.105 | 2.04    | 16x25   | 0.040 | 0.079 | 2.25 |
| 2200    |      | 222     | 16x25   | 0.032 | 0.065 | 2.39    | 16x31.5 | 0.031 | 0.077 | 2.88 |
| 3300    |      | 332     | 16x31.5 | 0.027 | 0.054 | 3.02    | 18x35.5 | 0.026 | 0.064 | 3.65 |
| 4700    |      | 472     | 18x35.5 | 0.023 | 0.046 | 3.70    |         |       |       |      |

| V(Code) |      | 50 (1H) |         |       |       | 63 (1J) |         |       |       |      |
|---------|------|---------|---------|-------|-------|---------|---------|-------|-------|------|
| μF      | Code | Item    | DxL     | IMP.  |       | R.C.    | DxL     | IMP.  |       | R.C. |
|         |      |         |         | 20°C  | -10°C |         |         | 20°C  | -10°C |      |
| 4.7     |      | 4R7     | 5x11    | 1.699 | 5.096 | 0.08    | 5x11    | 1.699 | 5.096 | 0.08 |
| 10      |      | 100     | 5x11    | 1.331 | 3.992 | 0.11    | 5x11    | 1.331 | 3.992 | 0.11 |
| 22      |      | 220     | 5x11    | 0.726 | 2.177 | 0.16    | 6.3x11  | 0.726 | 1.814 | 0.19 |
| 33      |      | 330     | 6.3x11  | 0.564 | 1.411 | 0.23    | 6.3x15  | 0.564 | 1.411 | 0.26 |
| 47      |      | 470     | 6.3x11  | 0.453 | 1.132 | 0.27    | 8x11.5  | 0.453 | 1.132 | 0.32 |
| 68      |      | 680     | 8x11.5  | 0.352 | 0.880 | 0.38    | 10x12.5 | 0.264 | 0.660 | 0.40 |
| 100     |      | 101     | 8x20    | 0.220 | 0.549 | 0.59    | 10x16   | 0.220 | 0.549 | 0.54 |
| 220     |      | 221     | 10x16   | 0.113 | 0.283 | 0.80    | 10x25   | 0.113 | 0.283 | 0.98 |
| 330     |      | 331     | 10x20   | 0.091 | 0.227 | 1.08    | 12.5x20 | 0.091 | 0.227 | 1.16 |
| 470     |      | 471     | 12.5x20 | 0.074 | 0.186 | 1.38    | 12.5x25 | 0.074 | 0.186 | 1.52 |
| 680     |      | 681     | 12.5x25 | 0.059 | 0.147 | 1.83    | 16x25   | 0.059 | 0.117 | 1.84 |
| 1000    |      | 102     | 16x25   | 0.048 | 0.096 | 2.23    | 16x35.5 | 0.048 | 0.096 | 2.61 |
| 1200    |      | 122     | 16x31.5 | 0.042 | 0.083 | 2.71    | 18x35.5 | 0.042 | 0.083 | 2.87 |
| 1500    |      | 152     | 16x35.5 | 0.035 | 0.071 | 3.01    | 18x40   | 0.035 | 0.071 | 3.39 |
| 2200    |      | 222     | 18x35.5 | 0.027 | 0.055 | 3.69    |         |       |       |      |
| 3300    |      | 332     | 18x40   | 0.023 | 0.046 | 4.35    |         |       |       |      |