

RADIAL TYPE

TL Series

Long Life, Low Impedance, High Reliability

JAMICON®

WG ← TL → TH

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

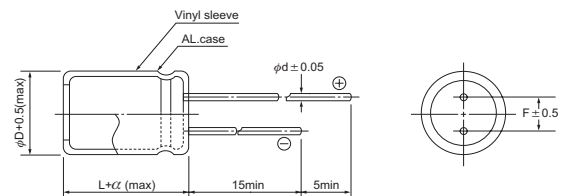


● SPECIFICATION

| Item | Characteristic | | | | | | | |
|--|--|---|------|-------|-----------------------------------|------|------|--|
| Operation Temperature Range | -55 ~ +105°C | | | | | | | |
| Rated Working Voltage | 6.3 ~ 50VDC | | | | | | | |
| Capacitance Tolerance (120Hz 20°C) | ±20%(M) | | | | | | | |
| Leakage Current (20°C) | $I \leq 0.01CV$ or $3 (\mu A)$ | | | | I : Leakage Current (μA) | | | |
| | Whichever is greater after 2 minutes | | | | C : Rated Capacitance (μF) | | | |
| | | | | | V : Working Voltage (V) | | | |
| Surge Voltage (20°C) | W.V. | 6.3 | 10 | 16 | 25 | 35 | 50 | |
| | S.V. | 8 | 13 | 20 | 32 | 44 | 63 | |
| Dissipation Factor (tan δ) (120Hz 20°C) | Add 0.02 per 1000 μF for more than 1000 μF | | | | | | | |
| | W.V. | 6.3 | 10 | 16 | 25 | 35 | 50 | |
| | tan δ | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | |
| Low Temperature Stability | Impedance ratio at 120Hz | | | | | | | |
| | Rated Voltage (V) | 6.3 | 10 | 16~35 | 50 | | | |
| | -25°C / +20°C | 2 | 2 | 2 | 2 | | | |
| | -55°C / +20°C | 3 | 3 | 3 | 2 | | | |
| Load Life | After hours ($\phi 5 \sim 6.3$ mm 2000 hours, $\phi 8$ mm 3000 hours, $\phi D \geq 10$ mm 5000 hours) application of W.V. at +105°C, the capacitor shall meet the following limits. | | | | | | | |
| | Capacitance Change | $\leq \pm 20\%$ of initial value | | | | | | |
| | Dissipation Factor | $\leq 200\%$ of initial specified value | | | | | | |
| | Leakage current | \leq initial specified value | | | | | | |
| Shelf Life | At + 105°C no voltage application after 1000 hours the capacitor shall meet the following limits. (with voltage treatment) | | | | | | | |
| | Capacitance Change | $\leq \pm 20\%$ of initial value | | | | | | |
| | Dissipation Factor | $\leq 150\%$ of initial specified value | | | | | | |
| | Leakage current | $\leq 200\%$ 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) | | | | |
|---------|------|----------|---------|-------|-------|---------|---------|-------|-------|------|
| μF | Code | Item | DxL | IMP. | | R.C. | DxL | IMP. | | R.C. |
| | | | | 20°C | -10°C | | | 20°C | -10°C | |
| 100 | 101 | | | | | 5x11 | 0.500 | 1.250 | 0.21 | |
| 220 | 221 | | 6.3x11 | 0.308 | 0.769 | 0.34 | 6.3x11 | 0.249 | 0.623 | 0.35 |
| 330 | 331 | | 6.3x11 | 0.246 | 0.615 | 0.42 | 8x11.5 | 0.169 | 0.423 | 0.51 |
| 470 | 471 | | 8x11.5 | 0.178 | 0.446 | 0.58 | 8x11.5 | 0.139 | 0.346 | 0.60 |
| 680 | 681 | | 10x12.5 | 0.081 | 0.203 | 0.74 | 10x12.5 | 0.077 | 0.194 | 0.76 |
| 1000 | 102 | | 8x20 | 0.066 | 0.166 | 1.08 | 10x16 | 0.063 | 0.158 | 1.03 |
| 1200 | 122 | | 10x16 | 0.058 | 0.144 | 1.09 | 10x20 | 0.055 | 0.137 | 1.24 |
| 1500 | 152 | | 10x20 | 0.049 | 0.123 | 1.30 | 10x25 | 0.047 | 0.116 | 1.48 |
| 2200 | 222 | | 10x25 | 0.038 | 0.094 | 1.68 | 12.5x20 | 0.036 | 0.090 | 1.67 |
| 3300 | 332 | | 12.5x20 | 0.032 | 0.079 | 1.87 | 12.5x25 | 0.030 | 0.075 | 2.12 |
| 4700 | 472 | | 12.5x30 | 0.027 | 0.067 | 2.47 | 16x25 | 0.025 | 0.051 | 2.35 |
| 6800 | 682 | | 16x25 | 0.024 | 0.048 | 2.53 | 16x31.5 | 0.023 | 0.045 | 2.85 |
| 10000 | 103 | | 16x31.5 | 0.022 | 0.043 | 3.00 | 18x35.5 | 0.021 | 0.041 | 3.43 |
| 15000 | 153 | | 18x35.5 | 0.020 | 0.041 | 3.61 | 18x40 | 0.019 | 0.039 | 3.85 |

| V(Code) | | 16 (1C) | | | | 25 (1E) | | | | |
|---------|------|---------|---------|-------|-------|---------|---------|-------|-------|------|
| μF | Code | Item | DxL | IMP. | | R.C. | DxL | IMP. | | R.C. |
| | | | | 20°C | -10°C | | | 20°C | -10°C | |
| 47 | 470 | | 5x11 | 0.568 | 1.421 | 0.15 | 5x11 | 0.539 | 1.348 | 0.19 |
| 68 | 680 | | 5x11 | 0.500 | 1.250 | 0.18 | 6.3x11 | 0.419 | 1.049 | 0.26 |
| 100 | 101 | | 6.3x11 | 0.367 | 0.918 | 0.25 | 6.3x11 | 0.349 | 0.871 | 0.31 |
| 220 | 221 | | 8x11.5 | 0.190 | 0.474 | 0.43 | 8x11.5 | 0.180 | 0.450 | 0.54 |
| 330 | 331 | | 10x12.5 | 0.114 | 0.285 | 0.55 | 10x12.5 | 0.108 | 0.270 | 0.70 |
| 470 | 471 | | 10x12.5 | 0.093 | 0.233 | 0.66 | 10x16 | 0.088 | 0.221 | 0.92 |
| 680 | 681 | | 10x16 | 0.074 | 0.184 | 0.88 | 10x20 | 0.070 | 0.175 | 1.22 |
| 1000 | 102 | | 10x20 | 0.060 | 0.150 | 1.18 | 12.5x20 | 0.057 | 0.143 | 1.58 |
| 1200 | 122 | | 10x25 | 0.052 | 0.130 | 1.43 | 12.5x20 | 0.050 | 0.124 | 1.73 |
| 1500 | 152 | | 12.5x20 | 0.044 | 0.111 | 1.48 | 12.5x25 | 0.042 | 0.105 | 2.04 |
| 2200 | 222 | | 12.5x25 | 0.034 | 0.086 | 1.91 | 16x25 | 0.032 | 0.065 | 2.39 |
| 3300 | 332 | | 16x25 | 0.029 | 0.057 | 2.20 | 16x31.5 | 0.027 | 0.054 | 3.02 |
| 4700 | 472 | | 16x31.5 | 0.024 | 0.048 | 2.67 | 18x35.5 | 0.023 | 0.046 | 3.70 |
| 6800 | 682 | | 18x35.5 | 0.022 | 0.043 | 3.28 | | | | |
| 10000 | 103 | | 18x40 | 0.019 | 0.039 | 3.67 | | | | |

| V(Code) | | 35 (1V) | | | | 50 (1H) | | | | |
|---------|------|---------|---------|-------|-------|---------|---------|-------|-------|------|
| 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 | 5x11 | 1.699 | 5.096 | 0.08 |
| 10 | 100 | | 5x11 | 1.498 | 3.745 | 0.10 | 5x11 | 1.331 | 3.992 | 0.11 |
| 22 | 220 | | 5x11 | 0.817 | 2.043 | 0.14 | 5x11 | 0.726 | 2.177 | 0.16 |
| 33 | 330 | | 5x11 | 0.636 | 1.589 | 0.17 | 6.3x11 | 0.564 | 1.411 | 0.23 |
| 47 | 470 | | 6.3x11 | 0.510 | 1.275 | 0.24 | 6.3x11 | 0.453 | 1.132 | 0.27 |
| 68 | 680 | | 6.3x11 | 0.397 | 0.991 | 0.28 | 8x11.5 | 0.352 | 0.880 | 0.38 |
| 100 | 101 | | 8x11.5 | 0.330 | 0.824 | 0.40 | 8x20 | 0.220 | 0.549 | 0.59 |
| 220 | 221 | | 10x12.5 | 0.128 | 0.319 | 0.63 | 10x16 | 0.113 | 0.283 | 0.80 |
| 330 | 331 | | 10x16 | 0.102 | 0.255 | 0.85 | 10x20 | 0.091 | 0.227 | 1.08 |
| 470 | 471 | | 10x20 | 0.084 | 0.209 | 1.12 | 12.5x20 | 0.074 | 0.186 | 1.38 |
| 680 | 681 | | 12.5x20 | 0.066 | 0.165 | 1.44 | 12.5x25 | 0.059 | 0.147 | 1.83 |
| 1000 | 102 | | 12.5x25 | 0.054 | 0.135 | 1.93 | 16x25 | 0.048 | 0.096 | 2.23 |
| 1200 | 122 | | 12.5x30 | 0.047 | 0.117 | 2.29 | 16x31.5 | 0.042 | 0.083 | 2.71 |
| 1500 | 152 | | 16x25 | 0.040 | 0.079 | 2.25 | 16x35.5 | 0.035 | 0.071 | 3.01 |
| 2200 | 222 | | 16x31.5 | 0.031 | 0.077 | 2.88 | 18x35.5 | 0.027 | 0.055 | 3.69 |
| 3300 | 332 | | 18x35.5 | 0.026 | 0.064 | 3.65 | 18x40 | 0.023 | 0.046 | 4.35 |