

# RADIAL TYPE

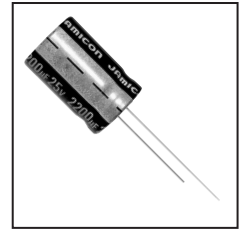
# TB

Series

Long Life, Low Impedance, High Reliability

JAMICON®

- Low impedance and long life withstanding 10000 hours load life
- Suitable for electronic ballast, adaptor and switching power



## ● SPECIFICATION

| Item                                           | Characteristic                                                                                                                                                 |                                                                  |      |      |      |                                                                   |      |        |      |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------|------|------|-------------------------------------------------------------------|------|--------|------|
| Operation Temperature Range                    | -40 ~ +105°C                                                                                                                                                   |                                                                  |      |      |      |                                                                   |      |        |      |
| Rated Working Voltage                          | 6.3 ~ 100VDC                                                                                                                                                   |                                                                  |      |      |      |                                                                   |      |        |      |
| Capacitance Tolerance (120Hz 20°C)             | ±20%(M)                                                                                                                                                        |                                                                  |      |      |      |                                                                   |      |        |      |
| Leakage Current<br><br>(20°C)                  | I ≤0.01CV or 3 μA<br><br>*Whichever is greater after 3 minutes<br><br>I : Leakage Current (μA)<br>C : Rated Capacitance (μF)<br>V : Working Voltage (V)        |                                                                  |      |      |      |                                                                   |      |        |      |
| Surge Voltage<br><br>(20°C)                    | W.V.                                                                                                                                                           | 6.3                                                              | 10   | 16   | 25   | 35                                                                | 50   | 63     | 100  |
|                                                | S.V.                                                                                                                                                           | 8                                                                | 13   | 20   | 32   | 44                                                                | 63   | 79     | 125  |
| Dissipation Factor (tan δ)<br><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     | 100  |
|                                                | tan δ                                                                                                                                                          | 0.22                                                             | 0.19 | 0.16 | 0.14 | 0.12                                                              | 0.10 | 0.09   | 0.08 |
| Low Temperature Stability                      | Impedance ratio at 120Hz                                                                                                                                       |                                                                  |      |      |      |                                                                   |      |        |      |
|                                                | Rated Voltage (V)                                                                                                                                              | 6.3                                                              |      | 10   |      | 16                                                                |      | 25~100 |      |
|                                                | -25°C / +20°C                                                                                                                                                  | 4                                                                |      | 3    |      | 2                                                                 |      | 2      |      |
|                                                | -40°C / +20°C                                                                                                                                                  | 8                                                                |      | 6    |      | 4                                                                 |      | 3      |      |
| Load Life                                      | After application of W.V. and +105°C ripple current value, the capacitor shall meet the following limits.<br>(DC + ripple peak voltage ≤ rate working voltage) |                                                                  |      |      |      |                                                                   |      |        |      |
|                                                | Rated Voltage (V)                                                                                                                                              | 6.3~10                                                           |      |      |      | 16~100                                                            |      |        |      |
|                                                | Life Time                                                                                                                                                      | φD≤6.3mm 4000 hours   φD8~10mm 6000 hours   φD≥12.5mm 8000 hours |      |      |      | φD≤6.3mm 5000 hours   φD8~10mm 7000 hours   φD≥12.5mm 10000 hours |      |        |      |
|                                                | Capacitance Change                                                                                                                                             | ≤±25% 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 limits for load life characteristics. (with voltage treatment)                |                                                                  |      |      |      |                                                                   |      |        |      |

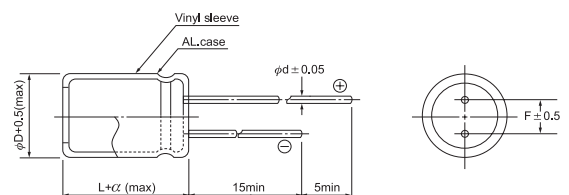
## ● DIMENSIONS (mm)

| $\phi D$ | 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 |
| $\alpha$ | 1.5 | 1.5 | 1.5 | 1.5 | 1.5  | 1.5 | 1.5 |

## ● RIPPLE CURRENT COEFFICIENTS

| Temperature(°C) | $\leq 65$ | 85   | 105  |
|-----------------|-----------|------|------|
| Multiplier      | 2.12      | 1.69 | 1.00 |

| Frequency(Hz) |                    | 120  | 1k   | 10k  | $\geq 100k$ |
|---------------|--------------------|------|------|------|-------------|
| Coefficient   | 0.47~10 $\mu F$    | 0.42 | 0.60 | 0.80 | 1.00        |
|               | 22~33 $\mu F$      | 0.55 | 0.75 | 0.90 | 1.00        |
|               | 47~330 $\mu F$     | 0.70 | 0.85 | 0.95 | 1.00        |
|               | 470~1000 $\mu F$   | 0.75 | 0.90 | 0.98 | 1.00        |
|               | 2200~15000 $\mu F$ | 0.80 | 0.95 | 1.00 | 1.00        |



## ● CASE SIZE & MAX RIPPLE CURRENT

|                    |                 |        |
|--------------------|-----------------|--------|
| Case size          | : D x L         | (mm)   |
| Max impedance      | : $\Omega$      | 100kHz |
| Max ripple current | : mA(rms) 105°C | 100kHz |

| <div> <div>V(Code)</div> <div> <div>Item</div> <div>Code</div> </div> <div>μF</div> </div> |     | 6.3 (0J) |       |       |      | 10 (1A) |       |       |      | 16 (1C) |       |       |      |
|--------------------------------------------------------------------------------------------|-----|----------|-------|-------|------|---------|-------|-------|------|---------|-------|-------|------|
|                                                                                            |     | 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 | 1.703 | 150  |
| 100                                                                                        | 101 | 5x11     | 0.595 | 1.784 | 200  | 5x11    | 0.482 | 1.446 | 210  | 6.3x11  | 0.367 | 1.101 | 250  |
| 220                                                                                        | 221 | 6.3x11   | 0.307 | 0.922 | 340  | 6.3x11  | 0.249 | 0.747 | 350  | 8x11.5  | 0.190 | 0.569 | 430  |
| 330                                                                                        | 331 | 6.3x11   | 0.246 | 0.737 | 410  | 8x11.5  | 0.169 | 0.507 | 500  | 8x11.5  | 0.152 | 0.455 | 520  |
| 470                                                                                        | 471 | 8x11.5   | 0.178 | 0.534 | 540  | 8x11.5  | 0.138 | 0.415 | 560  | 10x12.5 | 0.093 | 0.279 | 690  |
| 1000                                                                                       | 102 | 10x12.5  | 0.066 | 0.199 | 920  | 10x16   | 0.063 | 0.189 | 1070 | 10x20   | 0.060 | 0.180 | 1230 |
| 2200                                                                                       | 222 | 12.5x20  | 0.038 | 0.113 | 1660 | 12.5x20 | 0.036 | 0.108 | 1720 | 12.5x25 | 0.034 | 0.103 | 1960 |
| 3300                                                                                       | 332 | 12.5x20  | 0.032 | 0.095 | 1910 | 12.5x25 | 0.030 | 0.090 | 2170 | 16x25   | 0.029 | 0.086 | 2570 |
| 4700                                                                                       | 472 | 16x25    | 0.027 | 0.080 | 2660 | 16x25   | 0.025 | 0.076 | 2730 | 16x31.5 | 0.024 | 0.073 | 3100 |
| 6800                                                                                       | 682 | 16x25    | 0.024 | 0.071 | 2920 | 16x31.5 | 0.023 | 0.068 | 3300 | 18x35.5 | 0.022 | 0.065 | 3800 |
| 10000                                                                                      | 103 | 16x31.5  | 0.021 | 0.064 | 3450 | 18x35.5 | 0.020 | 0.061 | 3940 |         |       |       |      |
| 15000                                                                                      | 153 | 18x35.5  | 0.020 | 0.061 | 4130 |         |       |       |      |         |       |       |      |

| <div><div>V(Code)</div><div>Item</div><div>Code</div><div>μF</div></div> |     | 25 (1E) |       |       |      | 35 (1V) |       |       |      | 50 (1H) |       |        |      |
|--------------------------------------------------------------------------|-----|---------|-------|-------|------|---------|-------|-------|------|---------|-------|--------|------|
|                                                                          |     | DxL     | IMP.  |       | R.C. | DxL     | IMP.  |       | R.C. | DxL     | IMP.  |        | R.C. |
|                                                                          |     |         | 20°C  | -10°C |      |         | 20°C  | -10°C |      |         | 20°C  | -10°C  |      |
| 0.47                                                                     | R47 |         |       |       |      |         |       |       |      | 5x11    | 5.658 | 16.973 | 25   |
| 1                                                                        | 010 |         |       |       |      |         |       |       |      | 5x11    | 3.989 | 11.966 | 36   |
| 2.2                                                                      | 2R2 |         |       |       |      |         |       |       |      | 5x11    | 2.417 | 7.252  | 55   |
| 3.3                                                                      | 3R3 |         |       |       |      |         |       |       |      | 5x11    | 2.014 | 6.043  | 65   |
| 4.7                                                                      | 4R7 |         |       |       |      |         |       |       |      | 5x11    | 1.697 | 5.092  | 80   |
| 10                                                                       | 100 |         |       |       |      |         |       |       |      | 5x11    | 1.330 | 3.989  | 110  |
| 22                                                                       | 220 |         |       |       |      |         |       |       |      | 5x11    | 0.725 | 2.176  | 140  |
| 33                                                                       | 330 | 5x11    | 0.672 | 2.015 | 150  | 5x11    | 0.635 | 1.905 | 160  | 6.3x11  | 0.564 | 1.692  | 200  |
| 47                                                                       | 470 | 5x11    | 0.539 | 1.616 | 170  | 6.3x11  | 0.510 | 1.529 | 210  | 6.3x11  | 0.453 | 1.358  | 230  |
| 100                                                                      | 101 | 6.3x11  | 0.348 | 1.045 | 280  | 8x11.5  | 0.329 | 0.988 | 370  | 8x14    | 0.292 | 0.877  | 420  |
| 220                                                                      | 221 | 8x11.5  | 0.180 | 0.540 | 480  | 10x12.5 | 0.128 | 0.383 | 640  | 10x16   | 0.113 | 0.340  | 760  |
| 330                                                                      | 331 | 10x12.5 | 0.108 | 0.324 | 700  | 10x16   | 0.102 | 0.306 | 870  | 10x20   | 0.091 | 0.272  | 1020 |
| 470                                                                      | 471 | 10x16   | 0.088 | 0.265 | 860  | 10x20   | 0.084 | 0.251 | 1070 | 12.5x20 | 0.074 | 0.223  | 1290 |
| 1000                                                                     | 102 | 12.5x20 | 0.057 | 0.171 | 1580 | 12.5x25 | 0.054 | 0.162 | 1940 | 16x25   | 0.048 | 0.144  | 2390 |
| 2200                                                                     | 222 | 16x25   | 0.032 | 0.097 | 2540 | 16x31.5 | 0.031 | 0.092 | 3070 | 18x35.5 | 0.027 | 0.082  | 3650 |
| 3300                                                                     | 332 | 16x31.5 | 0.027 | 0.081 | 3180 | 18x35.5 | 0.026 | 0.077 | 3870 |         |       |        |      |
| 4700                                                                     | 472 | 18x35.5 | 0.023 | 0.069 | 3880 |         |       |       |      |         |       |        |      |

| μF   | V(Code) |      | 63 (1J) |       |       |      | 100 (2A) |       |        |      |
|------|---------|------|---------|-------|-------|------|----------|-------|--------|------|
|      | Code    | Item | DxL     | IMP.  |       | R.C. | DxL      | IMP.  |        | R.C. |
|      |         |      |         | 20°C  | -10°C |      |          | 20°C  | -10°C  |      |
| 0.47 |         | R47  |         |       |       |      | 5x11     | 5.301 | 15.902 | 26   |
| 1    |         | 010  |         |       |       |      | 5x11     | 3.737 | 11.211 | 37   |
| 2.2  |         | 2R2  |         |       |       |      | 5x11     | 2.265 | 6.794  | 55   |
| 3.3  |         | 3R3  |         |       |       |      | 5x11     | 1.887 | 5.662  | 65   |
| 4.7  |         | 4R7  |         |       |       |      | 5x11     | 1.590 | 4.771  | 80   |
| 10   |         | 100  | 5x11    | 1.246 | 3.737 | 120  | 6.3x11   | 1.246 | 3.737  | 130  |
| 22   |         | 220  | 6.3x11  | 0.679 | 2.038 | 180  | 8x11.5   | 0.679 | 2.038  | 190  |
| 33   |         | 330  | 8x11.5  | 0.528 | 1.585 | 250  | 10x12.5  | 0.317 | 0.951  | 270  |
| 47   |         | 470  | 8x11.5  | 0.424 | 1.272 | 280  | 10x16    | 0.254 | 0.763  | 350  |
| 100  |         | 101  | 10x16   | 0.192 | 0.575 | 530  | 12.5x20  | 0.164 | 0.493  | 640  |
| 220  |         | 221  | 10x25   | 0.099 | 0.297 | 960  | 16x25    | 0.085 | 0.255  | 1200 |
| 330  |         | 331  | 12.5x25 | 0.079 | 0.238 | 1330 | 16x25    | 0.068 | 0.204  | 1470 |
| 470  |         | 471  | 12.5x30 | 0.065 | 0.195 | 1610 |          |       |        |      |
| 1000 |         | 102  | 16x35.5 | 0.042 | 0.126 | 2900 |          |       |        |      |