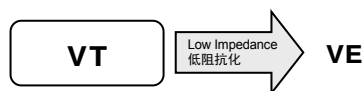


## LOW IMPEDANCE

### 低阻抗品

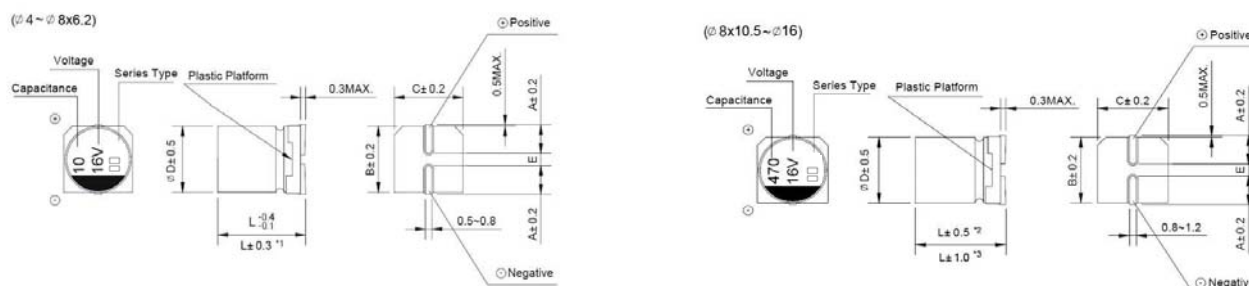
- Low impedance with temperature range -55 ~ +105°C  
低阻抗和適用於 -55 ~ +105°C 的溫度範圍
- Load life of 1000 ~ 2000 hours  
負荷壽命 1000 ~ 2000 小時
- 1 Comply with the RoHS directive  
符合 RoHS 指令



### □ SPECIFICATIONS 特性表

| Items 項目                             | Characteristics 主要特性                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    |      |      |      |      |        |        |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------|------|------|------|--------|--------|----------------------------|-----------------------------------------|--------------------------|------------------------------------------------------|---------------------|----------------------------------------|----|--------|--------|--------------------------------------|--------|--------------------|------|------|------|------|------|------|--------------------|-----------|------|------|------|------|------|-----------|--------------------|---|---|---|---|---|---|--------------------|----|---|---|---|---|---|
| Operation Temperature Range 使用溫度範圍   | -55 ~ +105°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |      |      |      |      |        |        |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Voltage Range 額定工作電壓範圍               | 6.3 ~ 100V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                    |      |      |      |      |        |        |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Capacitance Range 靜電容量範圍             | 1 ~ 4700μF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                    |      |      |      |      |        |        |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Capacitance Tolerance 靜電容量允許偏差       | ±20% at 120Hz, 20°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |      |      |      |      |        |        |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Leakage Current 漏電流                  | Leakage current (Ø4~Ø10) ≦0.01CV or 3μA, whichever is greater (after 2 minutes application of rated voltage)<br>Leakage current (Ø12.5~Ø16) ≦0.03CV or 4μA, whichever is greater (after 1 minute application of rated voltage)<br>漏電流 (Ø4~Ø10) ≦0.01CV 或 3μA, 取較大值 (施加額定工作電壓 2 分鐘後)<br>漏電流 (Ø12.5~Ø16) ≦0.03CV 或 4μA, 取較大值 (施加額定工作電壓 1 分鐘後)                                                                                                                                                                                                                                                                                                                                                                    |                    |      |      |      |      |        |        |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Dissipation Factor (tan δ) 損耗角正切     | Measurement frequency 測試頻率: 120Hz, Temperature 溫度: 20°C <table><tr><td colspan="2">Rated Voltage (V) 額定工作電壓</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50,63</td><td>80,100</td></tr><tr><td>tan δ (max.)</td><td>Ø4~Ø10</td><td>0.22</td><td>0.19</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.12</td><td>0.10</td></tr><tr><td>最大損耗角正切</td><td>Ø12.5~Ø16</td><td>0.26</td><td>0.22</td><td>0.18</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.10</td></tr></table>                                                                                                                                                                                                               |                    |      |      |      |      |        |        | Rated Voltage (V) 額定工作電壓   |                                         | 6.3                      | 10                                                   | 16                  | 25                                     | 35 | 50,63  | 80,100 | tan δ (max.)                         | Ø4~Ø10 | 0.22               | 0.19 | 0.16 | 0.14 | 0.12 | 0.12 | 0.10 | 最大損耗角正切            | Ø12.5~Ø16 | 0.26 | 0.22 | 0.18 | 0.16 | 0.14 | 0.12      | 0.10               |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Rated Voltage (V) 額定工作電壓             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 6.3                | 10   | 16   | 25   | 35   | 50,63  | 80,100 |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| tan δ (max.)                         | Ø4~Ø10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.22               | 0.19 | 0.16 | 0.14 | 0.12 | 0.12   | 0.10   |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| 最大損耗角正切                              | Ø12.5~Ø16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.26               | 0.22 | 0.18 | 0.16 | 0.14 | 0.12   | 0.10   |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Stability at Low Temperature 低溫特性    | Measurement frequency 測試頻率: 120Hz <table><tr><td colspan="2">Rated Voltage (V) 額定工作電壓</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td colspan="2">50~100</td></tr><tr><td rowspan="4">Impedance Ratio 阻抗比<br/>ZT/Z20 (max.)</td><td rowspan="2">Ø4~Ø10</td><td>Z(-25°C) / Z(20°C)</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td>Z(-55°C) / Z(20°C)</td><td>5</td><td>4</td><td>4</td><td>3</td><td>3</td><td>3</td></tr><tr><td rowspan="2">Ø12.5~Ø16</td><td>Z(-25°C) / Z(20°C)</td><td>3</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td>Z(-55°C) / Z(20°C)</td><td>10</td><td>8</td><td>6</td><td>4</td><td>3</td><td>3</td></tr></table> |                    |      |      |      |      |        |        | Rated Voltage (V) 額定工作電壓   |                                         | 6.3                      | 10                                                   | 16                  | 25                                     | 35 | 50~100 |        | Impedance Ratio 阻抗比<br>ZT/Z20 (max.) | Ø4~Ø10 | Z(-25°C) / Z(20°C) | 2    | 2    | 2    | 2    | 2    | 2    | Z(-55°C) / Z(20°C) | 5         | 4    | 4    | 3    | 3    | 3    | Ø12.5~Ø16 | Z(-25°C) / Z(20°C) | 3 | 3 | 2 | 2 | 2 | 2 | Z(-55°C) / Z(20°C) | 10 | 8 | 6 | 4 | 3 | 3 |
| Rated Voltage (V) 額定工作電壓             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 6.3                | 10   | 16   | 25   | 35   | 50~100 |        |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Impedance Ratio 阻抗比<br>ZT/Z20 (max.) | Ø4~Ø10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Z(-25°C) / Z(20°C) | 2    | 2    | 2    | 2    | 2      | 2      |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Z(-55°C) / Z(20°C) | 5    | 4    | 4    | 3    | 3      | 3      |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
|                                      | Ø12.5~Ø16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Z(-25°C) / Z(20°C) | 3    | 3    | 2    | 2    | 2      | 2      |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Z(-55°C) / Z(20°C) | 10   | 8    | 6    | 4    | 3      | 3      |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Load Life 高溫負荷特性                     | After 2000 hrs. (1000 hrs. for Ø4~Ø6.3×5.4) application of the rated voltage at 105°C, they meet the characteristics listed below. 在 105°C 環境中施加額定工作電壓 2000 小時 (Ø4~Ø6.3×5.4 為 1000 小時) 後, 電容器的特性符合下表的要求。 <table><tr><td>Capacitance Change 靜電容量變化率</td><td>Within ±30% of initial value 初始值的±30%以內</td></tr><tr><td>Dissipation Factor 損耗角正切</td><td>300% or less of initial specified value 不大於規範值的 300%</td></tr><tr><td>Leakage Current 漏電流</td><td>initial specified value or less 不大於規範值</td></tr></table>                                                                                                                                                                                                |                    |      |      |      |      |        |        | Capacitance Change 靜電容量變化率 | Within ±30% of initial value 初始值的±30%以內 | Dissipation Factor 損耗角正切 | 300% or less of initial specified value 不大於規範值的 300% | Leakage Current 漏電流 | initial specified value or less 不大於規範值 |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Capacitance Change 靜電容量變化率           | Within ±30% of initial value 初始值的±30%以內                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |      |      |      |      |        |        |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Dissipation Factor 損耗角正切             | 300% or less of initial specified value 不大於規範值的 300%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    |      |      |      |      |        |        |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Leakage Current 漏電流                  | initial specified value or less 不大於規範值                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |      |      |      |      |        |        |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Shelf Life 高溫貯存特性                    | After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for load life characteristics listed above. 在 105°C 環境中無負荷放置 1000 小時後, 電容器的特性符合高溫負荷特性中所列的規定值。                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |      |      |      |      |        |        |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Resistance to Soldering Heat 耐焊接熱特性  | After reflow soldering and restored at room temperature, they meet the characteristics listed below. 經過回流焊並冷卻至室溫後, 電容器的特性符合下表的要求。 <table><tr><td>Capacitance Change 靜電容量變化率</td><td>Within ±10% of initial value 初始值的±10%以內</td></tr><tr><td>Dissipation Factor 損耗角正切</td><td>initial specified value or less 不大於規範值</td></tr><tr><td>Leakage Current 漏電流</td><td>initial specified value or less 不大於規範值</td></tr></table>                                                                                                                                                                                                                                                                                     |                    |      |      |      |      |        |        | Capacitance Change 靜電容量變化率 | Within ±10% of initial value 初始值的±10%以內 | Dissipation Factor 損耗角正切 | initial specified value or less 不大於規範值               | Leakage Current 漏電流 | initial specified value or less 不大於規範值 |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Capacitance Change 靜電容量變化率           | Within ±10% of initial value 初始值的±10%以內                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |      |      |      |      |        |        |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Dissipation Factor 損耗角正切             | initial specified value or less 不大於規範值                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |      |      |      |      |        |        |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Leakage Current 漏電流                  | initial specified value or less 不大於規範值                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |      |      |      |      |        |        |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |
| Marking 標示                           | Black print on the case top. 鋁殼頂部黑字印刷。                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |      |      |      |      |        |        |                            |                                         |                          |                                                      |                     |                                        |    |        |        |                                      |        |                    |      |      |      |      |      |      |                    |           |      |      |      |      |      |           |                    |   |   |   |   |   |   |                    |    |   |   |   |   |   |

### □ DRAWING (Unit: mm) 外形圖



- \*1. Applicable to Ø6.3x7.7
- \*2. Applicable to Ø8x10.5~Ø10
- \*2. Applicable to Ø12.5~Ø16

**NOTE:** All designs and specifications are for reference only and are subject to change without prior notice. If any doubt about safety for your application, please contact us immediately for technical assistance before purchase.

**注:** 以上所提供的設計及特性參數僅供參考, 任何修改不作預先通知。如果在使用上有疑問, 請在採購前與我們聯繫, 以便提供技術上的協助。



# VE Series

## □ DIMENSIONS (Unit: mm) 尺寸表

| ∅D x L  | 4 x 5.4 | 5 x 5.4 | 6.3 x 5.4 | 6.3 x 7.7 | 8 x 6.2 | 8 x 10.5 | 10 x 10.5 | 10 x 12.5 | 12.5 x 13.5 | 12.5 x 16 | 16 x 16.5 |
|---------|---------|---------|-----------|-----------|---------|----------|-----------|-----------|-------------|-----------|-----------|
| A       | 2.0     | 2.2     | 2.6       | 2.6       | 3.3     | 3.0      | 3.2       | 3.2       | 4.6         | 4.6       | 5.8       |
| B       | 4.3     | 5.3     | 6.6       | 6.6       | 8.3     | 8.3      | 10.3      | 10.3      | 12.8        | 12.8      | 17.0      |
| C       | 4.3     | 5.3     | 6.6       | 6.6       | 8.3     | 8.3      | 10.3      | 10.3      | 12.8        | 12.8      | 17.0      |
| E ± 0.2 | 1.0     | 1.5     | 2.1       | 2.1       | 2.2     | 3.1      | 4.6       | 4.6       | 4.6         | 4.6       | 6.4       |
| L       | 5.4     | 5.4     | 5.4       | 7.7       | 6.2     | 10.5     | 10.5      | 12.5      | 13.5        | 16.0      | 16.5      |

## □ DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT & IMPEDANCE 規格尺寸及最大允許紋波電流及阻抗值

| WV<br>Code<br>代碼 | μF  | 6.3                        |                |              | 10                                  |                     |                    | 16                                   |                        |                       |
|------------------|-----|----------------------------|----------------|--------------|-------------------------------------|---------------------|--------------------|--------------------------------------|------------------------|-----------------------|
|                  |     | 0J                         |                |              | 1A                                  |                     |                    | 1C                                   |                        |                       |
| 10               | 100 |                            |                |              |                                     |                     |                    | 4 x 5.4                              | 3.0                    | 60                    |
| 15               | 150 |                            |                |              |                                     |                     |                    | 5 x 5.4<br>(4 x 5.4)                 | 1.8<br>(3.0)           | 95<br>(60)            |
| 22               | 220 | 4 x 5.4                    | 3.0            | 60           | 5 x 5.4<br>(4 x 5.4)                | 1.8<br>(3.0)        | 95<br>(60)         | 5 x 5.4<br>(4 x 5.4)                 | 1.8<br>(3.0)           | 95<br>(60)            |
| 33               | 330 | 5 x 5.4<br>(4 x 5.4)       | 1.8<br>(3.0)   | 95<br>(60)   | 5 x 5.4<br>(4 x 5.4)                | 1.8<br>(3.0)        | 95<br>(60)         | 6.3 x 5.4<br>(5 x 5.4)               | 1.0<br>(1.8)           | 140<br>(95)           |
| 47               | 470 | 5 x 5.4<br>(4 x 5.4)       | 1.8<br>(3.0)   | 95<br>(60)   | 6.3 x 5.4<br>(5 x 5.4)              | 1.0<br>(1.8)        | 140<br>(95)        | 6.3 x 5.4<br>(5 x 5.4)               | 1.0<br>(1.8)           | 140<br>(95)           |
| 68               | 680 | 6.3 x 5.4<br>(5 x 5.4)     | 1.0<br>(1.8)   | 140<br>(95)  | 6.3 x 5.4                           | 1.0                 | 140                | 6.3 x 7.7<br>(6.3 x 5.4)             | 0.6<br>(1.0)           | 230<br>(140)          |
| 100              | 101 | 6.3 x 5.4<br>(5 x 5.4)     | 1.0<br>(1.8)   | 140<br>(95)  | 5 x 5.4<br>6.3 x 7.7<br>(6.3 x 5.4) | 1.8<br>0.6<br>(1.0) | 95<br>230<br>(140) | 6.3 x 7.7<br>(6.3 x 5.4)             | 0.6<br>(1.0)           | 230<br>(140)          |
| 150              | 151 | 6.3 x 7.7<br>(6.3 x 5.4)   | 0.6<br>(1.0)   | 230<br>(140) | 6.3 x 7.7<br>(6.3 x 5.4)            | 0.6<br>(1.0)        | 230<br>(140)       | 6.3 x 7.7                            | 0.6                    | 230                   |
| 220              | 221 | 6.3 x 7.7<br>(6.3 x 5.4)   | 0.6<br>(1.0)   | 230<br>(140) | 6.3 x 7.7                           | 0.60                | 230                | 8 x 10.5<br>(6.3 x 7.7)<br>(8 x 6.2) | 0.30<br>(0.6)<br>(0.6) | 450<br>(230)<br>(230) |
| 330              | 331 | 6.3 x 7.7                  | 0.6            | 230          | 8 x 10.5                            | 0.30                | 450                | 10 x 10.5<br>(8 x 10.5)              | 0.15<br>(0.30)         | 670<br>(450)          |
| 470              | 471 | 8 x 10.5                   | 0.30           | 450          | 8 x 10.5                            | 0.30                | 450                | 10 x 10.5<br>(8 x 10.5)              | 0.15<br>(0.30)         | 670<br>(450)          |
| 680              | 681 | 8 x 10.5                   | 0.30           | 450          | 10 x 10.5                           | 0.15                | 670                | 10x 10.5                             | 0.15                   | 670                   |
| 1000             | 102 | 10 x 10.5<br>(8 x 10.5)    | 0.15<br>(0.30) | 670<br>(450) | 10 x 10.5                           | 0.15                | 670                | 10 x 10.5                            | 0.15                   | 670                   |
| 1500             | 152 | 10 x 12.5<br>(10 x 10.5)   | 0.13<br>(0.15) | 750<br>(670) | 12.5 x 13.5<br>(10 x 12.5)          | 0.11<br>(0.13)      | 820<br>(750)       | 12.5 x 13.5                          | 0.11                   | 820                   |
| 2200             | 222 | 12.5 x 13.5<br>(10 x 12.5) | 0.11<br>(0.13) | 820<br>(750) | 12.5 x 16                           | 0.09                | 950                | 16 x 16.5<br>(12.5 x 16)             | 0.08<br>(0.09)         | 1260<br>(950)         |
| 3300             | 332 | 12.5 x 16<br>(12.5 x 13.5) | 0.09<br>(0.11) | 950<br>(820) | 16 x 16.5                           | 0.08                | 1260               | 16 x 16.5                            | 0.08                   | 1260                  |
| 4700             | 472 | 16 x 16.5                  | 0.08           | 1260         | 16 x 16.5                           | 0.08                | 1260               |                                      |                        |                       |

| WV<br>Code<br>代碼 | μF  | 25                       |               |              | 35                       |               |              | 50                             |                                           |                                                       |
|------------------|-----|--------------------------|---------------|--------------|--------------------------|---------------|--------------|--------------------------------|-------------------------------------------|-------------------------------------------------------|
|                  |     | 1E                       |               |              | 1V                       |               |              | 1H                             |                                           |                                                       |
| 1                | 010 |                          |               |              | 4 x 5.4                  | 3.0           | 60           | 4 x 5.4                        | 5.0                                       | 30                                                    |
| 1.5              | 1R5 |                          |               |              | 4 x 5.4                  | 3.0           | 60           | 4 x 5.4                        | 5.0                                       | 30                                                    |
| 2.2              | 2R2 |                          |               |              | 4 x 5.4                  | 3.0           | 60           | 4 x 5.4                        | 5.0                                       | 30                                                    |
| 3.3              | 3R3 |                          |               |              | 4 x 5.4                  | 3.0           | 60           | 4 x 5.4                        | 5.0                                       | 30                                                    |
| 4.7              | 4R7 | 4 x 5.4                  | 3.0           | 60           | 4 x 5.4                  | 3.0           | 60           | 5 x 5.4                        | 3.0                                       | 50                                                    |
| 6.8              | 6R8 | 4 x 5.4                  | 3.0           | 60           | 5 x 5.4                  | 1.8           | 95           | 6.3 x 5.4                      | 2.0                                       | 70                                                    |
| 10               | 100 | 5 x 5.4<br>(4 x 5.4)     | 1.8<br>(3.0)  | 95<br>(60)   | 5 x 5.4<br>(4 x 5.4)     | 1.8<br>(3.0)  | 95<br>(60)   | 6.3 x 5.4<br>5 x 5.4           | 2.0<br>3.0                                | 70<br>50                                              |
| 15               | 150 | 6.3 x 5.4                | 1.8           | 95           | 5 x 5.4                  | 1.8           | 95           | 6.3 x 5.4                      | 2.0                                       | 70                                                    |
| 22               | 220 | 6.3 x 5.4<br>(5 x 5.4)   | 1.0<br>(1.8)  | 140<br>(95)  | 6.3 x 5.4<br>(5 x 5.4)   | 1.0<br>(1.8)  | 140<br>(95)  | 6.3 x 7.7<br>(6.3 x 5.4)       | 1.0<br>(2.0)                              | 120<br>(70)                                           |
| 33               | 330 | 6.3 x 5.4<br>(5 x 5.4)   | 1.0<br>(1.8)  | 140<br>(95)  | 6.3 x 5.4                | 1.0           | 140          | 6.3 x 7.7                      | 1.0                                       | 120                                                   |
| 47               | 470 | 6.3 x 7.7<br>(6.3 x 5.4) | 0.6<br>(1.0)  | 230<br>(140) | 6.3 x 7.7<br>(6.3 x 5.4) | 0.60<br>(1.0) | 230<br>(140) | 6.3 x 7.7                      | 1.0                                       | 120                                                   |
| 68               | 680 | 6.3 x 7.7                | 0.6           | 230          | 6.3 x 7.7                | 0.60          | 230          | 8 x 10.5                       | 0.60                                      | 300                                                   |
| 100              | 101 | 6.3 x 7.7                | 0.6           | 230          | 8 x 10.5<br>(6.3 x 7.7)  | 0.30<br>0.6   | 450<br>(260) | 8 x 10.5                       | 0.60                                      | 300                                                   |
| 150              | 151 | 8 x 10.5<br>(6.3 x 7.7)  | 0.30<br>(0.6) | 450<br>(230) | 8 x 10.5                 | 0.30          | 450          | 10 x 10.5                      | 0.30                                      | 500                                                   |
|                  |     |                          |               |              |                          |               |              | Case size<br>∅D x L (mm)<br>尺寸 | Impedance (Ω)<br>at 20°C<br>100KHz<br>阻抗值 | Ripple current<br>(mA rms) at<br>105°C 100KHz<br>紋波電流 |

NOTE: All designs and specifications are for reference only and are subject to change without prior notice. If any doubt about safety for your application, please contact us immediately for technical assistance before purchase.

注：以上所提供的設計及特性參數僅供參考，任何修改不作預先通知。如果在使用上有疑問，請在採購前與我們聯繫，以便提供技術上的協助。

# VE Series

## □ DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT & IMPEDANCE 規格尺寸及最大允許紋波電流及阻抗值

| WV<br>Code<br>代碼<br>μF |     | 25                         |                |               | 35                         |                |               | 50                                        |                                           |                                                       |
|------------------------|-----|----------------------------|----------------|---------------|----------------------------|----------------|---------------|-------------------------------------------|-------------------------------------------|-------------------------------------------------------|
|                        |     | 1E                         |                |               | 1V                         |                |               | 1H                                        |                                           |                                                       |
| 220                    | 221 | 8 x 10.5                   | 0.30           | 450           | 10 x 10.5<br>(8 x 10.5)    | 0.15<br>(0.30) | 670<br>(450)  | 10 x 10.5                                 | 0.30                                      | 500                                                   |
| 330                    | 331 | 10 x 10.5<br>(8 x 10.5)    | 0.15<br>(0.30) | 670<br>(450)  | 10 x 10.5                  | 0.15           | 670           | 16 x 16.5<br>(12.5 x 13.5)<br>(10 x 12.5) | 0.12<br>(0.20)<br>(0.25)                  | 1060<br>(650)<br>(580)                                |
| 470                    | 471 | 10 x 10.5                  | 0.15           | 670           | 10 x 10.5                  | 0.15           | 670           | 16 x 16.5<br>(12.5 x 16)                  | 0.12<br>(0.15)                            | 1060<br>(700)                                         |
| 680                    | 681 | 10 x 12.5                  | 0.13           | 750           | 12.5 x 13.5<br>(10 x 12.5) | 0.11<br>(0.13) | 820<br>(750)  | 16 x 16.5                                 | 0.12                                      | 1060                                                  |
| 1000                   | 102 | 16 x 16.5<br>(12.5 x 13.5) | 0.08<br>(0.11) | 1260<br>(820) | 16 x 16.5<br>(12.5 x 16)   | 0.08<br>(0.09) | 1260<br>(950) |                                           |                                           |                                                       |
| 1500                   | 152 | 12.5 x 16                  | 0.09           | 950           | 16 x 16.5                  | 0.08           | 1260          | Case size<br>ØD x L (mm)<br>尺寸            | Impedance (Ω)<br>at 20°C<br>100KHz<br>阻抗值 | Ripple current<br>(mA rms) at<br>105°C 100KHz<br>紋波電流 |
| 2200                   | 222 | 16 x 16.5                  | 0.08           | 1260          |                            |                |               |                                           |                                           |                                                       |

| WV<br>Code<br>代碼<br>μF |     | 63          |      |     | 80        |     |     | 100                            |                                           |                                                       |
|------------------------|-----|-------------|------|-----|-----------|-----|-----|--------------------------------|-------------------------------------------|-------------------------------------------------------|
|                        |     | 1J          |      |     | 1K        |     |     | 2A                             |                                           |                                                       |
| 10                     | 100 | 6.3 x 7.7   | 1.5  | 95  |           |     |     | 6.3 x 7.7                      | 4.0                                       | 65                                                    |
| 22                     | 220 | 6.3 x 7.7   | 1.0  | 130 | 6.3 x 7.7 | 2.0 | 130 | 8 x 10.5                       | 2.0                                       |                                                       |
| 47                     | 470 | 8 x 10.5    | 0.65 | 250 |           |     |     | 10 x 10.5                      | 1.0                                       | 140                                                   |
| 100                    | 470 | 10 x 10.5   | 0.50 | 430 |           |     |     | 12.5 x 13.5                    | 0.60                                      | 500                                                   |
| 220                    | 680 | 12.5 x 13.5 | 0.30 | 550 |           |     |     | Case size<br>ØD x L (mm)<br>尺寸 | Impedance (Ω)<br>at 20°C<br>100KHz<br>阻抗值 | Ripple current<br>(mA rms) at<br>105°C 100KHz<br>紋波電流 |
|                        |     |             |      |     |           |     |     |                                |                                           |                                                       |

## □ FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT 紋波電流頻率補償系數

| Frequency 頻率      |             |               | 50Hz | 120Hz | 300Hz | 1KHz | 10KHz~ |
|-------------------|-------------|---------------|------|-------|-------|------|--------|
| Coefficient<br>系數 | Ø4 ~ Ø10    | 1 ~ 68μF      | 0.35 | 0.50  | 0.64  | 0.83 | 1.00   |
|                   |             | 100 ~ 2200μF  | 0.40 | 0.55  | 0.70  | 0.85 | 1.00   |
|                   | Ø12.5 ~ Ø16 | ~ 680μF       | 0.45 | 0.65  | 0.80  | 0.90 | 1.00   |
|                   |             | 1000 ~ 4700μF | 0.65 | 0.85  | 0.95  | 0.98 | 1.00   |

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