

VEU Series

Features

- $4\phi \sim 18\phi$, 105°C, 3,000 ~ 5,000 hours assured
- Long life assured
- Designed for surface mounting on high density PC board
- RoHS Compliance



Marking color: Black

Specifications

| Items | Performance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|----------------|---|--------------------|------------------------------|--------|-----------------------------------|-----------------|------------------------|------|------|-------------------|-----------|-------------------|------|------|------|------|------|------|------|---|---|-------|-------------------|----|---|---|---|---|---|---|---|---|
| Category Temperature Range | -55°C ~ +105°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Tolerance | ±20% (at 120Hz, 20°C) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current (at 20°C) | $I = 0.01CV$ or 3 (μA) whichever is greater (after 2 minutes) Where, C = rated capacitance in μF V = rated DC working voltage in V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tanδ (at 120Hz, 20°C) | <table border="1"> <thead> <tr> <th>Rated Voltage</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>Tanδ (max)</td> <td>0.30</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.13</td> <td>0.12</td> <td>0.09</td> <td>0.08</td> <td>0.07</td> </tr> </tbody> </table> | Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 | Tanδ (max) | 0.30 | 0.24 | 0.20 | 0.16 | 0.13 | 0.12 | 0.09 | 0.08 | 0.07 | | | | | | | | | | | | | |
| Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tanδ (max) | 0.30 | 0.24 | 0.20 | 0.16 | 0.13 | 0.12 | 0.09 | 0.08 | 0.07 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Temperature Characteristics (at 120Hz) | <p>Impedance ratio shall not exceed the values given in the table below.</p> <table border="1"> <thead> <tr> <th colspan="2">Rated Voltage</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>Impedance</td> <td>Z(-25°C)/Z(+20°C)</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Ratio</td> <td>Z(-55°C)/Z(+20°C)</td> <td>10</td> <td>7</td> <td>5</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </tbody> </table> | Rated Voltage | | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 | Impedance | Z(-25°C)/Z(+20°C) | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | Ratio | Z(-55°C)/Z(+20°C) | 10 | 7 | 5 | 3 | 3 | 3 | 3 | 3 | 3 |
| Rated Voltage | | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 | | | | | | | | | | | | | | | | | | | | | | | | |
| Impedance | Z(-25°C)/Z(+20°C) | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ratio | Z(-55°C)/Z(+20°C) | 10 | 7 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| Endurance | <table border="1"> <tbody> <tr> <td>Test Time</td> <td>3,000 Hrs for $\phi D \leq 10$ mm; 5,000 Hrs for $\phi D \geq 12.5$ mm</td> </tr> <tr> <td>Capacitance Change</td> <td>Within ±30% of initial value</td> </tr> <tr> <td>Tanδ</td> <td>Less than 300% of specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Within specified value</td> </tr> </tbody> </table> <p>* The above Specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 3,000 ~ 5,000 hours at 105°C.</p> | Test Time | 3,000 Hrs for $\phi D \leq 10$ mm; 5,000 Hrs for $\phi D \geq 12.5$ mm | Capacitance Change | Within ±30% of initial value | Tanδ | Less than 300% of specified value | Leakage Current | Within specified value | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test Time | 3,000 Hrs for $\phi D \leq 10$ mm; 5,000 Hrs for $\phi D \geq 12.5$ mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Change | Within ±30% of initial value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tanδ | Less than 300% of specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current | Within specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shelf Life Test | <table border="1"> <tbody> <tr> <td>Test Time</td> <td>1,000 Hrs</td> </tr> <tr> <td>Capacitance Change</td> <td>Within ±30% of initial value</td> </tr> <tr> <td>Tanδ</td> <td>Less than 300% of specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Within specified value</td> </tr> </tbody> </table> <p>* The above Specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied.</p> | Test Time | 1,000 Hrs | Capacitance Change | Within ±30% of initial value | Tanδ | Less than 300% of specified value | Leakage Current | Within specified value | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test Time | 1,000 Hrs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Change | Within ±30% of initial value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tanδ | Less than 300% of specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current | Within specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ripple Current & Frequency Multipliers | <table border="1"> <thead> <tr> <th>Frequency (Hz)</th> <th>50</th> <th>120</th> <th>1k</th> <th>10k up</th> </tr> </thead> <tbody> <tr> <td>Cap.(μF) Under 1,000</td> <td>0.70</td> <td>1.00</td> <td>1.30</td> <td>1.40</td> </tr> <tr> <td>1,000 < C ≤ 1,500</td> <td>0.85</td> <td>1.00</td> <td>1.13</td> <td>1.15</td> </tr> </tbody> </table> | Frequency (Hz) | 50 | 120 | 1k | 10k up | Cap.(μF) Under 1,000 | 0.70 | 1.00 | 1.30 | 1.40 | 1,000 < C ≤ 1,500 | 0.85 | 1.00 | 1.13 | 1.15 | | | | | | | | | | | | | | | | | | |
| Frequency (Hz) | 50 | 120 | 1k | 10k up | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cap.(μF) Under 1,000 | 0.70 | 1.00 | 1.30 | 1.40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,000 < C ≤ 1,500 | 0.85 | 1.00 | 1.13 | 1.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Diagram of Dimensions

Fig. 1

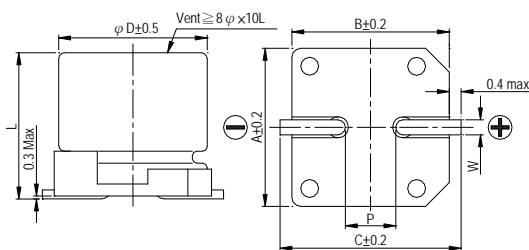
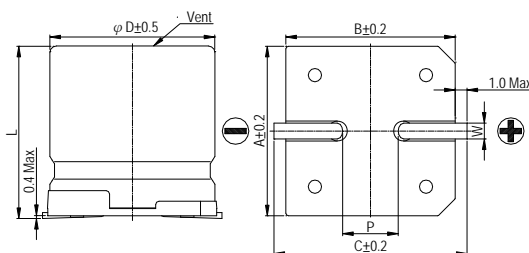


Fig. 2



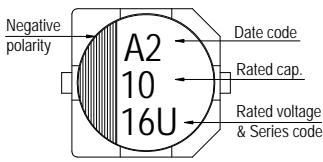
Lead Spacing and Diameter

Unit: mm

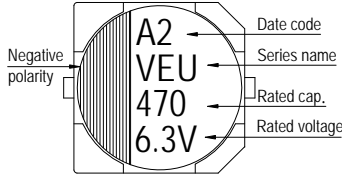
| φ D | L | A | B | C | W | P ± 0.2 | Fig. No. |
|------|------------|------|------|------|-----------|---------|----------|
| 4 | 5.7 ± 0.3 | 4.3 | 4.3 | 5.1 | 0.5 ~ 0.8 | 1.0 | 1 |
| 5 | 5.7 ± 0.3 | 5.3 | 5.3 | 5.9 | 0.5 ~ 0.8 | 1.5 | 1 |
| 6.3 | 5.7 ± 0.3 | 6.6 | 6.6 | 7.2 | 0.5 ~ 0.8 | 2.0 | 1 |
| 6.3 | 7.7 ± 0.3 | 6.6 | 6.6 | 7.2 | 0.5 ~ 0.8 | 2.0 | 1 |
| 8 | 10 ± 0.5 | 8.4 | 8.4 | 9.0 | 0.7 ~ 1.1 | 3.1 | 1 |
| 10 | 10 ± 0.5 | 10.4 | 10.4 | 11.0 | 0.7 ~ 1.3 | 4.7 | 1 |
| 12.5 | 13.5 ± 0.5 | 13.0 | 13.0 | 13.7 | 1.1 ~ 1.4 | 4.4 | 2 |
| 12.5 | 16 ± 0.5 | 13.0 | 13.0 | 13.7 | 1.1 ~ 1.4 | 4.4 | 2 |
| 16 | 16.5 ± 0.5 | 17.0 | 17.0 | 18.0 | 1.1 ~ 1.4 | 6.4 | 2 |
| 18 | 16.5 ± 0.5 | 19.0 | 19.0 | 20.0 | 1.1 ~ 1.4 | 6.4 | 2 |

Marking

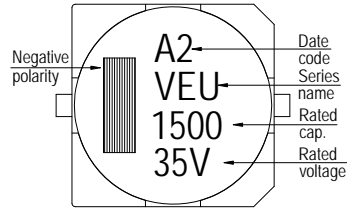
$\phi D \leq 6.3\text{mm}$



$\phi D = 8 \sim 10 \text{ mm}$



$\phi D \geq 12.5\text{mm}$



Dimension & Permissible Ripple Current

Dimension: $\phi D \times L(\text{mm})$

Ripple Current: mA/rms at 120 Hz, 105°C

| V _{DC} μF | Contents | 6.3V (0J) | | 10V (1A) | | 16V (1C) | | 25V (1E) | | 35V (1V) | | 50V (1H) | | 63V (1J) | | 80V (1K) | |
|----------------------------------|----------|-------------------|-----|-------------------|-----|-------------------|-----|-------------------|-----|-------------------|-----|-------------------|-----|-------------------|-----|-------------------|-----|
| | | $\phi D \times L$ | mA | $\phi D \times L$ | mA | $\phi D \times L$ | mA | $\phi D \times L$ | mA | $\phi D \times L$ | mA | $\phi D \times L$ | mA | $\phi D \times L$ | mA | $\phi D \times L$ | mA |
| 1 | 010 | | | | | | | | | | | 4×5.7 | 8 | | | | |
| 2.2 | 2R2 | | | | | | | | | | | 4×5.7 | 12 | | | | |
| 3.3 | 3R3 | | | | | | | | | | | 4×5.7 | 17 | | | | |
| 4.7 | 4R7 | | | | | | | | | 4×5.7 | 16 | 5×5.7 | 22 | | | | |
| 10 | 100 | | | | | 4×5.7 | 18 | 5×5.7 | 27 | 5×5.7 | 27 | 6.3×5.7 | 32 | | | | |
| 22 | 220 | 4×5.7 | 22 | 4×5.7 | 30 | 5×5.7 | 30 | 6.3×5.7 | 44 | 6.3×5.7 | 44 | 6.3×7.7 | 58 | | | | |
| 33 | 330 | 5×5.7 | 35 | 5×5.7 | 35 | 6.3×5.7 | 48 | 6.3×5.7 | 50 | 6.3×7.7 | 57 | 8×10 | 130 | | | | |
| 47 | 470 | 5×5.7 | 38 | 6.3×5.7 | 50 | 6.3×5.7 | 50 | 6.3×7.7 | 63 | 8×10 | 92 | 8×10 | 141 | | | | |
| 100 | 101 | 6.3×5.7 | 69 | 6.3×7.7 | 81 | 6.3×7.7 | 81 | 8×10 | 116 | 10×10 | 151 | 10×10 | 310 | | | 12.5×13.5 | 220 |
| 150 | 151 | | | | | | | | | | | | | 12.5×13.5 | 240 | 12.5×16 | 290 |
| 220 | 221 | 6.3×7.7 | 120 | 8×10 | 141 | 8×10 | 141 | 10×10 | 290 | 10×10 | 320 | 12.5×13.5 | 280 | 12.5×16 | 320 | 16×16.5 | 410 |
| 330 | 331 | 8×10 | 290 | 10×10 | 290 | 10×10 | 290 | 10×10 | 320 | 12.5×13.5 | 320 | 12.5×16 | 360 | 16×16.5 | 450 | 16×16.5 | 510 |
| 470 | 471 | 10×10 | 320 | 10×10 | 320 | 10×10 | 320 | | | 12.5×16 | 410 | 16×16.5 | 510 | 16×16.5 | 540 | 18×16.5 | 650 |
| 1,000 | 102 | 10×10 | 410 | | | | | | | 16×16.5 | 690 | 18×16.5 | 780 | | | | |
| 1,500 | 152 | | | | | | | | | 18×16.5 | 900 | | | | | | |

| V _{DC} μF | Contents | $\phi D \times L$ | mA |
|----------------------------------|----------|-------------------|-----|
| 68 | 680 | 12.5×13.5 | 180 |
| 100 | 101 | 12.5×16 | 240 |
| 150 | 151 | 16×16.5 | 340 |
| 220 | 221 | 16×16.5 | 410 |
| 330 | 331 | 18×16.5 | 540 |

Part Numbering System

VEU series 470 μF $\pm 20\%$ 6.3V Carrier Tape 10 $\phi \times 10\text{L}$ Pb-free and PET coating case

VEU **471** **M** **0J** **TR** - **1010**

Series name Capacitance Capacitance Tolerance Rated Voltage Package Type Terminal Type Case size Lead Wire and Coating Type

Note: For more details, please refer to "Part Numbering System (SMD Type)" on page 12.

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкуренеспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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