

RJA Series

Features

- 105°C, wide temperature range
- Suitable for high reliability products
- RoHS Compliance

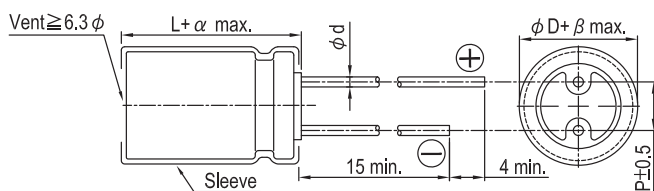


Sleeve & Marking Color: Deep Purple & White

Specifications

| Items | Performance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|-----------------------------------|---------------|--------------------|------------------------------|------------------------------|-----------------------------------|-----------------------------------|------------------------|------------------------|-----|------------|-----------------|-----------|----------|------|------|------|------|-----------------|------|------|-----------|----------|------|----------------|------|------|------|------|------|--------------|----------|---|---|---|---|---|---|---|-----------|----------|----|---|---|---|---|---|---|
| Category Temperature Range | 6.3 ~ 63V | 100V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | -55°C ~ +105°C | -40°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 120 Hz, 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>100</th> </tr> </thead> <tbody> <tr> <td>Tanδ (max)</td> <td>0.23</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.09</td> <td>0.08</td> </tr> </tbody> </table> | | Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | Tanδ (max) | 0.23 | 0.20 | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | 0.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Rated Voltage | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tanδ (max) | 0.23 | 0.20 | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | 0.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| When the capacitance exceeds 1,000µF, 0.02 shall be added every 1,000µF increase. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Temperature Characteristics (at 120Hz) | Impedance ratio shall not exceed the values given in the table below. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <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>100</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Impedance Ratio</td> <td>Z(-25°C)</td> <td>φ D < 16</td> <td>4</td> <td>3</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>/Z(+20°C)</td> <td>φ D ≥ 16</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>3</td> </tr> <tr> <td>Z(-40/-55°C)</td> <td>φ D < 16</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> </tr> <tr> <td>/Z(+20°C)</td> <td>φ D ≥ 16</td> <td>12</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>6</td> </tr> </tbody> </table> | | Rated Voltage | | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | Impedance Ratio | Z(-25°C) | φ D < 16 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | /Z(+20°C) | φ D ≥ 16 | 5 | 4 | 3 | 2 | 2 | 2 | 3 | Z(-40/-55°C) | φ D < 16 | 8 | 6 | 4 | 4 | 4 | 3 | 3 | /Z(+20°C) | φ D ≥ 16 | 12 | 8 | 6 | 4 | 3 | 3 | 6 |
| | Rated Voltage | | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Impedance Ratio | Z(-25°C) | φ D < 16 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| /Z(+20°C) | | φ D ≥ 16 | 5 | 4 | 3 | 2 | 2 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z(-40/-55°C) | | φ D < 16 | 8 | 6 | 4 | 4 | 4 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| /Z(+20°C) | | φ D ≥ 16 | 12 | 8 | 6 | 4 | 3 | 3 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Test Time | 2,000 Hrs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacitance Change | Within ±20% of initial value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tanδ | Less than 200% of specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current | Within specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| * The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied with rated ripple current for 2,000 hours at 105°C. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shelf Life Test | <table border="1"> <thead> <tr> <th>Test Time</th> <th>1,000 Hrs</th> </tr> </thead> <tbody> <tr> <td>Capacitance Change</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>Tanδ</td> <td>Less than 200% of specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Within specified value</td> </tr> </tbody> </table> | | Test Time | 1,000 Hrs | Capacitance Change | Within ±20% of initial value | Tanδ | Less than 200% of specified value | Leakage Current | Within specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Test Time | 1,000 Hrs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Capacitance Change | Within ±20% of initial value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Tanδ | Less than 200% of specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leakage Current | Within specified value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| * 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. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ripple Current and Frequency Multipliers | <table border="1"> <thead> <tr> <th rowspan="2">Cap.(µF)</th> <th colspan="5">Freq.(Hz)</th> </tr> <tr> <th>60 (50)</th> <th>120</th> <th>500</th> <th>1k</th> <th>10k up</th> </tr> </thead> <tbody> <tr> <td>Under 100</td> <td>0.70</td> <td>1.00</td> <td>1.30</td> <td>1.40</td> <td>1.50</td> </tr> <tr> <td>100 < C ≤ 1,000</td> <td>0.75</td> <td>1.00</td> <td>1.20</td> <td>1.30</td> <td>1.35</td> </tr> <tr> <td>1,000 up above</td> <td>0.80</td> <td>1.00</td> <td>1.10</td> <td>1.12</td> <td>1.15</td> </tr> </tbody> </table> | | Cap.(µF) | Freq.(Hz) | | | | | 60 (50) | 120 | 500 | 1k | 10k up | Under 100 | 0.70 | 1.00 | 1.30 | 1.40 | 1.50 | 100 < C ≤ 1,000 | 0.75 | 1.00 | 1.20 | 1.30 | 1.35 | 1,000 up above | 0.80 | 1.00 | 1.10 | 1.12 | 1.15 | | | | | | | | | | | | | | | | | | |
| | Cap.(µF) | Freq.(Hz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 60 (50) | 120 | 500 | 1k | 10k up | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Under 100 | 0.70 | 1.00 | 1.30 | 1.40 | 1.50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 < C ≤ 1,000 | 0.75 | 1.00 | 1.20 | 1.30 | 1.35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,000 up above | 0.80 | 1.00 | 1.10 | 1.12 | 1.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Diagram of Dimensions



Lead Spacing and Diameter

| | Unit: mm | | | | | | |
|-----|--------------------------|-----|-----|-----|------|-----|-----|
| φ D | 5 | 6.3 | 8 | 10 | 12.5 | 16 | 18 |
| P | 2.0 | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 | 7.5 |
| φ d | 0.5 | | 0.6 | | 0.8 | | |
| α | L < 20: 1.5, L ≥ 20: 2.0 | | | | | | |
| β | 0.5 | | | | | | |



Dimension: $\phi D \times L$ (mm)

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

Dimension and Permissible Ripple Current

| Cap. (μF) | Rated Volt. (V _{DC}) Contents | 6.3V (0J) | | 10V (1A) | | 16V (1C) | | 25V (1E) | | 35V (1V) | | 50V (1H) | | 63V (1J) | | 100V (2A) | |
|------------------|--|-------------------|-------|-------------------|------------|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|------------|--------------------|------------|-------------------|------------|
| | | $\phi D \times L$ | 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 |
| 2.2 | 2R2 | | | | | | | | | | | 5×11 | 20 | | | 5×11 | 26 |
| 3.3 | 3R3 | | | | | | | | | | | 5×11 | 30 | | | 5×11 | 31 |
| 4.7 | 4R7 | | | | | | | | | | | 5×11 | 33 | 5×11 | 36 | 6.3×11 | 40 |
| 10 | 100 | | | | | | | | | | | 5×11 | 50 | 5×11 | 54 | 6.3×11 | 54 |
| 22 | 220 | | | | | | | | | | | 5×11 | 78 | 6.3×11 | 86 | 6.3×11 8×11.5 | 93 111 |
| 33 | 330 | | | | | | | | | 5×11 | 85 | 5×11 | 90 | 6.3×11 | 100 | 8×11.5 10×12.5 | 144 183 |
| 47 | 470 | | | | | | | 5×11 | 97 | 5×11 | 90 | 6.3×11 | 117 | 6.3×11 | 129 | 10×12.5 | 204 |
| 100 | 101 | | | | | 5×11 | 110 | 6.3×11 | 142 | 6.3×11 | 150 | 8×11.5 | 188 | 10×12.5 | 235 | 10×20 | 285 |
| 220 | 221 | | | 5×11 | 150 | 6.3×11 | 180 | 8×11.5 | 236 | 8×11.5 | 270 | 10×16 | 335 | 10×20 | 400 | 12.5×25 | 440 |
| 330 | 331 | | | 6.3×11 | 200 | 8×11.5 | 260 | 8×11.5 | 330 | 10×12.5 | 350 | 10×16 10×20 | 410 460 | 10×20 12.5×20 | 490 520 | 16×25 | 478 |
| 470 | 471 | 6.3×11 | 230 | 6.3×11 8×11.5 | 250 290 | 8×11.5 | 310 | 10×12.5 | 380 | 10×16 | 460 | 12.5×20 | 590 | 12.5×20 12.5×25 | 665 720 | 16×31.5 | 688 |
| 1,000 | 102 | 8×11.5 | 380 | 10×12.5 | 460 | 10×16 | 560 | 10×20 | 680 | 12.5×20 | 830 | 16×25 | 1,080 | 16×25 | 1,190 | | |
| 2,200 | 222 | 10×16 | 690 | 10×20 | 760 | 12.5×20 | 920 | 12.5×25 | 1,090 | 16×25 | 1,260 | 16×35.5 | 1,470 | | | | |
| 3,300 | 332 | 10×20 | 840 | 12.5×20 | 1,100 | 12.5×25 | 1,170 | 16×25 | 1,400 | 16×35.5 | 1,610 | 18×35.5 | 1,650 | | | | |
| 4,700 | 472 | 12.5×20 | 1,090 | 12.5×25 | 1,260 | 16×25 | 1,480 | 16×31.5 | 1,710 | 18×35.5 | 1,900 | | | | | | |
| 6,800 | 682 | 12.5×25 | 1,460 | 16×25 | 1,690 | 16×31.5 | 1,930 | 18×35.5 | 2,160 | | | | | | | | |
| 10,000 | 103 | 16×25 | 1,990 | 16×31.5 | 2,220 | 18×31.5 | 2,330 | | | | | | | | | | |
| 22,000 | 223 | 18×35.5 | 2,930 | 18×40 | 3,230 | | | | | | | | | | | | |

Part Numbering System

| | | | | | | | |
|-------------|-------------|-----------------------|---------------|------------------------------|-------------|-----------------------|---------------------------|
| RJA Series | 470 μF | $\pm 20\%$ | 6.3V | Bulk Package | Gas Type | 6.3 $\phi \times 11L$ | Pb-free and PET sleeve |
| RJA | 471 | M | 0J | BK | - | 0611 | |
| Series Name | Capacitance | Capacitance Tolerance | Rated Voltage | Lead Configuration & Package | Rubber Type | Case Size | Lead Wire and Sleeve type |

Note: For more details, please refer to "Part Numbering System (Radial Type)" on page 13.

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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