



## SG Series

### Features

- 105°C, 1,000 hours assured
- High temperature Category range, with 7mm height
- RoHS Compliance

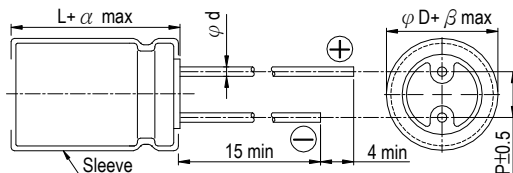


Sleeve & Marking Color: Green & Black

### Specifications

|                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      |      |      |        |      |      |      |    |  |                                 |           |                    |                              |      |                                   |                 |                        |      |            |                 |                 |            |      |      |      |      |      |   |   |                 |    |    |   |   |   |   |   |   |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|--------|------|------|------|----|--|---------------------------------|-----------|--------------------|------------------------------|------|-----------------------------------|-----------------|------------------------|------|------------|-----------------|-----------------|------------|------|------|------|------|------|---|---|-----------------|----|----|---|---|---|---|---|---|
| Items                                      | Performance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |      |      |        |      |      |      |    |  |                                 |           |                    |                              |      |                                   |                 |                        |      |            |                 |                 |            |      |      |      |      |      |   |   |                 |    |    |   |   |   |   |   |   |
| Category Temperature Range                 | -40℃ ~ +105℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |      |      |        |      |      |      |    |  |                                 |           |                    |                              |      |                                   |                 |                        |      |            |                 |                 |            |      |      |      |      |      |   |   |                 |    |    |   |   |   |   |   |   |
| Capacitance Tolerance                      | ±20% (at 120Hz, 20℃)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |      |      |        |      |      |      |    |  |                                 |           |                    |                              |      |                                   |                 |                        |      |            |                 |                 |            |      |      |      |      |      |   |   |                 |    |    |   |   |   |   |   |   |
| Leakage Current (at 20℃)                   | I = 0.01CV or 3 (μA) whichever is greater (after 2 minutes)<br>Where, C = rated capacitance in μF    V = rated DC working voltage in V                                                                                                                                                                                                                                                                                                                                                                  |      |      |      |        |      |      |      |    |  |                                 |           |                    |                              |      |                                   |                 |                        |      |            |                 |                 |            |      |      |      |      |      |   |   |                 |    |    |   |   |   |   |   |   |
| Tanδ (at 120Hz, 20℃)                       | <table><tr><td>Rated Voltage</td><td>4</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td></tr><tr><td>Tanδ (max)</td><td>0.35</td><td>0.23</td><td>0.20</td><td>0.17</td><td>0.15</td><td>0.12</td><td>0.10</td><td>0.10</td></tr></table>                                                                                                                                                                                                                              |      |      |      |        |      |      |      |    |  | Rated Voltage                   | 4         | 6.3                | 10                           | 16   | 25                                | 35              | 50                     | 63   | Tanδ (max) | 0.35            | 0.23            | 0.20       | 0.17 | 0.15 | 0.12 | 0.10 | 0.10 |   |   |                 |    |    |   |   |   |   |   |   |
| Rated Voltage                              | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 6.3  | 10   | 16   | 25     | 35   | 50   | 63   |    |  |                                 |           |                    |                              |      |                                   |                 |                        |      |            |                 |                 |            |      |      |      |      |      |   |   |                 |    |    |   |   |   |   |   |   |
| Tanδ (max)                                 | 0.35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.23 | 0.20 | 0.17 | 0.15   | 0.12 | 0.10 | 0.10 |    |  |                                 |           |                    |                              |      |                                   |                 |                        |      |            |                 |                 |            |      |      |      |      |      |   |   |                 |    |    |   |   |   |   |   |   |
| Low Temperature Characteristics (at 120Hz) | <p>Impedance ratio shall not exceed the values given in the table below.</p> <table><tr><td colspan="2">Rated Voltage</td><td>4</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td></tr><tr><td rowspan="2">Impedance Ratio</td><td>Z(-25℃)/Z(+20℃)</td><td>6</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(-40℃)/Z(+20℃)</td><td>12</td><td>10</td><td>8</td><td>6</td><td>4</td><td>4</td><td>4</td><td>4</td></tr></table> |      |      |      |        |      |      |      |    |  | Rated Voltage                   |           | 4                  | 6.3                          | 10   | 16                                | 25              | 35                     | 50   | 63         | Impedance Ratio | Z(-25℃)/Z(+20℃) | 6          | 4    | 3    | 3    | 2    | 2    | 2 | 2 | Z(-40℃)/Z(+20℃) | 12 | 10 | 8 | 6 | 4 | 4 | 4 | 4 |
| Rated Voltage                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 4    | 6.3  | 10   | 16     | 25   | 35   | 50   | 63 |  |                                 |           |                    |                              |      |                                   |                 |                        |      |            |                 |                 |            |      |      |      |      |      |   |   |                 |    |    |   |   |   |   |   |   |
| Impedance Ratio                            | Z(-25℃)/Z(+20℃)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 6    | 4    | 3    | 3      | 2    | 2    | 2    | 2  |  |                                 |           |                    |                              |      |                                   |                 |                        |      |            |                 |                 |            |      |      |      |      |      |   |   |                 |    |    |   |   |   |   |   |   |
|                                            | Z(-40℃)/Z(+20℃)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 12   | 10   | 8    | 6      | 4    | 4    | 4    | 4  |  |                                 |           |                    |                              |      |                                   |                 |                        |      |            |                 |                 |            |      |      |      |      |      |   |   |                 |    |    |   |   |   |   |   |   |
| Endurance                                  | <table><tr><td>Test Time</td><td>1,000 Hrs</td></tr><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></table> <p>* The above Specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied with rated ripple current for 1,000 hours at 105℃.</p>                                                   |      |      |      |        |      |      |      |    |  | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |      |      |        |      |      |      |    |  |                                 |           |                    |                              |      |                                   |                 |                        |      |            |                 |                 |            |      |      |      |      |      |   |   |                 |    |    |   |   |   |   |   |   |
| Shelf Life Test                            | Test time: 500 hours; other items are the same as those for the Endurance.                                                                                                                                                                                                                                                                                                                                                                                                                              |      |      |      |        |      |      |      |    |  |                                 |           |                    |                              |      |                                   |                 |                        |      |            |                 |                 |            |      |      |      |      |      |   |   |                 |    |    |   |   |   |   |   |   |
| Ripple Current & Frequency Multipliers     | <table><tr><td><div>Cap.(μF) \ Freq.(Hz)</div></td><td>60 (50)</td><td>120</td><td>500</td><td>1k</td><td>10k up</td></tr><tr><td>Under 47</td><td>0.75</td><td>1.00</td><td>1.20</td><td>1.30</td><td>1.45</td></tr><tr><td>100 to 330</td><td>0.88</td><td>1.00</td><td>1.10</td><td>1.15</td><td>1.20</td></tr></table>                                                                                                                                                                              |      |      |      |        |      |      |      |    |  | <div>Cap.(μF) \ Freq.(Hz)</div> | 60 (50)   | 120                | 500                          | 1k   | 10k up                            | Under 47        | 0.75                   | 1.00 | 1.20       | 1.30            | 1.45            | 100 to 330 | 0.88 | 1.00 | 1.10 | 1.15 | 1.20 |   |   |                 |    |    |   |   |   |   |   |   |
| <div>Cap.(μF) \ Freq.(Hz)</div>            | 60 (50)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 120  | 500  | 1k   | 10k up |      |      |      |    |  |                                 |           |                    |                              |      |                                   |                 |                        |      |            |                 |                 |            |      |      |      |      |      |   |   |                 |    |    |   |   |   |   |   |   |
| Under 47                                   | 0.75                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.00 | 1.20 | 1.30 | 1.45   |      |      |      |    |  |                                 |           |                    |                              |      |                                   |                 |                        |      |            |                 |                 |            |      |      |      |      |      |   |   |                 |    |    |   |   |   |   |   |   |
| 100 to 330                                 | 0.88                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.00 | 1.10 | 1.15 | 1.20   |      |      |      |    |  |                                 |           |                    |                              |      |                                   |                 |                        |      |            |                 |                 |            |      |      |      |      |      |   |   |                 |    |    |   |   |   |   |   |   |

### Diagram of Dimensions



#### Lead Spacing and Diameter

Unit: mm

|          |      |     |     |     |
|----------|------|-----|-----|-----|
| $\phi D$ | 4    | 5   | 6.3 | 8   |
| P        | 1.5  | 2.0 | 2.5 | 3.5 |
| $\phi d$ | 0.45 | 0.5 |     |     |
| $\alpha$ | 1.0  |     |     |     |
| $\beta$  | 0.5  |     |     |     |

### Dimension & Permissible Ripple Current

Dimension: φ D × L(mm)

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

| V. DC |          | 4V (0G) |     | 6.3V (0J) |     | 10V (1A) |     | 16V (1C) |     | 25V (1E) |     | 35V (1V) |    | 50V (1H) |    | 63V (1J) |    |
|-------|----------|---------|-----|-----------|-----|----------|-----|----------|-----|----------|-----|----------|----|----------|----|----------|----|
| μF    | Contents | φ D×L   | mA  | φ D×L     | mA  | φ D×L    | mA  | φ D×L    | mA  | φ D×L    | mA  | φ D×L    | mA | φ D×L    | mA | φ D×L    | mA |
| 1     | 010      |         |     |           |     |          |     |          |     |          |     |          |    | 4×7      | 10 | 4×7      | 11 |
| 2.2   | 2R2      |         |     |           |     |          |     |          |     |          |     |          |    | 4×7      | 15 | 4×7      | 17 |
| 3.3   | 3R3      |         |     |           |     |          |     |          |     |          |     |          |    | 4×7      | 18 | 4×7      | 21 |
| 4.7   | 4R7      |         |     |           |     |          |     |          |     |          |     | 4×7      | 22 | 5×7*     | 23 | 5×7      | 26 |
| 10    | 100      |         |     |           |     |          |     | 4×7      | 25  | 4×7      | 26  | 5×7*     | 30 | 6.3×7*   | 34 | 6.3×7    | 40 |
| 22    | 220      |         |     | 4×7       | 31  | 4×7      | 32  | 5×7*     | 39  | 5×7*     | 41  | 6.3×7    | 47 | 6.3×7    | 53 | 8×7      | 70 |
| 33    | 330      | 4×7     | 32  | 4×7       | 32  | 4×7      | 35  | 5×7      | 43  | 6.3×7    | 53  | 8×7*     | 71 | 8×7      | 76 |          |    |
| 47    | 470      | 4×7     | 38  | 4×7       | 38  | 5×7*     | 47  | 6.3×7*   | 59  | 6.3×7    | 65  | 8×7      | 83 | 8×7      | 85 |          |    |
| 100   | 101      | 5×7     | 61  | 6.3×7*    | 75  | 6.3×7    | 80  | 6.3×7    | 90  | 8×7      | 125 |          |    |          |    |          |    |
| 220   | 221      | 6.3×7   | 90  | 6.3×7     | 99  | 8×7      | 140 | 8×7      | 146 |          |     |          |    |          |    |          |    |
| 330   | 331      | 8×7     | 156 | 8×7       | 156 |          |     |          |     |          |     |          |    |          |    |          |    |

Note: Case size in mark of "\*" is available to product down size.

### Part Numbering System

| SG series  | 330μF       | ±20%                  | 6.3V          | Bulk Package                 | Gas Type    | 8 φ ×7L     | Pb-free and PET sleeve    |
|------------|-------------|-----------------------|---------------|------------------------------|-------------|-------------|---------------------------|
| <b>SG-</b> | <b>331</b>  | <b>M</b>              | <b>0J</b>     | <b>BK</b>                    | -           | <b>0807</b> |                           |
| Series     | 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 10.



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

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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