

USG SERIES
85°C Miniaturized, Snap-in Terminal Type
◆FEATURES

- Load Life : 85°C 2000 hours.
- Smaller size than USC series.
- RoHS compliance.


◆SPECIFICATIONS

| Items | Characteristics | | | | | | | | | | | | | |
|---------------------------------|--|-------------|--------------------|-----------------------------------|--------------------|--|------------------|------------------------------------|---|----|------------------|----|--|--|
| Category Temperature Range | -40~+85°C | -25~+85°C | | | | | | | | | | | | |
| Rated Voltage Range | 160~250V.DC | 400~450V.DC | | | | | | | | | | | | |
| Capacitance Tolerance | ±20% (20°C, 120Hz) | | | | | | | | | | | | | |
| Leakage Current(MAX) | $I=3\sqrt{CV}$ (After 5 minutes application of rated voltage) I =Leakage Current(μA) V =Rated Voltage(V) C =Rated Capacitance(μF) | | | | | | | | | | | | | |
| Dissipation Factor(MAX) (tan δ) | 0.2 (20°C, 120Hz) | | | | | | | | | | | | | |
| Impedance Ratio(MAX) | <table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>160~250</th> <th>400</th> <th>420~450</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>4</td> <td>8</td> <td>12</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>12</td> <td></td> <td></td> </tr> </tbody> </table> (120Hz) | | Rated Voltage (V) | 160~250 | 400 | 420~450 | Z(-25°C)/Z(20°C) | 4 | 8 | 12 | Z(-40°C)/Z(20°C) | 12 | | |
| Rated Voltage (V) | 160~250 | 400 | 420~450 | | | | | | | | | | | |
| Z(-25°C)/Z(20°C) | 4 | 8 | 12 | | | | | | | | | | | |
| Z(-40°C)/Z(20°C) | 12 | | | | | | | | | | | | | |
| Endurance | After applying rated voltage with rated ripple current for 2000 hrs at 85°C, the capacitors shall meet the following requirements. <table border="1"> <tbody> <tr> <td>Capacitance Change</td> <td>Within ±20% of the initial value.</td> </tr> <tr> <td>Dissipation Factor</td> <td>Not more than 200% of the specified value.</td> </tr> <tr> <td>Leakage Current</td> <td>Not more than the specified value.</td> </tr> </tbody> </table> | | Capacitance Change | Within ±20% of the initial value. | Dissipation Factor | Not more than 200% of the specified value. | Leakage Current | Not more than the specified value. | | | | | | |
| Capacitance Change | Within ±20% of the initial value. | | | | | | | | | | | | | |
| Dissipation Factor | Not more than 200% of the specified value. | | | | | | | | | | | | | |
| Leakage Current | Not more than the specified value. | | | | | | | | | | | | | |

◆MULTIPLIER FOR RIPPLE CURRENT

Frequency coefficient

| Frequency (Hz) | 60(50) | 120 | 500 | 1k | 10k≤ |
|-----------------------|--------|------|------|------|------|
| Coefficient 160~250WV | 0.80 | 1.00 | 1.20 | 1.30 | 1.50 |
| Coefficient 400~450WV | 0.80 | 1.00 | 1.20 | 1.25 | 1.40 |

◆PART NUMBER

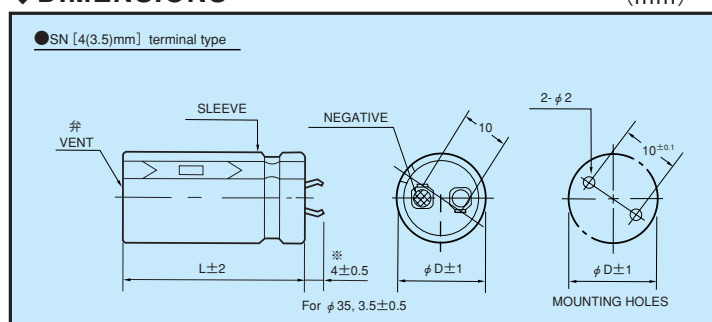
| | | | | | | |
|---------------|--------|-------------------|-----------------------|--------|---------------|-----------|
| □□□ | USG | □□□□□ | □ | OOE | SN | D×L |
| Rated Voltage | Series | Rated Capacitance | Capacitance Tolerance | Option | Terminal Code | Case Size |

◆Option

| | Code |
|---------------|-------|
| without plate | OOE |
| with plate | Blank |

◆DIMENSIONS

(mm)



◆ STANDARD SIZE, RATED RIPPLE CURRENT

| Cap (μ F) | WV ϕ D | 160 | | | | | 180 | | | | |
|-------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | ϕ 20 | ϕ 22 | ϕ 25 | ϕ 30 | ϕ 35 | ϕ 20 | ϕ 22 | ϕ 25 | ϕ 30 | ϕ 35 |
| 390 | | 20×25; 1.19 | | | | | 20×25; 1.84 | | | | |
| 470 | | 20×30; 1.76 | 22×25; 1.76 | | | | 20×30; 2.08 | 22×25; 2.08 | | | |
| 560 | | 20×30; 2.25 | 22×25; 2.25 | | | | 20×35; 2.25 | 22×30; 2.25 | | | |
| 680 | | 20×35; 2.50 | 22×30; 2.50 | 25×25; 2.50 | | | 20×40; 2.50 | 22×35; 2.50 | 25×25; 2.50 | | |
| 820 | | 20×40; 2.75 | 22×35; 2.75 | 25×30; 2.75 | | | 20×45; 2.75 | 22×40; 2.75 | 25×30; 2.75 | | |
| 1000 | | | 22×40; 3.00 | 25×30; 3.00 | 30×25; 3.00 | | | 22×45; 3.00 | 25×35; 3.00 | 30×25; 3.00 | |
| 1200 | | | 22×45; 3.25 | 25×35; 3.25 | 30×30; 3.25 | | | 22×50; 3.31 | 25×40; 3.31 | 30×30; 3.31 | 35×25; 3.31 |
| 1500 | | | | 25×45; 3.73 | 30×35; 3.73 | | | | 25×50; 3.83 | 30×35; 3.83 | 35×30; 3.83 |
| 1800 | | | | 25×50; 4.20 | 30×35; 4.20 | 35×30; 4.20 | | | | 30×40; 4.32 | 35×35; 4.32 |
| 2200 | | | | | 30×45; 4.78 | 35×35; 4.78 | | | | 30×50; 4.92 | 35×40; 4.92 |
| 2700 | | | | | 30×50; 5.45 | 35×40; 5.45 | | | | | 35×45; 5.52 |
| 3300 | | | | | | 35×45; 5.75 | | | | | |

| Cap (μ F) | WV ϕ D | 200 | | | | | 220 | | | | |
|-------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | ϕ 20 | ϕ 22 | ϕ 25 | ϕ 30 | ϕ 35 | ϕ 20 | ϕ 22 | ϕ 25 | ϕ 30 | ϕ 35 |
| 270 | | | | | | | 20×25; 1.42 | | | | |
| 330 | | 20×25; 1.44 | | | | | 20×30; 1.58 | 22×25; 1.58 | | | |
| 390 | | 20×30; 1.68 | 22×25; 1.68 | | | | 20×35; 1.75 | 22×30; 1.75 | | | |
| 470 | | 20×35; 1.93 | 22×30; 1.93 | 25×25; 1.93 | | | 20×35; 1.99 | 22×30; 1.99 | 25×25; 1.99 | | |
| 560 | | 20×35; 2.43 | 22×30; 2.43 | 25×25; 2.43 | | | 20×40; 2.28 | 22×35; 2.28 | 25×30; 2.28 | | |
| 680 | | 20×40; 2.68 | 22×35; 2.68 | 25×30; 2.68 | 30×25; 2.68 | | | 22×40; 2.46 | 25×30; 2.46 | 30×25; 2.46 | |
| 820 | | | 22×40; 2.93 | 25×30; 2.93 | 30×25; 2.93 | | | 22×45; 2.81 | 25×35; 2.81 | 30×30; 2.81 | |
| 1000 | | | 22×45; 3.25 | 25×35; 3.25 | 30×30; 3.25 | 35×25; 3.25 | | | 25×45; 3.29 | 30×30; 3.29 | |
| 1200 | | | | 25×45; 3.50 | 30×35; 3.50 | 35×30; 3.50 | | | 25×50; 3.60 | 30×35; 3.60 | 35×30; 3.60 |
| 1500 | | | | 25×50; 3.87 | 30×40; 3.87 | 35×30; 3.87 | | | | 30×45; 3.92 | 35×35; 3.92 |
| 1800 | | | | | 30×45; 4.32 | 35×35; 4.32 | | | | 30×50; 4.30 | 35×40; 4.30 |
| 2200 | | | | | 30×50; 4.92 | 35×40; 4.92 | | | | | 35×50; 4.95 |
| 2700 | | | | | | 35×50; 5.45 | | | | | |

| Cap (μ F) | WV ϕ D | 250 | | | | | 400 | | | | |
|-------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | ϕ 20 | ϕ 22 | ϕ 25 | ϕ 30 | ϕ 35 | ϕ 20 | ϕ 22 | ϕ 25 | ϕ 30 | ϕ 35 |
| 82 | | | | | | | 20×25; 0.80 | | | | |
| 100 | | | | | | | 20×30; 0.94 | 22×25; 0.94 | | | |
| 120 | | | | | | | 20×30; 1.08 | 22×25; 1.08 | | | |
| 150 | | | | | | | 20×35; 1.21 | 22×30; 1.21 | 25×25; 1.21 | | |
| 180 | | | | | | | 20×40; 1.45 | 22×35; 1.45 | 25×25; 1.45 | | |
| 220 | | 20×25; 1.23 | | | | | | 22×40; 1.58 | 25×30; 1.58 | 30×25; 1.58 | |
| 270 | | 20×30; 1.31 | 22×25; 1.31 | | | | | 22×45; 1.67 | 25×35; 1.67 | 30×25; 1.67 | |
| 330 | | 20×30; 1.75 | 22×25; 1.75 | | | | | 22×50; 1.90 | 25×40; 1.90 | 30×30; 1.90 | 35×25; 1.90 |
| 390 | | 20×35; 1.91 | 22×30; 1.91 | 25×25; 1.91 | | | | | 25×45; 2.13 | 30×35; 2.13 | 35×30; 2.13 |
| 470 | | 20×40; 2.11 | 22×35; 2.11 | 25×25; 2.11 | | | | | 25×50; 2.39 | 30×40; 2.39 | 35×30; 2.39 |
| 560 | | | 22×40; 2.25 | 25×30; 2.25 | 30×25; 2.25 | | | | | 30×45; 2.69 | 35×35; 2.69 |
| 680 | | | 22×45; 2.50 | 25×35; 2.50 | 30×30; 2.50 | | | | | | 35×40; 2.96 |
| 820 | | | | 25×40; 2.77 | 30×30; 2.77 | 35×25; 2.77 | | | | | 35×50; 3.25 |
| 1000 | | | | 25×45; 3.32 | 30×35; 3.32 | 35×30; 3.32 | | | | | |
| 1200 | | | | | 30×40; 3.84 | 35×35; 3.84 | | | | | |
| 1500 | | | | | 30×50; 4.25 | 35×40; 4.25 | | | | | |
| 1800 | | | | | | 35×45; 4.55 | | | | | |

| Cap (μ F) | WV ϕ D | 420 | | | | | 450 | | | | |
|-------------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | ϕ 20 | ϕ 22 | ϕ 25 | ϕ 30 | ϕ 35 | ϕ 20 | ϕ 22 | ϕ 25 | ϕ 30 | ϕ 35 |
| 68 | | | | | | | 20×25; 0.66 | | | | |
| 82 | | 20×25; 0.83 | | | | | 20×25; 0.83 | | | | |
| 100 | | 20×30; 0.97 | 22×25; 0.97 | | | | 20×30; 0.93 | 22×25; 0.93 | | | |
| 120 | | 20×30; 1.08 | 22×25; 1.08 | | | | 20×35; 1.04 | 22×30; 1.04 | 25×25; 1.04 | | |
| 150 | | 20×35; 1.30 | 22×30; 1.30 | 25×25; 1.30 | | | 20×40; 1.29 | 22×35; 1.29 | 25×25; 1.29 | | |
| 180 | | 20×40; 1.48 | 22×35; 1.48 | 25×30; 1.48 | | | | 22×40; 1.40 | 25×30; 1.40 | 30×25; 1.40 | |
| 220 | | | 22×40; 1.65 | 25×35; 1.65 | 30×25; 1.65 | | | 22×45; 1.66 | 25×35; 1.66 | 30×25; 1.66 | |
| 270 | | | 22×50; 1.94 | 25×35; 1.94 | 30×30; 1.94 | | | 22×50; 1.81 | 25×40; 1.81 | 30×30; 1.81 | 35×25; 1.81 |
| 330 | | | | 25×45; 2.17 | 30×35; 2.17 | 35×30; 2.17 | | | 25×45; 2.10 | 30×35; 2.10 | 35×30; 2.10 |
| 390 | | | | 25×50; 2.27 | 30×35; 2.27 | 35×30; 2.27 | | | | 30×40; 2.32 | 35×35; 2.32 |
| 470 | | | | | 30×40; 2.61 | 35×35; 2.61 | | | | 30×45; 2.66 | 35×40; 2.66 |
| 560 | | | | | 30×50; 2.82 | 35×40; 2.82 | | | | | 35×40; 2.82 |
| 680 | | | | | | 35×45; 3.11 | | | | | 35×50; 3.00 |

↑ Ripple Current (A r.m.s./120Hz, 85°C)
 Case Size ϕ D×L(mm)