

SE General Purpose Series

- Features: 105°C 1000 hours
- Features: For general purpose coupling, decoupling, by pass, and filtering circuit in entertainment electronics

SH

Long Life

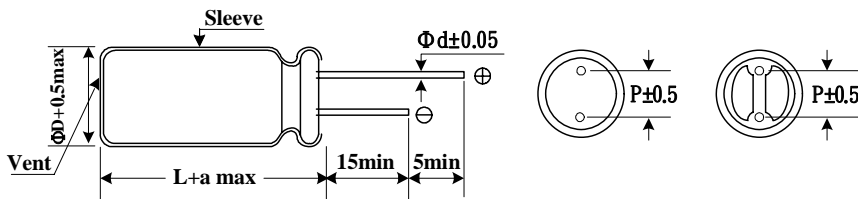
SE



Specifications

| Item | Characteristics | | | | | | | | | |
|---|---|---|------|--------------|------|-----------------|--------------|---------|---------|---------|
| Category Temperature Range | -40~+105°C | | | -40~+105°C | | | -25~+105°C | | | |
| Rated Voltage Range | 6.3 ~ 100V | | | 160 ~ 250V | | | 350 ~ 450V | | | |
| Rated Capacitance Range | 0.47 ~ 15000µF | | | 0.47 ~ 470µF | | | 0.47 ~ 150µF | | | |
| Capacitance Tolerance | ± 20 % at 120Hz, 20°C | | | | | | | | | |
| Leakage Current (MAX)(20°C) | I=0.01CV or 3(µA), whichever is greater. | | | | | I=0.03CV+10(µA) | | | | |
| | (After rated voltage applied for 2 minutes) | | | | | | | | | |
| Dissipation Factor (MAX) (tan δ) (120Hz, 20°C) | WV | 6.3 | 10 | 16 | 25 | 35 | 50 | 63~100 | 160~250 | 350~450 |
| | tan δ | 0.26 | 0.22 | 0.18 | 0.16 | 0.14 | 0.12 | 0.10 | 0.15 | 0.20 |
| | When nominal capacitance is over 1000 µF, tan δ shall be added 0.02 to the listed value with increase of every 1000 µF. | | | | | | | | | |
| Low Temperature Stability Impedance Ratio (MAX) | WV | 6.3 | 10 | 16 | 25 | 35~100 | 160~250 | 315~350 | 400~450 | |
| | Z(120Hz) | | | | | | | | | |
| | Z-25°C / Z+20°C | 8 | 6 | 5 | 3 | 3 | 7 | 10 | 15 | |
| | Z-40°C / Z+20°C | 10 | 8 | 6 | 4 | 3 | 7 | — | — | |
| Endurance | After applying rated voltage for 1000 hours at 105°C the capacitors shall meet the following requirements. | | | | | | | | | |
| | Capacitance Change | Within ± 20 % of initial value | | | | | | | | |
| | Dissipation Factor | Not more than 200% of the specified value | | | | | | | | |
| | Leakage Current | Not more than the specified value | | | | | | | | |
| Shelf Life | After leaving capacitors under no load at 105°C for 500 hours. the capacitors shall meet the same requirement as Endurance. | | | | | | | | | |

Diagram of Dimensions



| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|
| φ D | 5 | 6.3 | 8 | 10 | 12 | 13 | 16 | 18 | 22 |
| P | 2.0 | 2.5 | 3.5 | 5.0 | | | 7.5 | | 10.0 |
| φ d | 0.5 | 0.5 | 0.6 | 0.6 | | | 0.8 | | 0.8 (1.0) |
| a | 1.5 | 1.5 | 1.5 | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |

() : L ≥ 40

Multiplier for Ripple Current

Frequency coefficient

| Frequency (Hz) | 120 | 300 | 1K | 10K |
|----------------------------|------|------|------|------|
| 6.3 ~ 100V Below 68 µF | 1.00 | 1.20 | 1.30 | 1.45 |
| 6.3 ~ 100V 100 ~ 680 µF | 1.00 | 1.10 | 1.15 | 1.25 |
| 6.3 ~ 100V 1000 ~ 22000 µF | 1.00 | 1.05 | 1.10 | 1.15 |
| 160 ~ 450V ALL Cap (µF) | 1.00 | 1.05 | 1.10 | 1.50 |

■ Dimensions, Rated Ripple Current

| Capacitance (μ F) | Rated (Surge) Voltage | | | | | | | | | | | | | | |
|---------------------------|-----------------------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|----|
| | 6.3 (8) | | 10 (13) | | 16 (20) | | 25 (32) | | 35 (44) | | 50 (63) | | 63 (79) | | |
| | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | |
| 0.47 | | | | | | | | | | | | 5x11 | 7 | 5x11 | 8 |
| 1.0 | | | | | | | | | | | | 5x11 | 12 | 5x11 | 13 |
| 2.2 | | | | | | | | | | | | 5x11 | 18 | 5x11 | 20 |
| 3.3 | | | | | | | | | | | | 5x11 | 25 | 5x11 | 27 |
| 4.7 | | | | | | | 5x11 | 20 | 5x11 | 25 | 5x11 | 30 | 5x11 | 34 | |
| 6.8 | | | | | | | 5x11 | 25 | 5x11 | 30 | 5x11 | 32 | 5x11 | 37 | |
| 10 | | | | | 5x11 | 25 | 5x11 | 30 | 5x11 | 40 | 5x11 | 50 | 5x11 | 55 | |
| 15 | | | | | 5x11 | 40 | 5x11 | 45 | 5x11 | 50 | 5x11 | 60 | 5x11 | 65 | |
| 22 | | | 5x11 | 45 | 5x11 | 55 | 5x11 | 60 | 5x11 | 65 | 5x11 | 75 | 6.3x11 | 90 | |
| 33 | | | 5x11 | 60 | 5x11 | 70 | 5x11 | 75 | 5x11 | 85 | 6.3x11 | 105 | 6.3x11 | 110 | |
| | | | | | | | | | | | | | 8x11 | 120 | |
| 47 | 5x11 | 60 | 5x11 | 75 | 5x11 | 85 | 5x11 | 90 | 5x11 | 95 | 6.3x11 | 100 | 8x11 | 155 | |
| | | | | | | | | | | 6.3x11 | 115 | 8x11 | 125 | | |
| 68 | 5x11 | 75 | 5x11 | 80 | 5x11 | 100 | 6.3x11 | 125 | 8x11 | 130 | 8x11 | 159 | 10x12.5 | 198 | |
| 100 | 5x11 | 100 | 5x11 | 110 | 5x11 | 110 | 6.3x11 | 145 | 6.3x11 | 150 | 8x11 | 160 | 8x15 | 230 | |
| | | | | | 6.3x11 | 135 | | | 8x11 | 190 | 10x12.5 | 210 | 10x12.5 | 260 | |
| 150 | 5x11 | 120 | 5x11 | 110 | 8x11 | 180 | 8x11 | 200 | 10x12.5 | 240 | 10x12.5 | 289 | 10x16 | 330 | |
| | | | 6.3x11 | 130 | | | | | | | | | | | |
| 220 | 5x11 | 140 | 6.3x11 | 180 | 6.3x11 | 180 | 8x11 | 200 | 8x11 | 230 | 10x12.5 | 340 | 10x16 | 400 | |
| | 6.3x11 | 165 | | | 8x11 | 235 | 10x12.5 | 250 | 8x15 | 280 | 10x16 | 400 | 10x20 | 460 | |
| | | | | | | | | | 10x12.5 | 315 | | | | | |
| 330 | 6.3x11 | 160 | 6.3x11 | 205 | 8x11 | 285 | 8x11 | 265 | 8x15 | 345 | 10x16 | 450 | 10x20 | 520 | |
| | 8x11 | 200 | 8x11 | 255 | | | 8x15 | 320 | 8x20 | 420 | 10x20 | 535 | 13x20 | 650 | |
| | | | | | | | 10x12.5 | 355 | 10x12.5 | 380 | | | | | |
| | | | | | | | | | 10x16 | 440 | | | | | |
| 470 | 6.3x11 | 220 | 6.3x11 | 245 | 8x11 | 310 | 8x15 | 365 | 10x16 | 415 | 10x20 | 580 | 13x20 | 700 | |
| | 8x11 | 280 | 8x11 | 305 | 8x15 | 360 | 10x12.5 | 400 | 10x20 | 490 | 13x20 | 730 | 13x25 | 800 | |
| | | | | | 10x12.5 | 395 | 10x16 | 470 | 13x20 | 580 | | | | | |
| 680 | 8x11 | 255 | 8x11 | 335 | 10x12.5 | 455 | 10x20 | 650 | 13x20 | 730 | 13x25 | 860 | 13x25 | 840 | |
| | 10x12.5 | 320 | 8x15 | 385 | 10x16 | 530 | | | | | | | 16x25 | 1000 | |
| | | | 10x12.5 | 420 | | | | | | | | | | | |
| 1000 | 8x11 | 370 | 8x11 | 390 | 8x20 | 600 | 10x20 | 680 | 13x20 | 850 | 13x25 | 930 | 16x25 | 1020 | |
| | 10x12.5 | 470 | 8x15 | 450 | 10x16 | 590 | 12x20 | 775 | 13x25 | 995 | 16x25 | 1110 | 16x32 | 1200 | |
| | | | 10x12.5 | 490 | 10x20 | 700 | 13x20 | 855 | | | | | | | |
| | | | 10x16 | 570 | | | | | | | | | | | |
| 1500 | 10x16 | 600 | 10x20 | 750 | 10x20 | 680 | 13x25 | 1020 | 13x25 | 935 | 16x32 | 1350 | 16x32 | 1300 | |
| | | | | | 13x20 | 860 | | | 16x25 | 1110 | | | 16x36 | 1450 | |
| 2200 | 10x20 | 740 | 10x20 | 800 | 10x25 | 895 | 13x25 | 1030 | 16x25 | 1230 | 16x36 | 1360 | 18x36 | 1455 | |
| | 13x20 | 930 | 13x20 | 1010 | 12x25 | 1040 | 16x25 | 1230 | 16x32 | 1450 | 18x36 | 1530 | | | |
| | | | | | 13x20 | 990 | | | | | | | | | |
| | | | | | 13x25 | 1150 | | | | | | | | | |
| 3300 | 10x20 | 880 | 10x25 | 950 | 13x25 | 1140 | 13x25 | 1035 | 16x36 | 1470 | 18x36 | 1540 | | | |
| | 13x20 | 1100 | 10x30 | 1090 | 16x25 | 1350 | 16x25 | 1230 | 18x36 | 1660 | 18x40 | 1700 | | | |
| | | | 13x20 | 1050 | | | 16x32 | 1450 | | | | | | | |
| | | | 13x25 | 1220 | | | | | | | | | | | |
| 4700 | 13x25 | 1100 | 13x25 | 1190 | 16x25 | 1330 | 16x32 | 1420 | 18x36 | 1580 | 22x35 | 1900 | | | |
| | 16x25 | 1320 | 16x25 | 1410 | 16x32 | 1560 | 18x36 | 1690 | 18x40 | 1750 | | | | | |
| 6800 | 13x25 | 1250 | 16x25 | 1370 | 16x36 | 1590 | 18x36 | 1850 | 22x40 | 1885 | | | | | |
| | 16x25 | 1490 | 16x32 | 1610 | 16x40 | 1670 | | | | | | | | | |
| | | | | | 18x36 | 1790 | | | | | | | | | |
| 10000 | 16x25 | 1560 | 16x36 | 1760 | 18x36 | 2100 | | | | | | | | | |
| | 16x32 | 1830 | 18x36 | 1980 | | | | | | | | | | | |
| 15000 | 18x36 | 2280 | 18x40 | 1960 | | | | | | | | | | | |

☆ Size: D ϕ x L (mm) ☆ Ripple Current: (mA/rms). 105°C, 120Hz

Dimensions, Rated Ripple Current

| Capacitance (μ F) | Rated (Surge) Voltage | | | | | | | | | | | | | |
|---------------------------|-----------------------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| | 100 (125) | | 160 (200) | | 200 (250) | | 250 (300) | | 350 (400) | | 400 (450) | | 450 (500) | |
| | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple | Size | Ripple |
| 0.47 | 5x11 | 10 | 5x11 | 12 | 5x11 | 14 | 5x11 | 14 | 5x11 | 14 | 6.3x11 | 14 | 6.3x11 | 14 |
| 1.0 | 5x11 | 15 | 5x11 | 17 | 5x11 | 19 | 6.3x11 | 19 | 6.3x11 | 20 | 6.3x11 | 16 | 8x11 | 20 |
| | | | | | | | | | | | 8x11 | 20 | | |
| 2.2 | 5x11 | 22 | 6.3x11 | 25 | 6.3x11 | 22 | 6.3x11 | 23 | 8x11 | 35 | 8x11 | 28 | 10x12.5 | 35 |
| | | | | | 8x11 | 28 | 8x11 | 29 | | | 10x12.5 | 35 | | |
| 3.3 | 5x11 | 29 | 6.3x11 | 30 | 6.3x11 | 32 | 8x11 | 33 | 8x11 | 37 | 8x11 | 38 | 10x16 | 54 |
| | | | 8x11 | 36 | 8x11 | 40 | 10x12.5 | 42 | 10x12.5 | 47 | 10x12.5 | 50 | | |
| 4.7 | 5x11 | 37 | 6.3x11 | 34 | 8x11 | 40 | 8x11 | 41 | 10x12.5 | 47 | 8x15 | 45 | 10x16 | 60 |
| | | | 8x11 | 43 | 10x12.5 | 50 | 10x12.5 | 52 | 10x16 | 55 | 10x12.5 | 49 | | |
| 6.8 | 5x11 | 46 | 10x12.5 | 54 | 10x12.5 | 60 | 8x15 | 57 | 10x16 | 65 | 10x16 | 60 | 10x20 | 80 |
| | | | | | | | 10x12.5 | 62 | | | 10x20 | 72 | | |
| 10 | 5x11 | 55 | 8x11 | 56 | 10x12.5 | 69 | 10x16 | 88 | 10x16 | 95 | 10x16 | 65 | 13x20 | 85 |
| | 6.3x11 | 65 | 10x12.5 | 70 | 10x16 | 80 | | | | | 10x20 | 77 | 13x25 | 100 |
| 15 | | | | | | | | | | | 13x20 | 97 | | |
| | 8x11 | 82 | 10x16 | 90 | 10x16 | 110 | 10x16 | 120 | 10x20 | 140 | 10x20 | 100 | 16x25 | 160 |
| 22 | | | | | | | | | | | 13x20 | 125 | | |
| | 8x11 | 115 | 8x20 | 125 | 10x16 | 140 | 10x20 | 155 | 13x20 | 165 | 13x20 | 150 | 13x25 | 125 |
| 33 | | | 10x16 | 130 | | | | | | | 13x25 | 175 | 16x25 | 150 |
| | | | | | | | | | | | | | 16x32 | 180 |
| 47 | 8x11 | 120 | 10x20 | 180 | 10x20 | 190 | 13x20 | 170 | 13x25 | 220 | 13x25 | 190 | 16x25 | 190 |
| | 10x12.5 | 160 | | | | | 13x25 | 200 | | | 16x20 | 195 | 16x36 | 240 |
| 68 | | | | | | | | | | | 16x25 | 230 | | |
| | 10x12.5 | 180 | 13x20 | 270 | 13x20 | 240 | 13x25 | 330 | 16x25 | 340 | 16x25 | 280 | 16x36 | 300 |
| 100 | 10x16 | 210 | | | 13x25 | 290 | | | | | 16x32 | 315 | 18x40 | 360 |
| | | | | | | | | | | | 16x36 | 350 | | |
| 120 | | | | | | | | | | | 18x20 | 275 | | |
| | | | | | | | | | | | 18x25 | 300 | | |
| 150 | 10x16 | 241 | 13x25 | 300 | 13x25 | 330 | 16x25 | 350 | 16x32 | 370 | 16x32 | 320 | 18x32 | 305 |
| | | | | | | | | | | | 16x36 | 335 | 22x40 | 400 |
| 220 | | | | | | | | | | | 18x25 | 305 | | |
| | | | | | | | | | | | 18x36 | 380 | | |
| 330 | 10x20 | 385 | 13x25 | 330 | 13x25 | 340 | 16x32 | 430 | 18x36 | 460 | 16x36 | 425 | | |
| | | | 16x25 | 400 | 16x25 | 410 | | | | | 18x32 | 430 | | |
| 470 | | | | | | | | | | | 18x36 | 480 | | |
| | | | | | | | | | | | 18x36 | 480 | | |
| 680 | 13x25 | 414 | 16x32 | 435 | 16x36 | 450 | 18x40 | 460 | 22x40 | 480 | 22x40 | 450 | | |
| | 13x25 | 590 | 16x32 | 550 | 18x32 | 520 | 22x40 | 680 | | | | | | |
| 1000 | | | 16x36 | 620 | 18x36 | 580 | | | | | | | | |
| | | | | | 18x40 | 650 | | | | | | | | |
| 1500 | 13x25 | 600 | 18x36 | 770 | 18x36 | 705 | | | | | | | | |
| | 16x25 | 720 | 18x40 | 850 | 18x40 | 780 | | | | | | | | |
| 2200 | | | | | 22x40 | 920 | | | | | | | | |
| | 16x25 | 740 | 22x40 | 980 | | | | | | | | | | |
| 3300 | 16x32 | 875 | | | | | | | | | | | | |
| | 16x36 | 1200 | | | | | | | | | | | | |
| 4700 | 18x40 | 1340 | | | | | | | | | | | | |
| | 22x40 | 1500 | | | | | | | | | | | | |

☆ Size: D ϕ x L (mm) ☆ Ripple Current: (mA/rms). 105°C, 120Hz