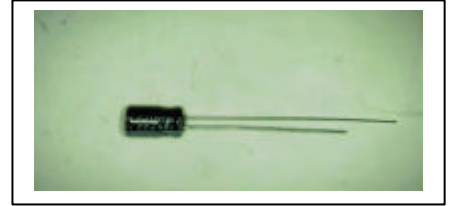


SP Series

Features
 Lifetime: 105, 1000hrs
 Wide temperature range for SN
 Non-polarized/Polarity reversing
 Low profile/Miniature
 7mm height

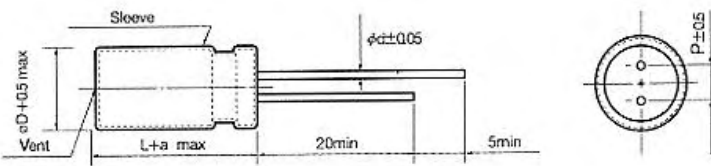
Recommended Applications
 Reversed polarity circuit
 Coupling



Specifications

| Items | Characteristics | | | | | | | | |
|---|--|---|------|------|------|------|------|------|------|
| Capacitance Tolerance | $\pm 20\%$ (M) (120Hz, 20) | | | | | | | | |
| Rated Voltage Range (WV) | 4~63 VDC | | | | | | | | |
| Operating Temperature Range | -40 ~ +105 | | | | | | | | |
| Surge Voltage (V) (20) | WV | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 |
| | SV | 5 | 8 | 13 | 20 | 32 | 44 | 63 | 79 |
| Leakage Current (Max) (20) | I = 0.06CV + 10 μ A (After rated voltage applied for 2 minutes) | | | | | | | | |
| | I = Leakage Current (μ A) C = Nominal Capacitance (μ F) V = Rated Voltage (V) | | | | | | | | |
| Dissipation Factor (Max) (tan) (120Hz , 20) | WV | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 |
| | tan | 0.35 | 0.24 | 0.20 | 0.16 | 0.16 | 0.14 | 0.12 | 0.10 |
| Low Temperature Stability Impedance Ratio (Max) | WV | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 |
| | Z (120Hz) | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 |
| | Z(-25) / Z(20) | 6 | 4 | 3 | 2 | 2 | 2 | 2 | 2 |
| | Z(-40) / Z(20) | 12 | 8 | 6 | 4 | 4 | 3 | 3 | 3 |
| Load Life | After applying rated voltage for 1000 hours at 105 , the capacitor shall meet the following requirement. (The polarity shall be reversed every 250 hours) | | | | | | | | |
| | Capacitance Change | Within $\pm 20\%$ of the initial value | | | | | | | |
| | Dissipation Factor | Not more than 200% of the specified value | | | | | | | |
| | Leakage Current | Not more than the specified value | | | | | | | |
| Shelf Life | After placed at 105 without voltage applied for 500 hours, the capacitor shall meet the same requirement as load life. | | | | | | | | |
| Applicable standards | Refer to JIS C-5101 | | | | | | | | |

Dimensions (mm)



| | | | |
|---|------|-----|-----|
| D | 4 | 5 | 6.3 |
| P | 1.5 | 2.0 | 2.5 |
| d | 0.45 | 0.5 | 0.5 |
| a | 1.0 | 1.0 | 1.0 |

Multiplier for Ripple Current

Frequency coefficient

| Freq. (Hz) | 50 | 120 | 1K | 10K |
|------------|------|------|------|------|
| WV (VDC) | | | | |
| 4~10 | 0.80 | 1.00 | 1.10 | 1.20 |
| 16~25 | 0.80 | 1.00 | 1.20 | 1.30 |
| 35~63 | 0.80 | 1.00 | 1.50 | 1.70 |

Temperature coefficient

| Ambient Temperature () | 50 | 70 | 85 | 105 |
|-------------------------|------|------|------|------|
| Coefficient | 1.90 | 1.75 | 1.40 | 1.00 |

Case Size & Max Ripple Current

CASE SIZE (DxL(mm)) & MAX PERMISSIBLE RIPPLE CURRENT (RC(mArms) / 120Hz,105)

| WV | 4 | | 6.3 | | 10 | | 16 | | 25 | | 35 | |
|------------|-------|----|-------|----|-------|----|-------|----|-------|----|-------|----|
| μ F / SPEC | DxL | RC | DxL | RC | DxL | RC | DxL | RC | DxL | RC | DxL | RC |
| 2.2 | | | | | | | | | | | 4x7 | 15 |
| 3.3 | | | | | | | | | 4x7 | 15 | 5x7 | 15 |
| 4.7 | | | | | | | 4x7 | 20 | 5x7 | 20 | 5x7 | 20 |
| 10 | | | | | 4x7 | 20 | 5x7 | 25 | 6.3x7 | 30 | 6.3x7 | 35 |
| 22 | | | 5x7 | 30 | 5x7 | 35 | 6.3x7 | 40 | 6.3x7 | 45 | | |
| 33 | 5x7 | 30 | 5x7 | 35 | 6.3x7 | 45 | 6.3x7 | 50 | 6.3x7 | 55 | | |
| 47 | 5x7 | 35 | 6.3x7 | 45 | 6.3x7 | 55 | 6.3x7 | 60 | | | | |
| 100 | 6.3x7 | 55 | | | | | | | | | | |

| WV | 50 | | 63 | |
|------------|-------|----|-------|----|
| μ F / SPEC | DxL | RC | DxL | RC |
| 0.1 | 4x7 | 1 | 4x7 | 1 |
| 0.22 | 4x7 | 2 | 4x7 | 2 |
| 0.33 | 4x7 | 3 | 4x7 | 3 |
| 0.47 | 4x7 | 5 | 4x7 | 5 |
| 1 | 4x7 | 10 | 4x7 | 15 |
| 2.2 | 4x7 | 15 | 5x7 | 20 |
| 3.3 | 5x7 | 20 | 6.3x7 | 25 |
| 4.7 | 6.3x7 | 25 | 6.3x7 | 30 |