

CH series

- Standard type of V-chip, -55 ~ +105°C
- Applicable to SMT process
- RoHS Compliant



SPECIFICATIONS

| Items | Characteristics | | | | | | | |
|------------------------------|--|---|------|------|--------------------|---------------------------------|------|------|
| Capacitance Tolerance | ±20% (120Hz , 20°C) | | | | | | | |
| Operating Temperature Range | -55°C ~ + 105°C | | | | | | | |
| Rated Voltage Range | 4 ~ 50VDC | | | | | | | |
| Capacitance Range | 0.1 ~ 1500μF | | | | | | | |
| Leakage Current | I ≤ 0.01CV or 3(μA), which is greater. (After 2 minutes application of DC rated voltage at 20°C) | | | | | | | |
| Dissipation Factor (tan δ) | Measurement Frequency:120Hz. Temperature: 20°C | | | | | | | |
| | Rated Voltage(V) | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 |
| | tanδ (Max) | 0.42 | 0.30 | 0.26 | 0.22 | 0.16 | 0.14 | 0.14 |
| Low Temperature Stability | Measurement Frequency:120Hz | | | | | | | |
| Impedance Ratio(Max) | Rated Voltage(V) | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 |
| | Z(-25°C) / Z(20°C) | 7 | 4 | 3 | 2 | 2 | 2 | 2 |
| | Z(-55°C) / Z(20°C) | 15 | 8 | 8 | 4 | 4 | 3 | 3 |
| Load Life | 1000 hours with application of rated voltage at 105°C | | | | | | | |
| | Capacitance Change | within ±25% of Initial Value | | | | | | |
| | tan δ | 200% or less of Initial Specified Value | | | | | | |
| | Leakage Current | Initial Specified Value or less | | | | | | |
| Shelf Life | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1000 hours 105°C without voltage applied. Before the measurement, the capacitance shall be preconditioned by applying voltage according to them 4.1 of JIS C5101-4. | | | | | | | |
| | Capacitance Change | Within ±20% of Initial Value | | | | | | |
| | tan δ | 200% or less of Initial Specified Value | | | | | | |
| | Leakage Current | Initial Specified Value or less | | | | | | |
| Resistance to Soldering Heat | The capacitors shall be kept on the hott plate maintained at 250°C for 30 seconds. | | | | Capacitance Change | Within ± 10% of Initial Value | | |
| | After removing from the hot plate and restored at room temperature, they meet the characteristics requirements listed at right. | | | | tan δ | Initial Specified Value | | |
| | | | | | Leakage Current | Initial Specified Value or less | | |
| Marking | Black print on the case top | | | | | | | |

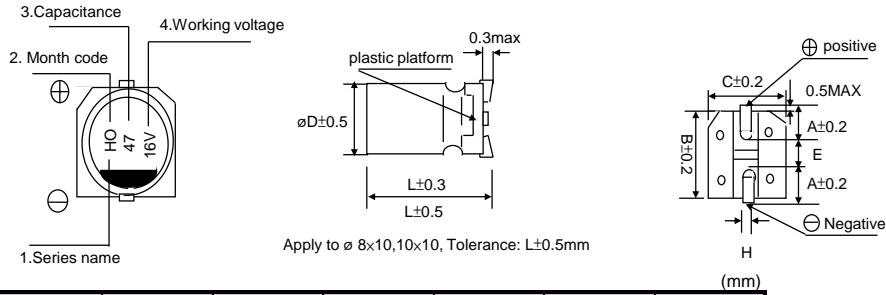
Frequency Coefficient of Permissible Ripple Current

| Frequency (Hz) | 50 | 120 | 300 | 1K | ≥ 10K |
|----------------|------|------|------|------|-------|
| Coefficient | 0.70 | 1.00 | 1.17 | 1.36 | 1.50 |

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.

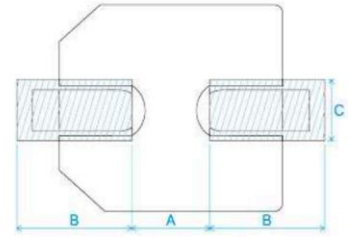
DIMENSIONS(mm)

■ Chip Type



| ϕD | 4*5.4 | 5*5.4 | 6.3*5.4 | 6.3*7.7 | 8*10 | 10*10 |
|----------|---------|---------|---------|---------|---------|---------|
| A | 1.8 | 2.1 | 2.4 | 2.4 | 2.9 | 3.2 |
| B | 4.3 | 5.3 | 6.6 | 6.6 | 8.3 | 10.3 |
| C | 4.3 | 5.3 | 6.6 | 6.6 | 8.3 | 10.3 |
| E | 1.0 | 1.3 | 2.2 | 2.2 | 3.1 | 4.5 |
| L | 5.4 | 5.4 | 5.4 | 7.7 | 10 | 10 |
| H | 0.5~0.8 | 0.5~0.8 | 0.5~0.8 | 0.5~0.8 | 0.8~1.1 | 0.8~1.1 |

■ Land / Pad pattern



| DxL | A | B | C |
|----------------|-----|-----|-----|
| $\phi 4$ | 1 | 2.6 | 1.6 |
| $\phi 5$ | 1.4 | 3 | 1.6 |
| $\phi 6.3$ | 1.9 | 3.5 | 1.6 |
| $\phi 8$ | 3 | 3.5 | 2.5 |
| $\phi 10$ | 4 | 4 | 2.5 |
| $\phi 12.5$ | 4.3 | 5.8 | 2.5 |
| $\phi 16$ | 6.6 | 6.5 | 5 |
| $\phi 18$ | 6.6 | 7.7 | 5 |
| $\phi 8(G)$ | 2.5 | 4.5 | 4.7 |
| $\phi 10(G)$ | 3.8 | 4.8 | 4.7 |
| $\phi 12.5(G)$ | 3.8 | 6.1 | 6.9 |
| $\phi 16(G)$ | 5 | 8 | 9.5 |
| $\phi 18(G)$ | 5 | 8.6 | 9.5 |

"(G)" "Anti-vibration Structure"

Electric Characteristics

| Su'scon P/N | Cap. (μF) | Cap. Tol. (%) | Rate Volt. (V-DC) | Surge Volt. (V-DC) | Oper. Temp. ($^{\circ}\text{C}$) | Nominal Case Size D*L(mm) | Leakage Current Max (μA) | D.F. MAX (%) | R.C 120 Hz (mA rms) | Load Life (Hours) |
|----------------------|---------------------------|---------------------|-------------------------|--------------------------|--|---------------------------------|---|--------------------|---------------------------|-------------------------|
| CH050M1R0C5APE50V00R | 1 | ± 20 | 50 | 57.5 | 105 | 4*5.4 | 3 | 14 | 7 | 1000 |
| CH035M100D5APE50V00R | 10 | ± 20 | 35 | 40.3 | 105 | 5*5.4 | 3.5 | 14 | 25 | 1000 |
| CH006M470D5APE50V00R | 47 | ± 20 | 6.3 | 7.2 | 105 | 5*5.4 | 3 | 30 | 40 | 1000 |
| CH035M220E5APE50V00R | 22 | ± 20 | 35 | 40.3 | 105 | 6.3*5.4 | 7.7 | 14 | 42 | 1000 |
| CH016M470E5APE50V00R | 47 | ± 20 | 16 | 18.4 | 105 | 6.3*5.4 | 7.5 | 22 | 50 | 1000 |

REMARKS:

1. Dissipation Factor Test: at 20 $^{\circ}\text{C}$, 120 Hz
2. Capacitance Test: at 20 $^{\circ}\text{C}$, 120 Hz
3. Ripple Current Test: at 105 $^{\circ}\text{C}$, 120 Hz
4. Leakage Current: Initial specified value or less
5. When have characteristic requested: Load life & shelf life test and etc., judgment standard reference to our catalogue.
6. Remarks: Su'scon Part Number with suffix code "A" is specially offered for automotive project, which meets AEC-Q200 standard.

US Contact Information

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