



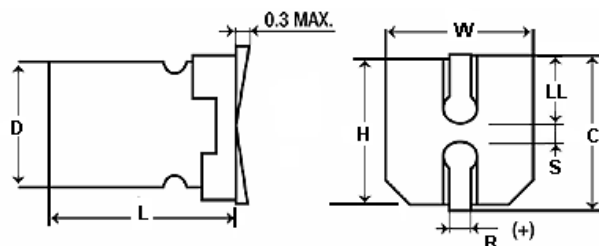
#### FEATURES

Small Size - Extended Life - Low Cost

#### APPLICATIONS

Filtering - Bypass - Coupling - Blocking

| Operating Temperature Range                              |                | -55°C to +105°C                                                                                                                                                                      |     |                                  |     |     |                  |     |     |     |  |
|----------------------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------|-----|-----|------------------|-----|-----|-----|--|
| Capacitance Tolerance                                    |                | +20% at 120 Hz, 20°C                                                                                                                                                                 |     |                                  |     |     |                  |     |     |     |  |
| Surge voltage                                            | WVDC           | 6.3                                                                                                                                                                                  | 10  | 16                               | 25  | 35  | 50               |     |     |     |  |
|                                                          | SVDC           | 7.9                                                                                                                                                                                  | 13  | 20                               | 32  | 44  | 63               |     |     |     |  |
| Dissipation Factor                                       | WVDC           | 6.3                                                                                                                                                                                  | 10  | 16                               | 25  | 35  | 50               |     |     |     |  |
|                                                          | tan δ          | .3                                                                                                                                                                                   | .22 | .18                              | .14 | .12 | .12              |     |     |     |  |
| Leakage current                                          |                | 2 Minutes                                                                                                                                                                            |     |                                  |     |     |                  |     |     |     |  |
|                                                          |                | .01CV or 3uA, Whichever is greater                                                                                                                                                   |     |                                  |     |     |                  |     |     |     |  |
| Low temperature stability<br>Impedance ratio<br>(120 Hz) | Rated WVDC     | 6.3                                                                                                                                                                                  | 10  | 16                               | 25  | 35  | 50               |     |     |     |  |
|                                                          | -25°C to +20°C | 4                                                                                                                                                                                    | 3   | 2                                | 2   | 2   | 2                |     |     |     |  |
|                                                          | -40°C to +20°C | 8                                                                                                                                                                                    | 6   | 4                                | 4   | 3   | 3                |     |     |     |  |
| Load Life                                                |                | 1000 hours at 105°C with rated WVDC and ripple current applied                                                                                                                       |     |                                  |     |     |                  |     |     |     |  |
|                                                          |                | Capacitance change                                                                                                                                                                   |     | ≤25% of initial measured value   |     |     |                  |     |     |     |  |
|                                                          |                | Dissipation factor                                                                                                                                                                   |     | ≤200% of maximum specified value |     |     |                  |     |     |     |  |
|                                                          |                | Leakage current                                                                                                                                                                      |     | ≤100% of maximum specified value |     |     |                  |     |     |     |  |
| Shelf Life                                               |                | 1000 hours at 85°C with no voltage applied                                                                                                                                           |     |                                  |     |     |                  |     |     |     |  |
|                                                          |                | Capacitance change                                                                                                                                                                   |     | ≤25% of initial measured value   |     |     |                  |     |     |     |  |
|                                                          |                | Dissipation factor                                                                                                                                                                   |     | ≤200% of maximum specified value |     |     |                  |     |     |     |  |
|                                                          |                | Leakage current                                                                                                                                                                      |     | ≤100% of maximum specified value |     |     |                  |     |     |     |  |
| Resistance to soldering heat                             |                | Capacitors placed on a 250°C hot plate for 30 seconds with their electrode terminations facing downward will fulfill the following conditions after being cooled to room temperature |     |                                  |     |     |                  |     |     |     |  |
|                                                          |                | Capacitance change                                                                                                                                                                   |     | ≤10% of initial measured value   |     |     |                  |     |     |     |  |
|                                                          |                | Dissipation factor                                                                                                                                                                   |     | ≤100% of maximum specified value |     |     |                  |     |     |     |  |
|                                                          |                | Leakage current                                                                                                                                                                      |     | ≤100% of maximum specified value |     |     |                  |     |     |     |  |
| Ripple Current Multipliers                               |                | Frequency (Hz)                                                                                                                                                                       |     |                                  |     |     | Temperature (°C) |     |     |     |  |
|                                                          |                | 50                                                                                                                                                                                   | 120 | 400                              | 1k  | 10k | 100k             | 105 | 85  | 70  |  |
|                                                          |                | 0.8                                                                                                                                                                                  | 1.0 | 1.0                              | 1.1 | 1.3 | 1.5              | 1.0 | 1.0 | 1.0 |  |



| D   | L             | W±0.2 | H±0.2 | C±0.2 | R       | LL±0.2 | S±0.2 |
|-----|---------------|-------|-------|-------|---------|--------|-------|
| 4   | 5.4 +0.1/-0.2 | 4.3   | 4.3   | 5.0   | 0.5~0.8 | 1.8    | 1.0   |
| 5   | 5.4 +0.1/-0.2 | 5.3   | 5.3   | 6.0   | 0.5~0.8 | 2.1    | 1.4   |
| 6.3 | 5.4 +0.1/-0.2 | 6.6   | 6.6   | 7.3   | 0.5~0.8 | 2.4    | 2.2   |
| 6.3 | 5.8 +0.1/-0.2 | 6.6   | 6.6   | 7.3   | 0.5~0.8 | 2.4    | 2.2   |
| 6.3 | 7.7 +0.1/-0.2 | 6.6   | 6.6   | 7.3   | 0.5~0.8 | 2.4    | 2.2   |
| 8   | 6.2 +0.1/-0.2 | 8.3   | 8.3   | 9.0   | 0.7~1.0 | 2.9    | 3.2   |
| 8   | 10.5+0.1/-0.2 | 8.3   | 8.3   | 9.0   | 0.7~1.0 | 2.9    | 3.2   |
| 10  | 10.5+0.1/-0.2 | 10    | 10    | 11.0  | 0.7~1.0 | 3.2    | 4.6   |

# SMH

**+105°C, General Purpose  
1000 hours**

| Capacitance<br>(µF) | WVDC | IC PART NUMBER | Maximum<br>ESR (Ω)<br>120 Hz,<br>+20°C | Maximum<br>RMS Ripple<br>Current<br>(mA)<br>120 Hz,<br>+105°C | Dims DxL<br>(mm) |
|---------------------|------|----------------|----------------------------------------|---------------------------------------------------------------|------------------|
| 0.1                 | 50   | 104SMH050M     | 1989.44                                | 2.3                                                           | 4x5.4            |
| 0.22                | 50   | 224SMH050M     | 904.29                                 | 3.4                                                           | 4x5.4            |
| 0.33                | 50   | 334SMH050M     | 602.86                                 | 4.1                                                           | 4x5.4            |
| 0.47                | 50   | 474SMH050M     | 423.28                                 | 5                                                             | 4x5.4            |
| 1                   | 50   | 105SMH050M     | 198.94                                 | 10                                                            | 4x5.4            |
| 2.2                 | 50   | 225SMH050M     | 90.43                                  | 16                                                            | 4x5.4            |
| 3.3                 | 50   | 335SMH050M     | 60.286                                 | 16                                                            | 4x5.4            |
| 4.7                 | 35   | 475SMH035M     | 49.383                                 | 22                                                            | 4x5.4            |
| 4.7                 | 50   | 475SMH050M     | 42.33                                  | 23                                                            | 5x5.4            |
| 10                  | 16   | 106SMH016M     | 33.157                                 | 28                                                            | 4x5.4            |
| 10                  | 35   | 106SMH035M     | 23.21                                  | 30                                                            | 5x5.4            |
| 10                  | 50   | 106SMH050M     | 19.894                                 | 32                                                            | 6.3x5.4          |
| 22                  | 6.3  | 226SMH6R3M     | 21.1                                   | 29                                                            | 4x5.4            |
| 22                  | 16   | 226SMH016M     | 15.07                                  | 39                                                            | 5x5.4            |
| 22                  | 35   | 226SMH035M     | 10.55                                  | 60                                                            | 6.3x5.4          |
| 22                  | 50   | 226SMH050M     | 9.04                                   | 51                                                            | 6.3x5.8          |
| 33                  | 10   | 336SMH010M     | 12.06                                  | 34                                                            | 5x5.4            |
| 33                  | 16   | 336SMH016M     | 33.158                                 | 35                                                            | 5x5.4            |
| 33                  | 25   | 336SMH025M     | 8.038                                  | 65                                                            | 6.3x5.4          |
| 33                  | 35   | 336SMH035M     | 7.033                                  | 42                                                            | 6.3x5.4          |
| 33                  | 35   | 336SMH035MFT   | 23.211                                 | 84                                                            | 8x6.5            |
| 33                  | 50   | 336SMH050M     | 6.03                                   | 70                                                            | 6.3x7.7          |
| 47                  | 6.3  | 476SMH6R3M     | 9.877                                  | 46                                                            | 5x5.4            |
| 47                  | 16   | 476SMH016M     | 7.055                                  | 70                                                            | 6.3x5.4          |
| 47                  | 35   | 476SMH035M     | 4.938                                  | 80                                                            | 6.3x6            |
| 47                  | 50   | 476SMH050M     | 4.23                                   | 80                                                            | 6.3x7.7          |
| 100                 | 6.3  | 107SMH6R3M     | 4.642                                  | 71                                                            | 6.3x5.4          |
| 100                 | 16   | 107SMH016M     | 3.3157                                 | 70                                                            | 6.3x5.4          |
| 100                 | 25   | 107SMH025M     | 2.653                                  | 100                                                           | 6.3x7.7          |
| 100                 | 50   | 107SMH050M     | 1.989                                  | 230                                                           | 8x10.5           |
| 150                 | 10   | 157SMH010M     | 2.653                                  | 86                                                            | 6.3x6            |
| 150                 | 16   | 157SMH016M     | 2.21                                   | 95                                                            | 6.3x7.7          |
| 220                 | 16   | 227SMH016M     | 1.507                                  | 120                                                           | 6.3x7.7          |
| 220                 | 25   | 227SMH025ML10  | 1.2057                                 | 435                                                           | 10x10.5          |
| 220                 | 25   | 227SMH025MFE   | 1.2057                                 | 320                                                           | 8x10.5           |
| 220                 | 35   | 227SMH035M     | 1.06                                   | 190                                                           | 8x10.5           |
| 220                 | 50   | 227SMH050M     | 0.904                                  | 375                                                           | 10x10.5          |
| 330                 | 6.3  | 337SMH6R3M     | 1.407                                  | 290                                                           | 6.3x7.7          |
| 330                 | 16   | 337SMH016ML10  | 1.005                                  | 195                                                           | 10x10.5          |
| 330                 | 25   | 337SMH025M     | 0.8038                                 | 220                                                           | 8x10.5           |
| 330                 | 35   | 337SMH035M     | 0.704                                  | 450                                                           | 10x10.5          |
| 470                 | 16   | 477SMH016M     | 0.7055                                 | 340                                                           | 8x10.5           |
| 470                 | 25   | 477SMH025M     | 0.5644                                 | 490                                                           | 10x10.5          |
| 680                 | 16   | 687SMH016M     | 0.488                                  | 310                                                           | 10x10.5          |
| 1000                | 6.3  | 108SMH6R3M     | 0.4642                                 | 340                                                           | 8x10.5           |
| 1500                | 6.3  | 158SMH6R3M     | 0.3316                                 | 475                                                           | 10x10.5          |

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[107SMH050M](#) [157SMH016M](#) [225SMH050M](#) [226SMH6R3M](#) [108SMH6R3M](#) [107SMH016ML6](#) [336SMH050MHR](#)  
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