

### FEATURES

Small size - Extended Life - Low cost

### APPLICATIONS

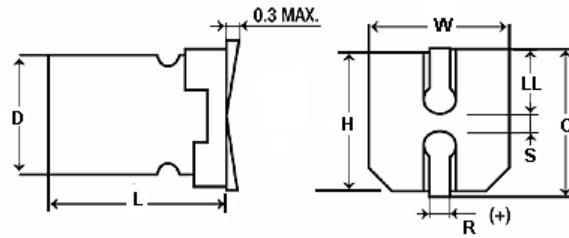
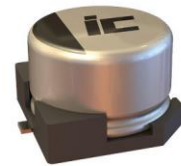
Filtering - Bypass - Coupling - Blocking

|   |                    |   |            |            |           |            |             |           |            |                |            |            |            |                                  |  |
|---|--------------------|---|------------|------------|-----------|------------|-------------|-----------|------------|----------------|------------|------------|------------|----------------------------------|--|
| <b>Operating Temperature Range</b>                        |                    | <b>-40°C to +105°C (6.3 to 100WVDC)<br/>-25°C to +105°C (160 to 450WVDC)</b>  |            |            |           |            |             |           |            |                |            |            |            |                                  |  |
| <b>Capacitance Tolerance</b>                              |                    | <b>±20% at 120 Hz, 20°C</b>   |            |            |           |            |             |           |            |                |            |            |            |                                  |  |
| <b>Surge voltage</b>                                      | <b>WVDC</b>        | <b>6.3</b>  | <b>10</b>  | <b>16</b>  | <b>25</b> | <b>35</b>  | <b>50</b>   | <b>63</b> | <b>100</b> | <b>160</b>     | <b>200</b> | <b>250</b> | <b>400</b> | <b>450</b>                       |  |
|   | <b>SVDC</b>        | 7.9   | 13         | 20         | 32        | 44         | 63          | 79        | 125        | 200            | 250        | 300        | 450        | 500                              |  |
| <b>Dissipation Factor</b>                                 | <b>WVDC</b>        | <b>6.3</b>  | <b>10</b>  | <b>16</b>  | <b>25</b> | <b>35</b>  | <b>50</b>   | <b>63</b> | <b>100</b> | <b>160</b>     | <b>200</b> | <b>250</b> | <b>400</b> | <b>450</b>                       |  |
|   | <b>tan δ</b>       | .3  | .24        | .2         | .16       | .14        | .14         | .18       | .18        | .2             | .2         | .2         | .25        | .25                              |  |
|   | <b>D&gt;12.5</b>   | .35   | .3         | .34        | .26       | .22        | .18         | .14       | .18        | .2             | .2         | .2         | .25        | .25                              |  |
| <b>Leakage current</b>                                    |                    | <b>2 Minutes</b><br>.01CV or 3µA, Whichever is greater  |            |            |           |            |             |           |            |                |            |            |            |                                  |  |
| <b>Low temperature stability Impedance ratio (120 Hz)</b> | <b>Rated WVDC</b>  | <b>6.3</b>  | <b>10</b>  | <b>16</b>  | <b>25</b> | <b>35</b>  | <b>50</b>   | <b>63</b> | <b>100</b> | <b>160-450</b> |            |            |            |                                  |  |
|   | <b>-25°C/+20°C</b> | 4   | 3          | 2          | 2         | 2          | 2           | 2         | 2          | 4              |            |            |            |                                  |  |
|   | <b>-40°C/+20°C</b> | 8   | 8          | 4          | 4         | 3          | 3           | 3         | 3          | -              |            |            |            |                                  |  |
| <b>Load Life</b>  |                    | <b>2000 hours at 105°C with rated WVDC</b>  |            |            |           |            |             |           |            |                |            |            |            |                                  |  |
|   |                    | <b>Capacitance change</b>   |            |            |           |            |             |           |            |                |            |            |            | ≤30% of initial measured value   |  |
|   |                    | <b>Dissipation factor</b>   |            |            |           |            |             |           |            |                |            |            |            | ≤300% of maximum specified value |  |
|   |                    | <b>Leakage current</b>  |            |            |           |            |             |           |            |                |            |            |            | ≤100% of maximum specified value |  |
| <b>Shelf Life</b>   |                    | <b>1000 hours at 105°C with no voltage applied</b>  |            |            |           |            |             |           |            |                |            |            |            |                                  |  |
|   |                    | <b>Capacitance change</b>   |            |            |           |            |             |           |            |                |            |            |            | ≤30% of initial measured value   |  |
|   |                    | <b>Dissipation factor</b>   |            |            |           |            |             |           |            |                |            |            |            | ≤300% of maximum specified value |  |
|   |                    | <b>Leakage current</b>  |            |            |           |            |             |           |            |                |            |            |            | ≤100% of maximum specified value |  |
| <b>Resistance to soldering heat</b>                       |                    | <b>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</b> |            |            |           |            |             |           |            |                |            |            |            |                                  |  |
|   |                    | <b>Capacitance change</b>   |            |            |           |            |             |           |            |                |            |            |            | ≤10% of initial measured value   |  |
|   |                    | <b>Dissipation factor</b>   |            |            |           |            |             |           |            |                |            |            |            | ≤100% of maximum specified value |  |
|   |                    | <b>Leakage current</b>  |            |            |           |            |             |           |            |                |            |            |            | ≤100% of maximum specified value |  |
| <b>Ripple Current Multipliers</b>                         |                    | <b>Frequency (Hz)</b>   |            |            |           |            |             |           |            |                |            |            |            |                                  |  |
|   |                    | <b>50</b>   | <b>120</b> | <b>400</b> | <b>1k</b> | <b>10k</b> | <b>100k</b> |           |            |                |            |            |            |                                  |  |
|   |                    | 0.7   | 1.0        | 1.17       | 1.38      | 1.5        | 1.5         |           |            |                |            |            |            |                                  |  |

# SVH

## Surface Mount Capacitors

+105°C Long Life



| D    | L              | W $\pm$ 0.2 | H $\pm$ 0.2 | C $\pm$ 0.2 | R       | LL $\pm$ 0.2 | S $\pm$ 0.2 |
|------|----------------|-------------|-------------|-------------|---------|--------------|-------------|
| 4.0  | 5.4 $\pm$ 0.3  | 4.3         | 4.3         | 5.0         | 0.5-0.8 | 1.8          | 1.0         |
| 5.0  | 5.4 $\pm$ 0.3  | 5.3         | 5.3         | 6.0         | 0.5-0.8 | 2.1          | 1.4         |
| 6.3  | 5.4 $\pm$ 0.3  | 6.6         | 6.6         | 7.3         | 0.5-0.8 | 2.4          | 2.2         |
| 6.3  | 7.7 $\pm$ 0.3  | 6.6         | 6.6         | 7.3         | 0.5-0.8 | 2.4          | 2.2         |
| 8.0  | 10.5 $\pm$ 0.3 | 8.3         | 8.3         | 9.0         | 0.7-1.0 | 2.9          | 3.1         |
| 10.0 | 10.5 $\pm$ 0.3 | 10.3        | 10.3        | 11.0        | 0.7-1.0 | 3.2          | 4.5         |
| 12.5 | 13.5 $\pm$ 0.5 | 13.0        | 13.0        | 15.0        | 0.7-1.1 | 4.8          | 4.4         |
| 12.5 | 16.0 $\pm$ 0.5 | 13.0        | 13.0        | 15.0        | 0.7-1.1 | 4.8          | 4.4         |
| 16.0 | 16.5 $\pm$ 0.5 | 17.0        | 17.0        | 19.0        | 0.7-1.1 | 6.3          | 6.4         |

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# SVH

+105°C, Long Life, 2000 hours

| Capacitance (µF) | WVDC | IC PART NUMBER | Maximum ESR (Ω)<br>120 Hz,<br>+20°C | Maximum RMS Ripple Current (mA)<br>120 Hz,<br>+105°C | Dims DxL (mm) |
|------------------|------|----------------|-------------------------------------|--|---------------|
| 1                | 50   | 105SVH050MCR   | 232.1                               | 6.3  | 4x5.4         |
| 2.2              | 50   | 225SVH050MCR   | 105.5                               | 11   | 4x5.4         |
| 3.3              | 50   | 335SVH050MCR   | 70.33                               | 14   | 4x5.4         |
| 3.3              | 450  | 335SVH450MTP   | 125.6                               | 40   | 12.5x13.5     |
| 4.7              | 6.3  | 475SVH6R3MCR   | 10.82                               | 31   | 4x5.4         |
| 4.7              | 35   | 475SVH035MCR   | 49.38                               | 16   | 4x5.4         |
| 4.7              | 50   | 475SVH050MDR   | 49.38                               | 19   | 5x5.4         |
| 4.7              | 450  | 475SVH450MTP   | 88.1843                             | 45   | 12.5x13.5     |
| 6.8              | 35   | 685SVH035MCR   | 31.13                               | 25   | 4x5.4         |
| 10               | 25   | 106SVH025MCR   | 26.53                               | 13   | 4x5.4         |
| 10               | 50   | 106SVH050MER   | 23.21                               | 30   | 6.3x5.4       |
| 10               | 200  | 106SVH200MTP   | 33.1573                             | 80   | 12.5x13.5     |
| 10               | 400  | 106SVH400MTP   | 41.4466                             | 50   | 12.5x13.5     |
| 10               | 450  | 106SVH450MTBW  | 41.4466                             | 75   | 12.5x16       |
| 22               | 6.3  | 226SVH6R3MCR   | 22.61                               | 22   | 4x5.4         |
| 22               | 16   | 226SVH016MCR   | 12.06                               | 29   | 4x5.4         |
| 22               | 25   | 226SVH025MDR   | 12.06                               | 23   | 5x5.4         |
| 22               | 35   | 226SVH035MER   | 10.55                               | 44   | 6.3x5.4       |
| 22               | 50   | 226SVH050MEL   | 10.55                               | 51   | 6.3x7.7       |
| 22               | 100  | 226SVH100MFE   | 13.56                               | 100  | 8x10.5        |
| 22               | 200  | 226SVH200MTBW  | 15.0715                             | 110  | 12.5x16       |
| 22               | 250  | 226SVH250MTP   | 15.0715                             | 105  | 12.5x13.5     |
| 33               | 6.3  | 336SVH6R3MCR   | 15.07                               | 29   | 4x5.4         |
| 33               | 10   | 336SVH010MDR   | 12.06                               | 35   | 5x5.4         |
| 33               | 16   | 336SVH016MDR   | 8.04                                | 40   | 5x5.4         |
| 33               | 25   | 336SVH025MER   | 8.04                                | 38   | 6.3x5.4       |
| 33               | 50   | 336SVH050MEL   | 7.03                                | 60   | 6.3x7.7       |
| 33               | 100  | 336SVH100MFE   | 9.04                                | 120  | 8x10.5        |
| 33               | 100  | 336SVH100MGE   | 9.04                                | 150  | 10x10.5       |
| 33               | 160  | 336SVH160MTP   | 10.0477                             | 95   | 12.5x13.5     |
| 33               | 200  | 336SVH200MTBW  | 10.0477                             | 120  | 12.5x16       |
| 47               | 6.3  | 476SVH6R3MDR   | 10.58                               | 36   | 5x5.4         |
| 47               | 16   | 476SVH016MDR   | 5.6438                              | 42   | 5x5.4         |
| 47               | 25   | 476SVH025MER   | 5.64                                | 48   | 6.3x5.4       |
| 47               | 50   | 476SVH050MEL   | 4.94                                | 63   | 6.3x7.7       |
| 47               | 63   | 476SVH063MFE   | 6.35                                | 170  | 8x10.5        |
| 47               | 100  | 476SVH100MFE   | 6.35                                | 170  | 8x10.5        |
| 47               | 100  | 476SVH100MGE   | 6.35                                | 250  | 10x10.5       |
| 47               | 100  | 476SVH100MTP   | 6.3493                              | 250  | 12.5x13.5     |
| 100              | 16   | 107SVH016MER   | 3.32                                | 60   | 6.3x5.4       |
| 100              | 25   | 107SVH025MEL   | 2.65                                | 100  | 6.3x7.7       |
| 100              | 25   | 107SVH025MEL   | 2.6526                              | 100  | 6.3x7.7       |
| 100              | 35   | 107SVH035MEL   | 2.65                                | 100  | 6.3x7.7       |
| 100              | 50   | 107SVH050MFE   | 2.82                                | 230  | 8x10.5        |
| 100              | 63   | 107SVH063MGE   | 2.98                                | 340  | 10x10.5       |
| 100              | 100  | 107SVH100MTP   | 2.98                                | 300  | 12.5x13.5     |
| 150              | 6.3  | 157SVH6R3MGE   | 3.32                                | 86   | 6.3x5.4       |
| 150              | 25   | 157SVH025MEL   | 1.77                                | 91   | 6.3x7.7       |
| 150              | 35   | 157SVH035MFE   | 1.55                                | 260  | 8x10.5        |
| 150              | 50   | 157SVH050MGE   | 1.55                                | 250  | 10x10.5       |
| 150              | 63   | 157SVH063MGE   | 1.99                                | 360  | 10x10.5       |
| 220              | 6.3  | 227SVH6R3MER   | 2.261                               | 80   | 6.3x5.4       |
| 220              | 10   | 227SVH010MEL   | 1.8086                              | 120  | 6.3x7.7       |
| 220              | 16   | 227SVH016MEL   | 1.51                                | 105  | 6.3x7.7       |
| 220              | 25   | 227SVH025MFE   | 1.21                                | 240  | 8x10.5        |
| 220              | 35   | 227SVH035MFE   | 1.5071                              | 170  | 8x10.5        |
| 220              | 50   | 227SVH050MGE   | 1.06                                | 375  | 10x10.5       |
| 220              | 63   | 227SVH063MTP   | 1.3564                              | 470  | 12.5x13.5     |

# SVH

+105°C, Long Life, 2000 hours

| Capacitance (µF) | WVDC | IC PART NUMBER                | Maximum ESR (Ω)<br>120 Hz,<br>+20°C | Maximum RMS Ripple Current (mA)<br>120 Hz,<br>+105°C | Dims DxL (mm) |
|------------------|------|-------------------------------|-------------------------------------|--|---------------|
| 330              | 6.3  | <a href="#">337SVH6R3MEL</a>  | 1.507                               | 140  | 6.3x7.7       |
| 330              | 25   | <a href="#">337SVH025MFE</a>  | 0.8                                 | 320  | 8x10.5        |
| 330              | 35   | <a href="#">337SVH035MGE</a>  | 0.7                                 | 410  | 10x10.5       |
| 330              | 50   | <a href="#">337SVH050MTP</a>  | 0.9043                              | 490  | 12.5x13.5     |
| 330              | 50   | <a href="#">337SVH050MTP</a>  | 0.9043                              | 490  | 12.5x13.5     |
| 470              | 16   | <a href="#">477SVH016MFE</a>  | 0.71                                | 240  | 8x10.5        |
| 470              | 25   | <a href="#">477SVH025MGE</a>  | 0.56                                | 450  | 10x10.5       |
| 470              | 35   | <a href="#">477SVH035MTP</a>  | 0.78                                | 520  | 12.5x13.5     |
| 470              | 50   | <a href="#">477SVH050MTBW</a> | 0.5644                              | 550  | 12.5x16       |
| 680              | 6.3  | <a href="#">687SVH6R3MFE</a>  | 0.73                                | 340  | 8x10.5        |
| 680              | 25   | <a href="#">687SVH025MGE</a>  | 0.39                                | 490  | 10x10.5       |
| 680              | 35   | <a href="#">687SVH035MTP</a>  | 0.54                                | 590  | 12.5x13.5     |
| 1000             | 10   | <a href="#">108SVH010MGE</a>  | 0.4                                 | 450  | 10x10.5       |
| 1500             | 6.3  | <a href="#">158SVH6R3MGE</a>  | 0.39                                | 460  | 10x10.5       |
| 1500             | 25   | <a href="#">158SVH025MTBW</a> | 0.29                                | 590  | 12.5x16       |
| 2200             | 10   | <a href="#">228SVH010MTP</a>  | 0.23                                | 680  | 12.5x13.5     |