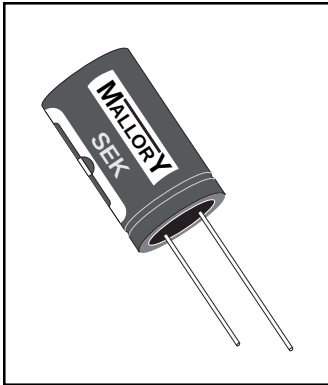


# Type SEK Radial Leaded Capacitors

**MALLORY**



- 105°C - Long Life
- High CV Product
- High Reliability
- Ideal for High Density Printed Circuit Boards
- Very High Volumetric Efficiency
- Suitable for General Purpose Applications, Coupling, Decoupling, Bypass and Filtering Circuits

## GENERAL SPECIFICATIONS

Operating Temperature:  
-40°C to +105°C

Voltage Range:  
6.3 WVDC to 450 WVDC

Capacitance Range:  
0.47  $\mu$ F to 15,000  $\mu$ F

Capacitance Tolerance:  
 $\pm 20\%$

DC Leakage Current:  
6.3 - 250VDC  
 $I = .01CV + 3\mu A$  Max  
after 2 minutes application of DC working voltage at 25°C

Over 350VDC  
 $I = .03CV + 10\mu A$  Max  
after 2 minutes application of DC working voltage at 25°C

C = Capacitance in  $\mu$ F

V = Rated Voltage

I = Leakage Current in  $\mu$ A

QA Stability Test:  
Apply WVDC for 1,000 hrs at 105°C

- Capacitance change 20% of initial limits
- DC leakage current meets initial limits
- ESR  $\leq 200\%$  of initial measured value

Shelf Life:

500 hours; no voltage applied

- Capacitor change within 20% of initial values
- Dissipation factor not exceed 200% of initial requirements
- Leakage current: not exceed 200% of initial requirement

SEK parts are available taped in Ammo pack and taped and reeled. See page 124 for details.

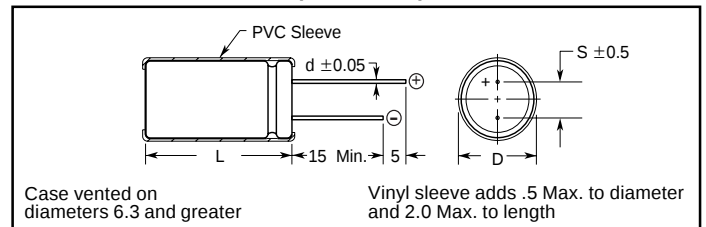
| Dissipation Factor @ 120Hz, 25°C |     |    |    |    |    |    |    |    |     |         |
|----------------------------------|-----|----|----|----|----|----|----|----|-----|---------|
| WV (V)                           | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 | 160-250 |
| DF(%)                            | 26  | 22 | 18 | 16 | 14 | 12 | 10 | 10 | 10  | 15      |
|                                  |     |    |    |    |    |    |    |    |     | 20      |

For capacitors whose capacitance value exceeds 1000 $\mu$ F, the value of DF(%) is increased 2% for every additional 1000 $\mu$ F.

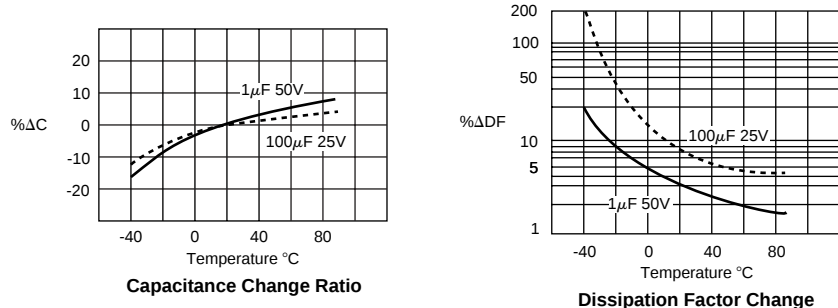
The maximum ripple current at 105°C and 120 Hz for SEK capacitors is shown in the Standard Rating Table. Maximum ripple current may be adjusted by the multipliers in the following tables.

| Rated WVDC | Ripple Multipliers |       |      |       | Ambient Temperature | Ripple Multiplier |
|------------|--------------------|-------|------|-------|---------------------|-------------------|
|            | 60Hz               | 120Hz | 1kHz | 10kHz |                     |                   |
| 6 to 25    | .80                | 1.0   | 1.10 | 1.20  | +105°C              | 1.00              |
| 35 to 100  | .75                | 1.0   | 1.30 | 1.40  | +85°C               | 1.50              |
| 160 to 250 | .70                | 1.0   | 1.40 | 1.60  | +70°C               | 1.80              |
| 350 to 400 | .60                | 1.0   | 1.50 | 1.80  |                     |                   |

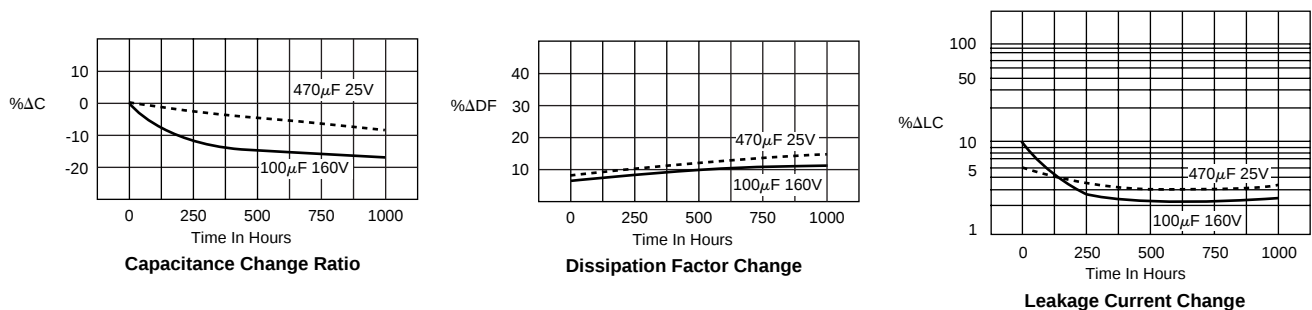
## Outline Dimensions (Millimeters)



## Temperature Characteristics



## Load Life Characteristics



# Type SEK Radial Leaded Capacitors

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| Cap<br>μF             | Max ESR<br>Ohms<br>120Hz<br>25°C | Max Ripple<br>mA<br>120Hz<br>105°C | Max LC<br>μA<br>2<br>Minutes | Size (Millimeters) |             |                 |     | New<br>Catalog<br>Number | Previous<br>Catalog<br>Number |
|-----------------------|----------------------------------|------------------------------------|------------------------------|--------------------|-------------|-----------------|-----|--------------------------|-------------------------------|
|                       |                                  |                                    |                              | D<br>Diameter      | L<br>Length | S<br>Lead Space | d   |                          |                               |
| 6.3 WVDC; 8 VDC Surge |                                  |                                    |                              |                    |             |                 |     |                          |                               |
| 100                   | 3.45                             | 100                                | 9.3                          | 5                  | 11          | 2               | 0.5 | SEK101M6R3ST             | TKR101M0JD11                  |
| 220                   | 1.57                             | 165                                | 16.9                         | 6.3                | 11          | 2.5             | 0.5 | SEK221M6R3ST             | TKR221M0JE11V                 |
| 330                   | 1.05                             | 200                                | 23.8                         | 6.3                | 11.5        | 2.5             | 0.5 | SEK331M6R3ST             | TKR331M0JE11V                 |
| 470                   | 0.73                             | 280                                | 32.6                         | 8                  | 11.5        | 3.5             | 0.6 | SEK471M6R3ST             | TKR471M0JF11V                 |
| 1000                  | 0.35                             | 470                                | 66.0                         | 10                 | 13          | 5               | 0.6 | SEK102M6R3ST             | TKR102M0JG13V                 |
| 2200                  | 0.17                             | 930                                | 141.6                        | 10                 | 21          | 5               | 0.6 | SEK222M6R3ST             | TKR222M0JG21V                 |
| 3300                  | 0.12                             | 1100                               | 210.9                        | 13                 | 21          | 5               | 0.6 | SEK332M6R3ST             | TKR332M0JJ21V                 |
| 4700                  | 0.10                             | 1320                               | 299.1                        | 16                 | 26          | 5               | 0.6 | SEK472M6R3ST             | TKR472M0JJ26V                 |
| 6800                  | 0.07                             | 1490                               | 431.4                        | 16                 | 25          | 7.5             | 0.8 | SEK682M6R3ST             | TKR682M0JK25V                 |
| 10000                 | 0.06                             | 1830                               | 633.0                        | 16                 | 32          | 7.5             | 0.8 | SEK103M6R3ST             | TKR103M0JK32V                 |
| 15000                 | 0.05                             | 2280                               | 948.0                        | 18                 | 36          | 7.5             | 0.8 | SEK153M6R3ST             | TKR153M0JL35V                 |
| 10 WVDC; 13 VDC Surge |                                  |                                    |                              |                    |             |                 |     |                          |                               |
| 47                    | 6.21                             | 75                                 | 7.7                          | 5                  | 11          | 2               | 0.5 | SEK470M010ST             | TKR470M1AD11                  |
| 100                   | 2.92                             | 110                                | 13.0                         | 5                  | 11          | 2               | 0.5 | SEK101M010ST             | TKR101M1AD11                  |
| 220                   | 1.33                             | 180                                | 25.0                         | 6.3                | 11          | 2.5             | 0.5 | SEK221M010ST             | TKR221M1AE11V                 |
| 330                   | 0.88                             | 255                                | 36.0                         | 8                  | 11.5        | 3.5             | 0.6 | SEK331M010ST             | TKR331M1AF11V                 |
| 470                   | 0.62                             | 305                                | 50.0                         | 8                  | 11.5        | 3.5             | 0.6 | SEK471M010ST             | TKR471M1AF11V                 |
| 1000                  | 0.29                             | 570                                | 103.0                        | 10                 | 16          | 5               | 0.6 | SEK102M010ST             | TKR102M1AG16V                 |
| 2200                  | 0.14                             | 1010                               | 223.0                        | 13                 | 21          | 5               | 0.6 | SEK222M010ST             | TKR222M1AJ21V                 |
| 3300                  | 0.10                             | 1220                               | 333.0                        | 13                 | 25          | 5               | 0.6 | SEK332M010ST             | TKR332M1AJ21V                 |
| 4700                  | 0.08                             | 1410                               | 473.0                        | 16                 | 25          | 7.5             | 0.8 | SEK472M010ST             | TKR472M1AK25V                 |
| 6800                  | 0.07                             | 1610                               | 683.0                        | 16                 | 32          | 7.5             | 0.8 | SEK682M010ST             | TKR682M1AK32V                 |
| 10000                 | 0.05                             | 1980                               | 1003.0                       | 18                 | 36          | 7.5             | 0.8 | SEK103M010ST             | TKR103M1AL35V                 |
| 15000                 | 0.04                             | 3330                               | 1503.0                       | 18                 | 42          | 7.5             | 0.8 | SEK153M010ST             | TKR153M1AL42V                 |
| 16 WVDC; 20 VDC Surge |                                  |                                    |                              |                    |             |                 |     |                          |                               |
| 33                    | 7.24                             | 70                                 | 8.3                          | 5                  | 11          | 2               | 0.5 | SEK330M016ST             | TKR330M1CD11                  |
| 47                    | 5.08                             | 85                                 | 10.5                         | 5                  | 11          | 2               | 0.5 | SEK470M016ST             | TKR470M1CD11                  |
| 100                   | 2.39                             | 135                                | 19.0                         | 6.3                | 11          | 2.5             | 0.5 | SEK101M016ST             | TKR101M1CE11V                 |
| 220                   | 1.09                             | 235                                | 38.2                         | 8                  | 11.5        | 3.5             | 0.6 | SEK221M016ST             | TKR221M1CF11V                 |
| 330                   | 0.72                             | 285                                | 55.8                         | 8                  | 11          | 3.5             | 0.6 | SEK331M016ST             | TKR331M1CF11V                 |
| 470                   | 0.51                             | 395                                | 78.2                         | 10                 | 13          | 5               | 0.6 | SEK471M016ST             | TKR471M1CG13V                 |
| 1000                  | 0.24                             | 700                                | 163.0                        | 10                 | 21          | 5               | 0.6 | SEK102M016ST             | TKR102M1CG21V                 |
| 2200                  | 0.12                             | 1150                               | 355.0                        | 13                 | 21          | 5               | 0.6 | SEK222M016ST             | TKR222M1CJ21V                 |
| 3300                  | 0.09                             | 1350                               | 531.0                        | 13                 | 26          | 5               | 0.6 | SEK332M016ST             | TKR332M1CJ26V                 |
| 4700                  | 0.07                             | 1560                               | 755.0                        | 16                 | 32          | 7.5             | 0.8 | SEK472M016ST             | TKR472M1CK32V                 |
| 6800                  | 0.06                             | 1790                               | 1091.0                       | 18                 | 36          | 7.5             | 0.8 | SEK682M016ST             | TKR682M1CL35V                 |
| 10000                 | 0.05                             | 2884                               | 1603.0                       | 18                 | 42          | 7.5             | 0.8 | SEK103M016ST             | TKR103M1CL42V                 |
| 25 WVDC; 32 VDC Surge |                                  |                                    |                              |                    |             |                 |     |                          |                               |
| 10                    | 21.23                            | 50                                 | 5.5                          | 5                  | 11          | 2               | 0.5 | SEK100M025ST             | TKR100M1ED11                  |
| 22                    | 9.65                             | 60                                 | 8.5                          | 5                  | 11          | 2               | 0.5 | SEK220M025ST             | TKR220M1ED11                  |
| 33                    | 6.43                             | 75                                 | 11.3                         | 5                  | 11          | 2               | 0.5 | SEK330M025ST             | TKR330M1ED11                  |
| 47                    | 4.52                             | 90                                 | 14.8                         | 5                  | 11          | 2               | 0.5 | SEK470M025ST             | TKR470M1ED11                  |
| 100                   | 2.12                             | 145                                | 28.0                         | 6                  | 11          | 2.5             | 0.5 | SEK101M025ST             | TKR101M1EE11V                 |
| 220                   | 0.97                             | 250                                | 58.0                         | 8                  | 11          | 3.5             | 0.6 | SEK221M025ST             | TKR221M1EF11V                 |
| 330                   | 0.64                             | 355                                | 85.5                         | 10                 | 13          | 5               | 0.6 | SEK331M025ST             | TKR331M1EG13V                 |

# Type SEK Radial Leaded Capacitors

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| Cap<br>μF             | Max ESR<br>Ohms<br>120Hz<br>25°C | Max Ripple<br>mA<br>120Hz<br>105°C | Max LC<br>μA<br>2<br>Minutes | Size (Millimeters) |             |                 |     | New<br>Catalog<br>Number | Previous<br>Catalog<br>Number |
|-----------------------|----------------------------------|------------------------------------|------------------------------|--------------------|-------------|-----------------|-----|--------------------------|-------------------------------|
|                       |                                  |                                    |                              | D<br>Diameter      | L<br>Length | S<br>Lead Space | d   |                          |                               |
| 25 WVDC; 32 VDC Surge |                                  |                                    |                              |                    |             |                 |     |                          |                               |
| 470                   | 0.45                             | 470                                | 120.5                        | 10                 | 16          | 5               | 0.6 | SEK471M025ST             | TKR471M1EG16V                 |
| 1000                  | 0.21                             | 855                                | 253.0                        | 13                 | 21          | 5               | 0.6 | SEK102M025ST             | TKR102M1EJ21V                 |
| 2200                  | 0.11                             | 1230                               | 553.0                        | 13                 | 26          | 5               | 0.6 | SEK222M025ST             | TKR222M1EJ26V                 |
| 3300                  | 0.08                             | 1450                               | 828.0                        | 16                 | 32          | 7.5             | 0.8 | SEK332M025ST             | TKR332M1EK32V                 |
| 4700                  | 0.07                             | 1690                               | 1178.0                       | 18                 | 36          | 7.5             | 0.8 | SEK472M025ST             | TKR472M1EL35V                 |
| 6800                  | 0.05                             | 2856                               | 1703.0                       | 18                 | 42          | 7.5             | 0.8 | SEK682M025ST             | TKR682M1EL42V                 |
| 35 WVDC; 44 VDC Surge |                                  |                                    |                              |                    |             |                 |     |                          |                               |
| 22                    | 8.44                             | 65                                 | 10.7                         | 5                  | 11          | 2               | 0.5 | SEK220M035ST             | TKR220M1VD11                  |
| 33                    | 5.63                             | 85                                 | 14.6                         | 5                  | 11          | 2               | 0.5 | SEK330M035ST             | TKR330M1VD11                  |
| 47                    | 3.95                             | 115                                | 19.5                         | 6.3                | 11          | 2.5             | 0.5 | SEK470M035ST             | TKR470M1VE11V                 |
| 100                   | 1.86                             | 190                                | 38.0                         | 8                  | 11.5        | 3.5             | 0.6 | SEK101M035ST             | TKR101M1VF11V                 |
| 220                   | 0.84                             | 315                                | 80.0                         | 10                 | 13          | 5               | 0.6 | SEK221M035ST             | TKR221M1VG13V                 |
| 330                   | 0.56                             | 440                                | 118.5                        | 10                 | 16          | 5               | 0.6 | SEK331M035ST             | TKR331M1VG16V                 |
| 470                   | 0.40                             | 580                                | 167.5                        | 13                 | 20          | 5               | 0.6 | SEK471M035ST             | TKR471M1VG21V                 |
| 1000                  | 0.19                             | 995                                | 353.0                        | 13                 | 21          | 5               | 0.6 | SEK102M035ST             | TKR102M1VJ21V                 |
| 2200                  | 0.10                             | 1450                               | 773.0                        | 16                 | 32          | 7.5             | 0.8 | SEK222M035ST             | TKR222M1VK32V                 |
| 3300                  | 0.07                             | 1660                               | 1158.0                       | 18                 | 36          | 7.5             | 0.8 | SEK332M035ST             | TKR332M1VL35V                 |
| 4700                  | 0.06                             | 2674                               | 1648.0                       | 18                 | 42          | 7.5             | 0.8 | SEK472M035ST             | TKR472M1VL42V                 |
| 50 WVDC; 63 VDC Surge |                                  |                                    |                              |                    |             |                 |     |                          |                               |
| 0.47                  | 338.80                           | 7                                  | 3.2                          | 5                  | 11          | 2               | 0.5 | SEKR47M050ST             | TKRR47M1HD11                  |
| 1                     | 159.24                           | 12                                 | 3.5                          | 5                  | 11          | 2               | 0.5 | SEK010M050ST             | TKR010M1HD11                  |
| 2.2                   | 72.38                            | 18                                 | 4.1                          | 5                  | 11          | 2               | 0.5 | SEK2R2M050ST             | TKR2R2M1HD11                  |
| 3.3                   | 48.25                            | 25                                 | 4.7                          | 5                  | 11          | 2               | 0.5 | SEK3R3M050ST             | TKR3R3M1HD11                  |
| 4.7                   | 33.88                            | 30                                 | 5.4                          | 5                  | 11          | 2               | 0.5 | SEK4R7M050ST             | TKR4R7M1HD11                  |
| 10                    | 15.92                            | 50                                 | 8.0                          | 5                  | 11          | 2               | 0.5 | SEK100M050ST             | TKR100M1HD11                  |
| 22                    | 7.24                             | 75                                 | 14.0                         | 5                  | 11          | 2               | 0.5 | SEK220M050ST             | TKR220M1HD11                  |
| 33                    | 4.83                             | 105                                | 19.5                         | 6.3                | 11          | 2.5             | 0.5 | SEK330M050ST             | TKR330M1HE11V                 |
| 47                    | 3.39                             | 125                                | 26.5                         | 6.3                | 11.5        | 2.5             | 0.5 | SEK470M050ST             | TKR470M1HE11V                 |
| 100                   | 1.59                             | 210                                | 53.0                         | 8                  | 11          | 3.5             | 0.6 | SEK101M050ST             | TKR101M1HF11V                 |
| 220                   | 0.72                             | 400                                | 113.0                        | 10                 | 16          | 5               | 0.6 | SEK221M050ST             | TKR221M1HG16V                 |
| 330                   | 0.48                             | 535                                | 168.0                        | 10                 | 21          | 5               | 0.6 | SEK331M050ST             | TKR331M1HG21V                 |
| 470                   | 0.34                             | 730                                | 238.0                        | 13                 | 21          | 5               | 0.6 | SEK471M050ST             | TKR471M1HJ21V                 |
| 1000                  | 0.16                             | 1110                               | 503.0                        | 16                 | 25          | 7.5             | 0.8 | SEK102M050ST             | TKR102M1HK25V                 |
| 2200                  | 0.08                             | 1530                               | 1103.0                       | 18                 | 36          | 7.5             | 0.8 | SEK222M050ST             | TKR222M1HL35V                 |
| 3300                  | 0.47                             | 2478                               | 1653.0                       | 18                 | 42          | 7.5             | 0.8 | SEK332M050ST             | TKR332M1HL42V                 |
| 63 WVDC; 79 VDC Surge |                                  |                                    |                              |                    |             |                 |     |                          |                               |
| 4.7                   | 28.23                            | 34                                 | 6.0                          | 5                  | 11          | 2               | 0.5 | SEK4R7M063ST             | TKR4R7M1JD11                  |
| 10                    | 13.27                            | 55                                 | 9.3                          | 5                  | 11          | 2               | 0.5 | SEK100M063ST             | TKR100M1JD11                  |
| 22                    | 6.03                             | 90                                 | 16.9                         | 6.3                | 11          | 2.5             | 0.5 | SEK220M063ST             | TKR220M1JE11V                 |
| 33                    | 4.02                             | 110                                | 23.8                         | 6.3                | 11          | 2.5             | 0.5 | SEK330M063ST             | TKR330M1JE11V                 |
| 47                    | 2.82                             | 155                                | 32.6                         | 8                  | 11          | 3.5             | 0.6 | SEK470M063ST             | TKR470M1JF11V                 |
| 100                   | 1.33                             | 260                                | 66.0                         | 10                 | 13          | 5               | 0.6 | SEK101M063ST             | TKR101M1JG13V                 |
| 220                   | 0.60                             | 460                                | 141.6                        | 10                 | 21          | 5               | 0.6 | SEK221M063ST             | TKR221M1JG21V                 |
| 330                   | 0.40                             | 650                                | 210.9                        | 13                 | 21          | 5               | 0.6 | SEK331M063ST             | TKR331M1JJ21V                 |
| 470                   | 0.28                             | 800                                | 299.1                        | 13                 | 26          | 5               | 0.6 | SEK471M063ST             | TKR471M1JJ26V                 |
| 1000                  | 0.13                             | 1200                               | 633.0                        | 16                 | 32          | 7.5             | 0.8 | SEK102M063ST             | TKR102M1JK32V                 |

# Type SEK Radial Leaded Capacitors

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| Cap<br>μF               | Max ESR<br>Ohms<br>120Hz<br>25°C | Max Ripple<br>mA<br>120Hz<br>105°C | Max LC<br>μA<br>2<br>Minutes | Size (Millimeters) |             |                 |     | New<br>Catalog<br>Number | Previous<br>Catalog<br>Number |
|-------------------------|----------------------------------|------------------------------------|------------------------------|--------------------|-------------|-----------------|-----|--------------------------|-------------------------------|
|                         |                                  |                                    |                              | D<br>Diameter      | L<br>Length | S<br>Lead Space | d   |                          |                               |
| 100 WVDC; 125 VDC Surge |                                  |                                    |                              |                    |             |                 |     |                          |                               |
| 0.47                    | 282.33                           | 10                                 | 3.5                          | 5                  | 11          | 2               | 0.5 | SEKR47M100ST             | TKRR47M2AD11                  |
| 1                       | 132.70                           | 15                                 | 4.0                          | 5                  | 11          | 2               | 0.5 | SEK010M100ST             | TKR010M2AD11                  |
| 2.2                     | 60.32                            | 22                                 | 5.2                          | 5                  | 11          | 2               | 0.5 | SEK2R2M100ST             | TKR2R2M2AD11                  |
| 3.3                     | 40.21                            | 29                                 | 6.3                          | 5                  | 11          | 2               | 0.5 | SEK3R3M100ST             | TKR3R3M2AD11                  |
| 4.7                     | 28.23                            | 37                                 | 7.7                          | 5                  | 11          | 2               | 0.5 | SEK4R7M100ST             | TKR4R7M2AD11                  |
| 10                      | 13.27                            | 65                                 | 13.0                         | 6.3                | 11          | 2.5             | 0.5 | SEK100M100ST             | TKR100M2AE11V                 |
| 22                      | 6.03                             | 115                                | 25.0                         | 8                  | 11          | 3.5             | 0.6 | SEK220M100ST             | TKR220M2AF11V                 |
| 33                      | 4.02                             | 160                                | 36.0                         | 10                 | 13          | 5               | 0.6 | SEK330M100ST             | TKR330M2AG13V                 |
| 47                      | 2.82                             | 210                                | 50.0                         | 10                 | 16          | 5               | 0.6 | SEK470M100ST             | TKR470M2AG16V                 |
| 100                     | 1.33                             | 385                                | 103.0                        | 13                 | 20          | 5               | 0.6 | SEK101M100ST             | TKR101M2AJ21V                 |
| 220                     | 0.60                             | 590                                | 223.0                        | 16                 | 25          | 7.5             | 0.8 | SEK221M100ST             | TKR221M2AK25V                 |
| 330                     | 0.40                             | 720                                | 333.0                        | 16                 | 25          | 7.5             | 0.8 | SEK331M100ST             | TKR331M2AK25V                 |
| 470                     | 0.28                             | 875                                | 473.0                        | 16                 | 32          | 7.5             | 0.8 | SEK471M100ST             | TKR471M2AK32V                 |
| 160 WVDC; 200 VDC Surge |                                  |                                    |                              |                    |             |                 |     |                          |                               |
| 0.47                    | 423.50                           | 12                                 | 12.3                         | 6.3                | 11          | 2.5             | 0.5 | SEKR47M160ST             | TKRR47M2CE11V                 |
| 1                       | 199.04                           | 17                                 | 14.8                         | 6.3                | 11          | 2.5             | 0.5 | SEK010M160ST             | TKR010M2CE11V                 |
| 2.2                     | 90.47                            | 25                                 | 20.6                         | 6.3                | 11          | 2.5             | 0.5 | SEK2R2M160ST             | TKR2R2M2CE11V                 |
| 3.3                     | 60.32                            | 36                                 | 25.8                         | 6.3                | 11          | 2.5             | 0.5 | SEK3R3M160ST             | TKR3R3M2CE11V                 |
| 4.7                     | 42.35                            | 43                                 | 32.6                         | 6.3                | 11          | 2.5             | 0.5 | SEK4R7M160ST             | TKR4R7M2CE11V                 |
| 10                      | 19.90                            | 70                                 | 58.0                         | 8                  | 11          | 3.5             | 0.6 | SEK100M160ST             | TKR100M2CF11V                 |
| 22                      | 9.05                             | 130                                | 115.6                        | 10                 | 16          | 5               | 0.6 | SEK220M160ST             | TKR220M2CG16V                 |
| 33                      | 6.03                             | 180                                | 168.4                        | 10                 | 21          | 5               | 0.6 | SEK330M160ST             | TKR330M2CG21V                 |
| 47                      | 4.23                             | 270                                | 235.6                        | 13                 | 21          | 5               | 0.6 | SEK470M160ST             | TKR470M2CJ21V                 |
| 100                     | 1.99                             | 330                                | 490.0                        | 13                 | 26          | 5               | 0.6 | SEK101M160ST             | TKR101M2CJ26V                 |
| 220                     | 0.90                             | 500                                | 1066.0                       | 16                 | 35          | 7.5             | 0.8 | SEK221M160ST             | TKR221M2CK35V                 |
| 330                     | 0.60                             | 850                                | 1594.0                       | 18                 | 42          | 7.5             | 0.8 | SEK331M160ST             | TKR331M2CL42V                 |
| 200 WVDC; 250 VDC Surge |                                  |                                    |                              |                    |             |                 |     |                          |                               |
| 0.47                    | 423.50                           | 12                                 | 12.8                         | 6.3                | 11          | 2.5             | 0.5 | SEKR47M200ST             | TKRR47M2DE11V                 |
| 1                       | 199.04                           | 17                                 | 16.0                         | 6.3                | 11          | 2.5             | 0.5 | SEK010M200ST             | TKR010M2DE11V                 |
| 2.2                     | 90.47                            | 25                                 | 23.2                         | 6.3                | 11.5        | 2.5             | 0.5 | SEK2R2M200ST             | TKR2R2M2DE11V                 |
| 3.3                     | 60.32                            | 36                                 | 29.8                         | 6.3                | 11.5        | 2.5             | 0.5 | SEK3R3M200ST             | TKR3R3M2DE11V                 |
| 4.7                     | 42.35                            | 50                                 | 38.2                         | 8                  | 11          | 3.5             | 0.6 | SEK4R7M200ST             | TKR4R7M2DF11V                 |
| 10                      | 19.90                            | 80                                 | 70.0                         | 10                 | 13          | 5               | 0.6 | SEK100M200ST             | TKR100M2DG13V                 |
| 22                      | 9.05                             | 140                                | 142.0                        | 10                 | 21          | 5               | 0.6 | SEK220M200ST             | TKR220M2DG21V                 |
| 33                      | 6.03                             | 190                                | 208.0                        | 13                 | 21          | 5               | 0.6 | SEK330M200ST             | TKR330M2DJ21V                 |
| 47                      | 4.23                             | 220                                | 292.0                        | 13                 | 21          | 5               | 0.6 | SEK470M200ST             | TKR470M2DJ21V                 |
| 100                     | 1.99                             | 335                                | 610.0                        | 16                 | 25          | 7.5             | 0.8 | SEK101M200ST             | TKR101M2DK25V                 |
| 220                     | 0.90                             | 515                                | 1330.0                       | 18                 | 42          | 7.5             | 0.8 | SEK221M200ST             | TKR221M2DL42V                 |
| 250 WVDC; 300 VDC Surge |                                  |                                    |                              |                    |             |                 |     |                          |                               |
| 0.47                    | 423.50                           | 12                                 | 13.5                         | 6.3                | 11          | 2.5             | 0.5 | SEKR47M250ST             | TKRR47M2EE11V                 |
| 1                       | 199.04                           | 17                                 | 17.5                         | 6.3                | 11          | 2.5             | 0.5 | SEK010M250ST             | TKR010M2EE11V                 |
| 2.2                     | 90.47                            | 29                                 | 26.5                         | 6.3                | 11.5        | 2.5             | 0.5 | SEK2R2M250ST             | TKR2R2M2EE11V                 |
| 3.3                     | 60.32                            | 42                                 | 34.8                         | 8                  | 11          | 3.5             | 0.6 | SEK3R3M250ST             | TKR3R3M2EF11V                 |
| 4.7                     | 42.35                            | 50                                 | 45.3                         | 8                  | 11          | 3.5             | 0.6 | SEK4R7M250ST             | TKR4R7M2EF11V                 |
| 10                      | 19.90                            | 88                                 | 85.0                         | 10                 | 16          | 5               | 0.6 | SEK100M250ST             | TKR100M2EG16V                 |

# Type SEK Radial Leaded Capacitors

**MALLORY**

| Cap<br>μF               | Max ESR<br>Ohms<br>120Hz<br>25°C | Max Ripple<br>mA<br>120Hz<br>105°C | Max LC<br>μA<br>2<br>Minutes | Size (Millimeters) |             |                 |     | New<br>Catalog<br>Number | Previous<br>Catalog<br>Number |
|-------------------------|----------------------------------|------------------------------------|------------------------------|--------------------|-------------|-----------------|-----|--------------------------|-------------------------------|
|                         |                                  |                                    |                              | D<br>Diameter      | L<br>Length | S<br>Lead Space | d   |                          |                               |
| 250 WVDC; 300 VDC Surge |                                  |                                    |                              |                    |             |                 |     |                          |                               |
| 22                      | 9.05                             | 155                                | 175.0                        | 13                 | 21          | 5               | 0.6 | SEK220M250ST             | TKR220M2EJ21V                 |
| 33                      | 6.03                             | 190                                | 257.5                        | 13                 | 21          | 5               | 0.6 | SEK330M250ST             | TKR330M2EJ21V                 |
| 47                      | 4.23                             | 230                                | 362.5                        | 13                 | 26          | 5               | 0.6 | SEK470M250ST             | TKR470M2EJ26V                 |
| 100                     | 1.99                             | 340                                | 760.0                        | 16                 | 32          | 7.5             | 0.8 | SEK101M250ST             | TKR101M2EK32V                 |
| 350 WVDC; 400 VDC Surge |                                  |                                    |                              |                    |             |                 |     |                          |                               |
| 0.47                    | 564.67                           | 14                                 | 14.9                         | 8                  | 11          | 3.5             | 0.6 | SEKR47M350ST             | TKRR47M2VF11V                 |
| 1                       | 265.39                           | 20                                 | 20.5                         | 8                  | 11          | 3.5             | 0.6 | SEK010M350ST             | TKR010M2VF11V                 |
| 2.2                     | 120.63                           | 35                                 | 33.1                         | 10                 | 11.5        | 3.5             | 0.6 | SEK2R2M350ST             | TKR2R2M2VF11V                 |
| 3.3                     | 80.42                            | 47                                 | 44.7                         | 10                 | 13          | 5               | 0.6 | SEK3R3M350ST             | TKR3R3M2VG13V                 |
| 4.7                     | 56.47                            | 55                                 | 59.4                         | 10                 | 13          | 5               | 0.6 | SEK4R7M350ST             | TKR4R7M2VG13V                 |
| 10                      | 26.54                            | 95                                 | 115.0                        | 10                 | 21          | 5               | 0.6 | SEK100M350ST             | TKR100M2VG21V                 |
| 22                      | 12.06                            | 165                                | 241.0                        | 13                 | 26          | 5               | 0.6 | SEK220M350ST             | TKR220M2VJ26V                 |
| 33                      | 8.04                             | 195                                | 356.5                        | 13                 | 25          | 7.5             | 0.8 | SEK330M350ST             | TKR330M2VK25V                 |
| 47                      | 5.65                             | 240                                | 503.5                        | 16                 | 35          | 7.5             | 0.8 | SEK470M350ST             | TKR470M2VK35V                 |
| 100                     | 2.65                             | 360                                | 1060.0                       | 18                 | 42          | 7.5             | 0.8 | SEK101M350ST             | TKR101M2VL42V                 |
| 400 WVDC; 450 VDC Surge |                                  |                                    |                              |                    |             |                 |     |                          |                               |
| 0.47                    | 564.67                           | 14                                 | 15.6                         | 8                  | 11          | 3.5             | 0.6 | SEKR47M400ST             | TKRR47M2GF11V                 |
| 1                       | 265.39                           | 20                                 | 22.0                         | 8                  | 11          | 3.5             | 0.6 | SEK010M400ST             | TKR010M2GF11V                 |
| 2.2                     | 120.63                           | 35                                 | 36.4                         | 10                 | 13          | 5               | 0.6 | SEK2R2M400ST             | TKR2R2M2GG13V                 |
| 3.3                     | 80.42                            | 50                                 | 49.6                         | 10                 | 13          | 5               | 0.6 | SEK3R3M400ST             | TKR3R3M2GG13V                 |
| 4.7                     | 56.47                            | 58                                 | 66.4                         | 10                 | 16          | 5               | 0.6 | SEK4R7M400ST             | TKR4R7M2GG16V                 |
| 10                      | 26.54                            | 100                                | 130.0                        | 13                 | 21          | 5               | 0.6 | SEK100M400ST             | TKR100M2GJ21V                 |
| 22                      | 12.06                            | 170                                | 274.0                        | 13                 | 26          | 5               | 0.6 | SEK220M400ST             | TKR220M2GJ26V                 |
| 33                      | 8.04                             | 205                                | 406.0                        | 16                 | 32          | 7.5             | 0.8 | SEK330M400ST             | TKR330M2GK32V                 |
| 47                      | 5.65                             | 255                                | 574.0                        | 18                 | 36          | 7.5             | 0.8 | SEK470M400ST             | TKR470M2GL35V                 |
| 450 WVDC; 500 VDC Surge |                                  |                                    |                              |                    |             |                 |     |                          |                               |
| 0.47                    | 564.67                           | 14                                 | 15.6                         | 8                  | 11          | 3.5             | 0.6 | SEKR47M450ST             |                               |
| 1                       | 265.39                           | 20                                 | 22.0                         | 8                  | 11          | 3.5             | 0.6 | SEK010M450ST             |                               |
| 2.2                     | 120.63                           | 35                                 | 36.4                         | 10                 | 13          | 5               | 0.6 | SEK2R2M450ST             |                               |
| 3.3                     | 80.42                            | 50                                 | 49.6                         | 10                 | 13          | 5               | 0.6 | SEK3R3M450ST             |                               |
| 4.7                     | 56.47                            | 58                                 | 66.4                         | 10                 | 16          | 5               | 0.6 | SEK4R7M450ST             |                               |
| 10                      | 26.54                            | 100                                | 130.0                        | 13                 | 21          | 5               | 0.6 | SEK100M450ST             |                               |
| 22                      | 12.06                            | 170                                | 274.0                        | 13                 | 26          | 5               | 0.6 | SEK220M450ST             |                               |
| 33                      | 8.04                             | 205                                | 406.0                        | 16                 | 32          | 7.5             | 0.8 | SEK330M450ST             |                               |
| 47                      | 5.65                             | 255                                | 574.0                        | 18                 | 36          | 7.5             | 0.8 | SEK470M450ST             |                               |

Aluminum Capacitors