

Radial Leaded Aluminum Electrolytic Capacitors
REA Series



FEATURES

- Long Life
- Endurance: 3000 - 5000 hours at 105°C
- RoHS Compliance

APPLICATIONS

- Communications Equipment
- Industrial Equipment

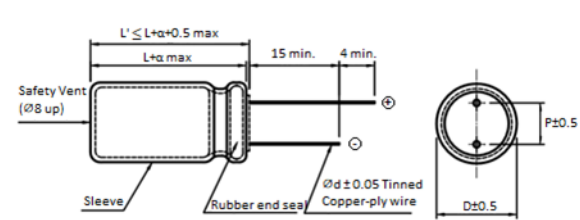


HOW TO ORDER

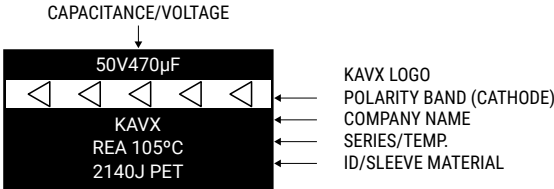
Diagram showing the breakdown of the part number R EA 1013 471 M 016 K - into its components: Product Type (Radial Aluminum), Series Type, Case Size, Capacitance Code (1013 471), Tolerance (M), Rated DC Voltage (016), and Special (K). Includes a table of voltage codes: 006 = 6.3Vdc, 010 = 10Vdc, 016 = 16Vdc, 025 = 25Vdc, 035 = 35Vdc, 050 = 50Vdc, 063 = 63Vdc, 100 = 100Vdc, 160 = 160Vdc, 250 = 250Vdc, 350 = 350Vdc, 400 = 400Vdc, 450 = 450Vdc, 200 = 200Vdc.

CASE DIMENSIONS millimeters (inches)

Table with 14 columns: Code, D+0.50 (0.020), L'±0.50 (0.020), d±0.05 (0.002), P±0.50 (0.020), α, Typical Weight (g). It lists dimensions and weights for various capacitor codes from 0511 to 2550.



MARKING



# Radial Leaded Aluminum Electrolytic Capacitors

## REA Series



### TECHNICAL SPECIFICATIONS

|                             |                                                                                    |                                                              |                                      |
|-----------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------|
| Category Temperature Range: | -40°C to +105°C (6.3-250V), -25°C to +105°C (350-450V)                             |                                                              |                                      |
| Capacitance Range           | At 25°C, 120Hz                                                                     | 0.47µF – 22,000µF                                            |                                      |
| Capacitance Tolerance:      | At 25°C, 120Hz                                                                     | ±20%                                                         |                                      |
| Dissipation Factor (%)      | Measurement Frequency: 120Hz at 25°C                                               | Please see the ratings and part number reference table below |                                      |
| Leakage Current:            | After 2 minutes (6.3-100V), 3 minutes (160-250V) at rated working voltage at 25°C* | 6.3-100V                                                     | 160-450V                             |
|                             |                                                                                    | ≤0.01CV or 3µA, whichever is greater                         | ≤0.03CV + 20µA, whichever is greater |

\* Note: In the case of an anomalous reading, re-measure the leakage current after following voltage treatment:  
Voltage treatment: DC rated voltage to be applied to the capacitors for 120 minutes at 105°C.

### CAPACITANCE AND RATED VOLTAGE RANGE (FIGURES DENOTES CASE SIZE)

| Capacitance |      | Rated Voltage DC (V <sub>R</sub> ) |      |      |      |      |      |      |      |      |      |      |                              |                              |                              |
|-------------|------|------------------------------------|------|------|------|------|------|------|------|------|------|------|------------------------------|------------------------------|------------------------------|
| µF          | Code | 6.3V                               | 10V  | 16V  | 25V  | 35V  | 50V  | 63V  | 100V | 160V | 200V | 250V | 350V                         | 400V                         | 450V                         |
| 0.47        | R47  |                                    |      |      |      |      | 0511 |      |      |      |      |      |                              |                              |                              |
| 1.0         | 1R0  |                                    |      |      |      |      | 0511 |      |      |      |      |      |                              |                              |                              |
| 2.2         | 2R2  |                                    |      |      |      |      | 0511 |      | 0511 | 0611 | 0611 | 0812 | 0812                         | 0812                         | 1013                         |
| 3.3         | 3R3  |                                    |      |      |      |      | 0511 |      | 0511 | 0812 | 0812 | 0812 | 0812                         | 0812                         | 1013                         |
| 4.7         | 4R7  |                                    |      |      |      |      | 0511 |      | 0511 | 0812 | 1013 | 0812 | 1013                         | 1013                         | 1016                         |
| 10          | 100  |                                    |      |      | 0511 | 0511 | 0511 | 0511 | 0611 | 1013 | 1016 | 1016 | 1020                         | 1020                         | 1321                         |
| 22          | 220  |                                    |      |      | 0511 | 0611 | 0611 | 0611 | 0812 | 1016 | 1020 | 1321 | 1321                         | 0850<br>1325                 | 1040<br>1622                 |
| 33          | 330  |                                    |      |      | 0611 | 0611 | 0812 | 0812 | 1013 | 1020 | 1321 | 1321 | 1040<br>1325                 | 0861<br>1040<br>1622         | 1050<br>1335<br>1626         |
| 39          | 390  |                                    |      |      |      |      |      |      | 1013 | 1020 | 1321 | 1325 | 1040<br>1330<br>1622         | 0861<br>1045<br>1335<br>1626 | 0861<br>1050<br>1340<br>1632 |
| 47          | 470  |                                    |      | 0511 | 0611 | 0812 | 0812 | 1013 | 1016 | 1321 | 1321 | 1325 | 1040<br>1335<br>1430<br>1626 | 1050<br>1340<br>1440<br>1632 | 1060<br>1350<br>1440<br>1825 |
| 53          | 530  |                                    |      |      |      |      |      |      |      |      |      |      | 1335                         | 1350                         | 1060                         |
| 68          | 680  |                                    |      |      |      |      |      |      | 1020 | 1325 | 1325 | 1622 | 1060<br>1340<br>1626<br>1635 | 1350<br>1445<br>1635<br>1825 | 1360<br>1450<br>1640<br>1832 |
| 82          | 820  |                                    |      |      |      |      |      |      | 1321 | 1622 | 1626 | 1632 | 1350<br>1635<br>1825         | 1445<br>1640<br>1832         | 1450<br>1645<br>1835         |
| 100         | 101  | 0511                               | 0511 | 0611 | 0812 | 0812 | 1013 | 1016 | 1321 | 1626 | 1632 | 1636 | 1640<br>1832                 | 1450<br>1645<br>1835         | 1650<br>1840                 |
| 120         | 121  |                                    |      |      |      |      |      |      |      |      |      |      | 1835                         | 1840                         |                              |
| 220         | 221  | 0611                               | 0611 | 0812 | 1013 | 1013 | 1016 | 1020 | 1626 | 1835 | 1840 |      |                              |                              |                              |
| 330         | 331  | 0812                               | 0812 | 0812 | 1013 | 1016 | 1020 | 1321 | 1626 |      |      |      |                              |                              |                              |
| 470         | 471  | 0812                               | 0812 | 1013 | 1020 | 1321 | 1321 | 1626 | 1632 |      |      |      |                              |                              |                              |
| 560         | 561  |                                    |      |      |      |      |      |      |      | 2240 | 2250 |      |                              |                              |                              |
| 680         | 681  |                                    |      |      |      |      |      |      |      | 2250 | 2550 |      |                              |                              |                              |
| 820         | 821  |                                    |      |      |      |      |      |      |      |      | 2550 |      |                              |                              |                              |
| 1000        | 102  | 1013                               | 1016 | 1020 | 1321 | 1325 | 1626 | 1632 |      |      |      |      |                              |                              |                              |
| 2200        | 222  | 1020                               | 1321 | 1325 | 1626 | 1632 | 1835 |      |      |      |      |      |                              |                              |                              |
| 3300        | 332  | 1321                               | 1325 | 1626 | 1632 | 1835 | 1840 |      |      |      |      |      |                              |                              |                              |
| 4700        | 472  | 1325                               | 1626 | 1632 | 1835 | 1840 |      |      |      |      |      |      |                              |                              |                              |
| 6800        | 682  | 1626                               | 1632 | 1835 | 1840 |      |      |      |      |      |      |      |                              |                              |                              |
| 10,000      | 103  | 1632                               | 1835 | 1840 |      |      |      |      |      |      |      |      |                              |                              |                              |
| 15,000      | 153  | 1835                               | 1840 |      |      |      |      |      |      |      |      |      |                              |                              |                              |
| 22,000      | 223  | 1840                               |      |      |      |      |      |      |      |      |      |      |                              |                              |                              |

Released ratings

# Radial Leaded Aluminum Electrolytic Capacitors

## REA Series



### RATINGS & PART NUMBER REFERENCE

| Part No.        | Case Size | Capacitance (μF) | Rated Voltage (V) | DCL Max. (μA) | DF Max. (%) | 120Hz RMS Current (mA) / 105°C |
|-----------------|-----------|------------------|-------------------|---------------|-------------|--------------------------------|
| <b>6.3 Volt</b> |           |                  |                   |               |             |                                |
| REA0511101M006* | 0511      | 100              | 6.3               | 6.3           | 24          | 120                            |
| REA0611221M006* | 0611      | 220              | 6.3               | 13.86         | 24          | 170                            |
| REA0812331M006* | 0812      | 330              | 6.3               | 20.79         | 24          | 250                            |
| REA0812471M006* | 0812      | 470              | 6.3               | 29.61         | 24          | 290                            |
| REA1013102M006* | 1013      | 1000             | 6.3               | 63            | 24          | 490                            |
| REA1020222M006* | 1020      | 2200             | 6.3               | 138.6         | 24          | 830                            |
| REA1321332M006* | 1321      | 3300             | 6.3               | 207.9         | 24          | 1060                           |
| REA1325472M006* | 1325      | 4700             | 6.3               | 296.1         | 24          | 1310                           |
| REA1626682M006B | 1626      | 6800             | 6.3               | 428.4         | 24          | 1430                           |
| REA1632103M006B | 1632      | 10000            | 6.3               | 630           | 24          | 1790                           |
| REA1835153M006B | 1835      | 15000            | 6.3               | 945           | 24          | 1980                           |
| REA1840223M006B | 1840      | 22000            | 6.3               | 1386          | 24          | 2290                           |
| <b>10 Volt</b>  |           |                  |                   |               |             |                                |
| REA0511101M010* | 0511      | 100              | 10                | 10            | 20          | 130                            |
| REA0611221M010* | 0611      | 220              | 10                | 22            | 20          | 190                            |
| REA0812331M010* | 0812      | 330              | 10                | 33            | 20          | 280                            |
| REA0812471M010* | 0812      | 470              | 10                | 47            | 20          | 330                            |
| REA1016102M010* | 1016      | 1000             | 10                | 100           | 20          | 580                            |
| REA1321222M010* | 1321      | 2200             | 10                | 220           | 20          | 970                            |
| REA1325332M010* | 1325      | 3300             | 10                | 330           | 20          | 1250                           |
| REA1626472M010B | 1626      | 4700             | 10                | 470           | 20          | 1400                           |
| REA1632682M010B | 1632      | 6800             | 10                | 680           | 20          | 1690                           |
| REA1835103M010B | 1835      | 10000            | 10                | 1000          | 20          | 2010                           |
| REA1840153M010B | 1840      | 15000            | 10                | 1500          | 20          | 2260                           |
| <b>16 Volt</b>  |           |                  |                   |               |             |                                |
| REA0511470M016* | 0511      | 47               | 16                | 7.52          | 17          | 85                             |
| REA0611101M016* | 0611      | 100              | 16                | 16            | 17          | 140                            |
| REA0812221M016* | 0812      | 220              | 16                | 35.2          | 17          | 240                            |
| REA0812331M016* | 0812      | 330              | 16                | 52.8          | 17          | 310                            |
| REA1013471M016* | 1013      | 470              | 16                | 75.2          | 17          | 380                            |
| REA1020102M016* | 1020      | 1000             | 16                | 160           | 17          | 670                            |
| REA1325222M016* | 1325      | 2200             | 16                | 352           | 17          | 1130                           |
| REA1626332M016B | 1626      | 3300             | 16                | 528           | 17          | 1350                           |
| REA1632472M016B | 1632      | 4700             | 16                | 752           | 17          | 1570                           |
| REA1835682M016B | 1835      | 6800             | 16                | 1088          | 17          | 1930                           |
| REA1840103M016B | 1840      | 10000            | 16                | 1600          | 17          | 2190                           |
| <b>25 Volt</b>  |           |                  |                   |               |             |                                |
| REA0511100M025* | 0511      | 10               | 25                | 2.5           | 15          | 45                             |
| REA0511220M025* | 0511      | 22               | 25                | 5.5           | 15          | 60                             |
| REA0611330M025* | 0611      | 33               | 25                | 8.25          | 15          | 90                             |
| REA0611470M025* | 0611      | 47               | 25                | 11.75         | 15          | 105                            |
| REA0812101M025* | 0812      | 100              | 25                | 25            | 15          | 185                            |
| REA1013221M025* | 1013      | 220              | 25                | 55            | 15          | 290                            |
| REA1013331M025* | 1013      | 330              | 25                | 82.5          | 15          | 350                            |
| REA1020471M025* | 1020      | 470              | 25                | 117.5         | 15          | 465                            |
| REA1321102M025* | 1321      | 1000             | 25                | 250           | 15          | 830                            |
| REA1626222M025B | 1626      | 2200             | 25                | 550           | 15          | 1210                           |
| REA1632332M025B | 1632      | 3300             | 25                | 825           | 15          | 1540                           |
| REA1835472M025B | 1835      | 4700             | 25                | 1175          | 15          | 1870                           |
| REA1840682M025B | 1840      | 6800             | 25                | 1700          | 15          | 2120                           |
| <b>35 Volt</b>  |           |                  |                   |               |             |                                |
| REA0511100M035* | 0511      | 10               | 35                | 3.5           | 12          | 48                             |
| REA0611220M035* | 0611      | 22               | 35                | 7.7           | 12          | 78                             |
| REA0611330M035* | 0611      | 33               | 35                | 11.55         | 12          | 100                            |
| REA0812470M035* | 0812      | 47               | 35                | 16.45         | 12          | 130                            |
| REA0812101M035* | 0812      | 100              | 35                | 35            | 12          | 190                            |
| REA1013221M035* | 1013      | 220              | 35                | 77            | 12          | 320                            |
| REA1016331M035* | 1016      | 330              | 35                | 115.5         | 12          | 420                            |
| REA1321471M035* | 1321      | 470              | 35                | 164.5         | 12          | 580                            |
| REA1325102M035* | 1325      | 1000             | 35                | 350           | 12          | 1000                           |
| REA1632222M035B | 1632      | 2200             | 35                | 770           | 12          | 1450                           |

# Radial Leaded Aluminum Electrolytic Capacitors

## REA Series



| Part No.        | Case Size | Capacitance (μF) | Rated Voltage (V) | DCL Max. (μA) | DF Max. (%) | 120Hz RMS Current (mA) / 105°C |
|-----------------|-----------|------------------|-------------------|---------------|-------------|--------------------------------|
| REA1835332M035B | 1835      | 3300             | 35                | 1155          | 12          | 1830                           |
| REA1840472M035B | 1840      | 4700             | 35                | 1645          | 12          | 2150                           |
| 50 Volt         |           |                  |                   |               |             |                                |
| REA0511R47M050* | 0511      | 0.47             | 50                | 0.235         | 10          | 8                              |
| REA05111R0M050* | 0511      | 1                | 50                | 0.5           | 10          | 17                             |
| REA05112R2M050* | 0511      | 2.2              | 50                | 1.1           | 10          | 23                             |
| REA05113R3M050* | 0511      | 3.3              | 50                | 1.65          | 10          | 31                             |
| REA05114R7M050* | 0511      | 4.7              | 50                | 2.35          | 10          | 35                             |
| REA0511100M050* | 0511      | 10               | 50                | 5             | 10          | 51                             |
| REA0611220M050* | 0611      | 22               | 50                | 11            | 10          | 85                             |
| REA0812330M050* | 0812      | 33               | 50                | 16.5          | 10          | 102                            |
| REA0812470M050* | 0812      | 47               | 50                | 23.5          | 10          | 141                            |
| REA1013101M050* | 1013      | 100              | 50                | 50            | 10          | 231                            |
| REA1016221M050* | 1016      | 220              | 50                | 110           | 10          | 368                            |
| REA1020331M050* | 1020      | 330              | 50                | 165           | 10          | 490                            |
| REA1321471M050* | 1321      | 470              | 50                | 235           | 10          | 665                            |
| REA1626102M050B | 1626      | 1000             | 50                | 500           | 10          | 1080                           |
| REA1835222M050B | 1835      | 2200             | 50                | 1100          | 10          | 1695                           |
| REA1840332M050B | 1840      | 3300             | 50                | 1650          | 10          | 2070                           |
| 63 Volt         |           |                  |                   |               |             |                                |
| REA0511100M063* | 0511      | 10               | 63                | 6.3           | 9           | 56                             |
| REA0611220M063* | 0611      | 22               | 63                | 13.86         | 9           | 95                             |
| REA0812330M063* | 0812      | 33               | 63                | 20.79         | 9           | 122                            |
| REA1013470M063* | 1013      | 47               | 63                | 29.61         | 9           | 152                            |
| REA1016101M063* | 1016      | 100              | 63                | 63            | 9           | 250                            |
| REA1020221M063* | 1020      | 220              | 63                | 138.6         | 9           | 415                            |
| REA1321331M063* | 1321      | 330              | 63                | 207.9         | 9           | 550                            |
| REA1626471M063B | 1626      | 470              | 63                | 296.1         | 9           | 725                            |
| REA1632102M063B | 1632      | 1000             | 63                | 630           | 9           | 1135                           |
| 100 Volt        |           |                  |                   |               |             |                                |
| REA05112R2M100* | 0511      | 2.2              | 100               | 2.2           | 8           | 28                             |
| REA05113R3M100* | 0511      | 3.3              | 100               | 3.3           | 8           | 34                             |
| REA05114R7M100* | 0511      | 4.7              | 100               | 4.7           | 8           | 40                             |
| REA0611100M100* | 0611      | 10               | 100               | 10            | 8           | 66                             |
| REA0812220M100* | 0812      | 22               | 100               | 22            | 8           | 112                            |
| REA1013330M100* | 1013      | 33               | 100               | 33            | 8           | 155                            |
| REA1013390M100* | 1013      | 39               | 100               | 39            | 8           | 160                            |
| REA1016470M100* | 1016      | 47               | 100               | 47            | 8           | 190                            |
| REA1020680M100* | 1020      | 68               | 100               | 68            | 8           | 210                            |
| REA1321820M100* | 1321      | 82               | 100               | 82            | 8           | 240                            |
| REA1321101M100* | 1321      | 100              | 100               | 100           | 8           | 310                            |
| REA1626221M100B | 1626      | 220              | 100               | 220           | 8           | 540                            |
| REA1626331M100B | 1626      | 330              | 100               | 330           | 8           | 660                            |
| REA1632471M100B | 1632      | 470              | 100               | 470           | 8           | 880                            |
| 160 Volt        |           |                  |                   |               |             |                                |
| REA06112R2M160* | 0611      | 2.2              | 160               | 10.56         | 15          | 28                             |
| REA08123R3M160* | 0812      | 3.3              | 160               | 15.84         | 15          | 34                             |
| REA08124R7M160* | 0812      | 4.7              | 160               | 22.56         | 15          | 43                             |
| REA1013100M160* | 1013      | 10               | 160               | 48            | 15          | 75                             |
| REA1016220M160* | 1016      | 22               | 160               | 105.6         | 15          | 130                            |
| REA1020330M160* | 1020      | 33               | 160               | 158.4         | 15          | 170                            |
| REA1020390M160* | 1020      | 39               | 160               | 187.2         | 15          | 190                            |
| REA1321470M160* | 1321      | 47               | 160               | 225.6         | 15          | 230                            |
| REA1325680M160* | 1325      | 68               | 160               | 326.4         | 15          | 260                            |
| REA1622820M160B | 1622      | 82               | 160               | 393.6         | 15          | 320                            |
| REA1626101M160B | 1626      | 100              | 160               | 480           | 15          | 350                            |
| REA1835221M160B | 1835      | 220              | 160               | 1056          | 15          | 640                            |
| REA2240561M160B | 2240      | 560              | 160               | 2688          | 15          | 1300                           |
| REA2250681M160B | 2250      | 680              | 160               | 3264          | 15          | 1420                           |
| 200 Volt        |           |                  |                   |               |             |                                |
| REA06112R2M200* | 0611      | 2.2              | 200               | 13.2          | 15          | 28                             |
| REA08123R3M200* | 0812      | 3.3              | 200               | 19.8          | 15          | 35                             |
| REA10134R7M200* | 1013      | 4.7              | 200               | 28.2          | 15          | 50                             |
| REA1016100M200* | 1016      | 10               | 200               | 60            | 15          | 80                             |
| REA1020220M200* | 1020      | 22               | 200               | 132           | 15          | 140                            |

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## REA Series



| Part No.        | Case Size | Capacitance (μF) | Rated Voltage (V) | DCL Max. (μA) | DF Max. (%) | 120Hz RMS Current (mA) / 105°C |
|-----------------|-----------|------------------|-------------------|---------------|-------------|--------------------------------|
| REA1321330M200* | 1321      | 33               | 200               | 198           | 15          | 200                            |
| REA1321390M200* | 1321      | 39               | 200               | 234           | 15          | 220                            |
| REA1321470M200* | 1321      | 47               | 200               | 282           | 15          | 250                            |
| REA1325680M200* | 1325      | 68               | 200               | 408           | 15          | 280                            |
| REA1626820M200B | 1626      | 82               | 200               | 492           | 15          | 350                            |
| REA1632101M200B | 1632      | 100              | 200               | 600           | 15          | 480                            |
| REA1840221M200B | 1840      | 220              | 200               | 1320          | 15          | 810                            |
| REA2250561M200B | 2250      | 560              | 200               | 3360          | 15          | 1400                           |
| REA2550681M200B | 2550      | 680              | 200               | 4080          | 15          | 1550                           |
| REA2550821M200B | 2550      | 820              | 200               | 4920          | 15          | 1700                           |
| 250 Volt        |           |                  |                   |               |             |                                |
| REA08122R2M250* | 0812      | 2.2              | 250               | 16.5          | 15          | 35                             |
| REA08123R3M250* | 0812      | 3.3              | 250               | 24.75         | 15          | 50                             |
| REA08124R7M250* | 0812      | 4.7              | 250               | 35.25         | 15          | 55                             |
| REA1016100M250* | 1016      | 10               | 250               | 75            | 15          | 100                            |
| REA1321220M250* | 1321      | 22               | 250               | 165           | 15          | 170                            |
| REA1321330M250* | 1321      | 33               | 250               | 247.5         | 15          | 225                            |
| REA1325390M250* | 1325      | 39               | 250               | 292.5         | 15          | 250                            |
| REA1325470M250* | 1325      | 47               | 250               | 352.5         | 15          | 280                            |
| REA1622680M250B | 1622      | 68               | 250               | 510           | 15          | 310                            |
| REA1632820M250B | 1632      | 82               | 250               | 615           | 15          | 390                            |
| REA1636101M250B | 1636      | 100              | 250               | 750           | 15          | 500                            |
| 350 Volt        |           |                  |                   |               |             |                                |
| REA08122R2M350* | 0812      | 2.2              | 350               | 23.1          | 20          | 35                             |
| REA08123R3M350* | 0812      | 3.3              | 350               | 34.65         | 20          | 44                             |
| REA10134R7M350* | 1013      | 4.7              | 350               | 49.35         | 20          | 55                             |
| REA1020100M350* | 1020      | 10               | 350               | 105           | 20          | 92                             |
| REA1321220M350* | 1321      | 22               | 350               | 231           | 20          | 162                            |
| REA1040330M350B | 1040      | 33               | 350               | 346.5         | 20          | 210                            |
| REA1325330M350* | 1325      | 33               | 350               | 346.5         | 20          | 205                            |
| REA1040390M350B | 1040      | 39               | 350               | 409.5         | 20          | 210                            |
| REA1330390M350B | 1330      | 39               | 350               | 409.5         | 20          | 270                            |
| REA1622390M350B | 1622      | 39               | 350               | 409.5         | 20          | 205                            |
| REA1040470M350B | 1040      | 47               | 350               | 493.5         | 20          | 300                            |
| REA1335470M350B | 1335      | 47               | 350               | 493.5         | 20          | 320                            |
| REA1430470M350B | 1430      | 47               | 350               | 493.5         | 20          | 320                            |
| REA1626470M350B | 1626      | 47               | 350               | 493.5         | 20          | 320                            |
| REA1335530M350B | 1335      | 53               | 350               | 556.5         | 20          | 320                            |
| REA1060680M350B | 1060      | 68               | 350               | 714           | 20          | 400                            |
| REA1340680M350B | 1340      | 68               | 350               | 714           | 20          | 430                            |
| REA1626680M350B | 1626      | 68               | 350               | 714           | 20          | 350                            |
| REA1635680M350B | 1635      | 68               | 350               | 714           | 20          | 420                            |
| REA1350820M350B | 1350      | 82               | 350               | 861           | 20          | 450                            |
| REA1635820M350B | 1635      | 82               | 350               | 861           | 20          | 500                            |
| REA1825820M350B | 1825      | 82               | 350               | 861           | 20          | 420                            |
| REA1640101M350B | 1640      | 100              | 350               | 1050          | 20          | 530                            |
| REA1832101M350B | 1832      | 100              | 350               | 1050          | 20          | 550                            |
| REA1835121M350B | 1835      | 120              | 350               | 1260          | 20          | 650                            |
| 400 Volt        |           |                  |                   |               |             |                                |
| REA08122R2M400* | 0812      | 2.2              | 400               | 26.4          | 20          | 35                             |
| REA08123R3M400* | 0812      | 3.3              | 400               | 39.6          | 20          | 50                             |
| REA10134R7M400* | 1013      | 4.7              | 400               | 56.4          | 20          | 60                             |
| REA1020100M400* | 1020      | 10               | 400               | 120           | 20          | 100                            |
| REA0850220M400B | 0850      | 22               | 400               | 264           | 20          | 135                            |
| REA1325220M400* | 1325      | 22               | 400               | 264           | 20          | 190                            |
| REA0861330M400B | 0861      | 33               | 400               | 396           | 20          | 280                            |
| REA1040330M400B | 1040      | 33               | 400               | 396           | 20          | 260                            |
| REA1622330M400B | 1622      | 33               | 400               | 396           | 20          | 240                            |
| REA0861390M400B | 0861      | 39               | 400               | 468           | 20          | 280                            |
| REA1045390M400B | 1045      | 39               | 400               | 468           | 20          | 300                            |
| REA1335390M400B | 1335      | 39               | 400               | 468           | 20          | 310                            |
| REA1626390M400B | 1626      | 39               | 400               | 468           | 20          | 300                            |
| REA1050470M400B | 1050      | 47               | 400               | 564           | 20          | 330                            |
| REA1340470M400B | 1340      | 47               | 400               | 564           | 20          | 350                            |
| REA1440470M400B | 1440      | 47               | 400               | 564           | 20          | 370                            |

# Radial Leaded Aluminum Electrolytic Capacitors

## REA Series



| Part No.        | Case Size | Capacitance (μF) | Rated Voltage (V) | DCL Max. (μA) | DF Max. (%) | 120Hz RMS Current (mA) / 105°C |
|-----------------|-----------|------------------|-------------------|---------------|-------------|--------------------------------|
| REA1632470M400B | 1632      | 47               | 400               | 564           | 20          | 330                            |
| REA1350530M400B | 1350      | 53               | 400               | 636           | 20          | 385                            |
| REA1350680M400B | 1350      | 68               | 400               | 816           | 20          | 385                            |
| REA1445680M400B | 1445      | 68               | 400               | 816           | 20          | 400                            |
| REA1635680M400B | 1635      | 68               | 400               | 816           | 20          | 420                            |
| REA1825680M400B | 1825      | 68               | 400               | 816           | 20          | 350                            |
| REA1445820M400B | 1445      | 82               | 400               | 984           | 20          | 530                            |
| REA1640820M400B | 1640      | 82               | 400               | 984           | 20          | 550                            |
| REA1832820M400B | 1832      | 82               | 400               | 984           | 20          | 580                            |
| REA1450101M400B | 1450      | 100              | 400               | 1200          | 20          | 700                            |
| REA1645101M400B | 1645      | 100              | 400               | 1200          | 20          | 720                            |
| REA1835101M400B | 1835      | 100              | 400               | 1200          | 20          | 660                            |
| REA1840121M400B | 1840      | 120              | 400               | 1440          | 20          | 770                            |
| 450 Volt        |           |                  |                   |               |             |                                |
| REA10132R2M450* | 1013      | 2.2              | 450               | 29.7          | 20          | 36                             |
| REA10133R3M450* | 1013      | 3.3              | 450               | 44.55         | 20          | 48                             |
| REA10164R7M450* | 1016      | 4.7              | 450               | 63.45         | 20          | 60                             |
| REA1321100M450* | 1321      | 10               | 450               | 135           | 20          | 110                            |
| REA1040220M450B | 1040      | 22               | 450               | 297           | 20          | 280                            |
| REA1622220M450B | 1622      | 22               | 450               | 297           | 20          | 210                            |
| REA1050330M450B | 1050      | 33               | 450               | 445.5         | 20          | 350                            |
| REA1335330M450B | 1335      | 33               | 450               | 445.5         | 20          | 300                            |
| REA1626330M450B | 1626      | 33               | 450               | 445.5         | 20          | 280                            |
| REA0861390M450B | 0861      | 39               | 450               | 526.5         | 20          | 350                            |
| REA1050390M450B | 1050      | 39               | 450               | 526.5         | 20          | 350                            |
| REA1340390M450B | 1340      | 39               | 450               | 526.5         | 20          | 360                            |
| REA1632390M450B | 1632      | 39               | 450               | 526.5         | 20          | 330                            |
| REA1060470M450B | 1060      | 47               | 450               | 634.5         | 20          | 410                            |
| REA1350470M450B | 1350      | 47               | 450               | 634.5         | 20          | 370                            |
| REA1440470M450B | 1440      | 47               | 450               | 634.5         | 20          | 390                            |
| REA1825470M450B | 1825      | 47               | 450               | 634.5         | 20          | 360                            |
| REA1060530M450B | 1060      | 53               | 450               | 715.5         | 20          | 440                            |
| REA1360680M450B | 1360      | 68               | 450               | 918           | 20          | 450                            |
| REA1450680M450B | 1450      | 68               | 450               | 918           | 20          | 400                            |
| REA1640680M450B | 1640      | 68               | 450               | 918           | 20          | 440                            |
| REA1832680M450B | 1832      | 68               | 450               | 918           | 20          | 500                            |
| REA1450820M450B | 1450      | 82               | 450               | 1107          | 20          | 600                            |
| REA1645820M450B | 1645      | 82               | 450               | 1107          | 20          | 620                            |
| REA1835820M450B | 1835      | 82               | 450               | 1107          | 20          | 600                            |
| REA1650101M450B | 1650      | 100              | 450               | 1350          | 20          | 760                            |
| REA1840101M450B | 1840      | 100              | 450               | 1350          | 20          | 720                            |

\* Used to denote packing type: "K" for Ammo Pack or "B" for Bulk Pack.

DF = When nominal capacitance exceeds 1000μF, add 0.02 to the value above for each 1000μF increase.

All technical data relates to an ambient temperature of +25C. Capacitance and DF are measured at 120Hz, 0.5RMS with DC bias of 2.2 volts. DCL is measured at rated voltage after 3 minutes.

## FREQUENCY COEFFICIENT OF PERMISSIBLE RIPPLE CURRENT

| Rated Voltage (V) | Capacitance (μF) | Frequency (Hz) |      |      |       |
|-------------------|------------------|----------------|------|------|-------|
|                   |                  | 50             | 120  | 1K   | ≥ 10K |
| ≤ 100             | < 100            | 0.70           | 1.00 | 1.40 | 1.60  |
|                   | 100 - 4700       | 0.75           | 1.00 | 1.30 | 1.40  |
|                   | > 4700           | 0.80           | 1.00 | 1.15 | 1.20  |
| ≥ 160             | 2.2 - 820        | 0.80           | 1.00 | 1.30 | 1.40  |

# Radial Leaded Aluminum Electrolytic Capacitors

## REA Series



### QUALIFICATION TABLE

| Test                                            | REA Series (Temperature Range -40°C to +105°C (6.3-250V), -25°C to 105°C (350-450V))                                                                                                                                                                                               |                    |                                         |       |        |         |         |     |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------------|-------|--------|---------|---------|-----|
|                                                 | Condition                                                                                                                                                                                                                                                                          | Characteristics    |                                         |       |        |         |         |     |
| Temperature Stability<br>(Max. Impedance Ratio) | 120Hz                                                                                                                                                                                                                                                                              | Rated Voltage (V)  | 6.3                                     | 10-16 | 25-100 | 160-250 | 350-400 | 450 |
|                                                 |                                                                                                                                                                                                                                                                                    | Z(-25°C) / Z(20°C) | 4                                       | 3     | 2      | 4       | 8       | 15  |
|                                                 |                                                                                                                                                                                                                                                                                    | Z(-40°C) / Z(20°C) | 8                                       | 6     | 4      | 6       | -       | -   |
| Load Life                                       | The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied for 5000 hours (D ≤ 8: 3000 hours; D=10: 4000 hours, D ≥13: 5000 hours) at 105°C.                                  | ΔC/C               | within ±20% of initial limit            |       |        |         |         |     |
|                                                 |                                                                                                                                                                                                                                                                                    | DF                 | 200% or less of initial specified limit |       |        |         |         |     |
|                                                 |                                                                                                                                                                                                                                                                                    | DCL                | initial specified limit 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 capacitor shall be preconditioned by applying voltage according to them 4.1 of JIS C5101-4. | ΔC/C               | within ±20% of initial limit            |       |        |         |         |     |
|                                                 |                                                                                                                                                                                                                                                                                    | DF                 | 200% or less of initial specified limit |       |        |         |         |     |
|                                                 |                                                                                                                                                                                                                                                                                    | DCL                | initial specified limit or less         |       |        |         |         |     |
| Standard                                        | JIS C 5101-4-1 (IEC 60384)                                                                                                                                                                                                                                                         |                    |                                         |       |        |         |         |     |

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.

### STORAGE

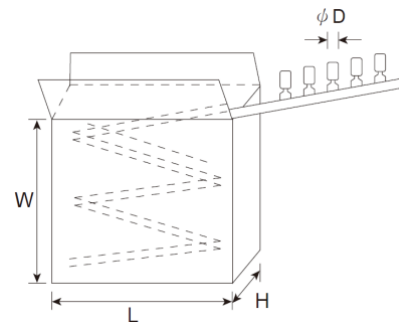
- It is recommended to keep capacitors between the ambient temperatures of 5°C to 35°C and a relative humidity of 75% or below.
- Confirm that the environment does not have any of the following conditions:
  - Damp conditions such as water, saltwater spray, or oil spray or fumes. High humidity or humidity condensation situations.
  - In an atmosphere filled with toxic gasses (such as hydrogen sulfide, sulfurous acid, nitrous acid, chlorine, ammonia, etc.).
  - Being exposed to direct sunlight, ozone, ultraviolet ray, or radiation.
  - Being exposed to acidic or alkaline solutions.
  - Under severe conditions where vibration and / or mechanical shock exceed the applicable ranges of the specification.
- 

| Category         | Description    | Storage Life                                                              |
|------------------|----------------|---------------------------------------------------------------------------|
| Mid-High Voltage | 160V and above | 2yrs, after 1yr, needs to check characteristics, if NG, needs to do aging |
| Low Voltage      | 120V and below | 2yrs                                                                      |

### PACKAGE TAPE DIMENSIONS

### AMMO PACKING

| Ammo Pack |          |          |          |            |             |             |
|-----------|----------|----------|----------|------------|-------------|-------------|
| Size Code | W±5 (mm) | L±5 (mm) | H±5 (mm) | Qty. (pcs) | G.W. kg/box | Box /Carton |
| 0511      | 235      | 327      | 54       | 2000       | 0.99        | 10          |
| 0611      | 235      | 327      | 54       | 1500       | 1.12        | 10          |
| 0812      | 265      | 327      | 51       | 1000       | 1.48        | 10          |
| 1013/1016 | 235      | 330      | 57       | 600        | 1.29        | 10          |
| 1020      | 235      | 330      | 57       | 600        | 1.48        | 10          |
| 1321      | 280      | 315      | 65       | 400        | 1.95        | 6           |
| 1325      | 280      | 315      | 65       | 400        | 2.35        | 6           |



# Radial Leaded Aluminum Electrolytic Capacitors

## REA Series



### BULK PACKING

| Size Code | Bulk      |      |        | Ammo Taping |        |
|-----------|-----------|------|--------|-------------|--------|
|           | Bag / Box |      | Carton | Box         | Carton |
| 0511      | Bag       | 1000 | 20,000 | 2000        | 20,000 |
| 0611      | Bag       | 1000 | 16,000 | 1500        | 15,000 |
| 0812      | Bag       | 500  | 9000   | 1000        | 9000   |
| 0850      | Box       | 588  | 2352   | -           | -      |
| 0861      | Box       | 588  | 2352   | -           | -      |
| 1013      | Bag       | 200  | 4400   | 600         | 3000   |
| 1016      | Bag       | 200  | 3600   | 600         | 3000   |
| 1020      | Bag       | 200  | 3600   | 600         | 3000   |
| 1040      | Box       | 828  | 3312   | -           | -      |
| 1045      | Box       | 828  | 3312   | -           | -      |
| 1050      | Box       | 828  | 3312   | -           | -      |
| 1060      | Box       | 828  | 3312   | -           | -      |
| 1321      | Bag       | 150  | 2100   | 400         | 2400   |
| 1325      | Bag       | 150  | 1800   | 400         | 2400   |
| 1330      | Bag       | 100  | 1400   | -           | -      |
| 1335      | Bag       | 100  | 1400   | -           | -      |
| 1340      | Box       | 540  | 2160   | -           | -      |
| 1350      | Box       | 540  | 2160   | -           | -      |
| 1360      | Box       | 270  | 1080   | -           | -      |
| 1430      | Box       | 448  | 1792   | -           | -      |
| 1440      | Box       | 448  | 1792   | -           | -      |
| 1445      | Box       | 448  | 1792   | -           | -      |
| 1450      | Box       | 448  | 1792   | -           | -      |
| 1622      | Box       | 390  | 1560   | -           | -      |
| 1626      | Box       | 390  | 1560   | -           | -      |
| 1632      | Box       | 390  | 1560   | -           | -      |
| 1635      | Box       | 390  | 1560   | -           | -      |
| 1636      | Box       | 390  | 1560   | -           | -      |
| 1640      | Box       | 390  | 1560   | -           | -      |
| 1645      | Box       | 390  | 1560   | -           | -      |
| 1650      | Box       | 390  | 1560   | -           | -      |
| 1825      | Box       | 286  | 1144   | -           | -      |
| 1832      | Box       | 286  | 1144   | -           | -      |
| 1835      | Box       | 286  | 1144   | -           | -      |
| 1840      | Box       | 286  | 1144   | -           | -      |
| 2240      | Box       | 198  | 792    | -           | -      |
| 2250      | Box       | 198  | 792    | -           | -      |
| 2550      | Box       | 144  | 576    | -           | -      |

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| <a href="#">REA1632332M025B</a> | <a href="#">REA1632472M016B</a> | <a href="#">REA1650101M450B</a> | <a href="#">REA1825470M450B</a> | <a href="#">REA1835153M006B</a> |
| <a href="#">REA1835222M050B</a> | <a href="#">REA1835332M035B</a> | <a href="#">REA1835472M025B</a> | <a href="#">REA1840103M016B</a> | <a href="#">REA1840121M400B</a> |
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| <a href="#">REA1016100M250K</a> | <a href="#">REA0611221M010K</a> | <a href="#">REA1013101M050K</a> | <a href="#">REA1013102M006K</a> | <a href="#">REA1020680M100K</a> |
| <a href="#">REA1325332M010K</a> | <a href="#">REA0511101M006K</a> | <a href="#">REA05114R7M050K</a> | <a href="#">REA0611220M063K</a> | <a href="#">REA1016100M200K</a> |
| <a href="#">REA1020100M350K</a> | <a href="#">REA1321102M025K</a> | <a href="#">REA0511220M025K</a> | <a href="#">REA05112R2M100K</a> | <a href="#">REA0611330M025K</a> |
| <a href="#">REA08123R3M250K</a> | <a href="#">REA1013221M035K</a> | <a href="#">REA1016221M050K</a> | <a href="#">REA0511R47M050K</a> | <a href="#">REA0812471M010K</a> |
| <a href="#">REA10133R3M450K</a> | <a href="#">REA05114R7M100K</a> | <a href="#">REA1013470M063K</a> | <a href="#">REA1020102M016K</a> | <a href="#">REA1321471M035K</a> |
| <a href="#">REA1325390M250K</a> | <a href="#">REA1335470M350K</a> | <a href="#">REA0511101M010K</a> | <a href="#">REA05111R0M050K</a> | <a href="#">REA1013100M160K</a> |
| <a href="#">REA1016101M063K</a> | <a href="#">REA1016102M010K</a> | <a href="#">REA1321220M350K</a> | <a href="#">REA1321470M200K</a> | <a href="#">REA0812101M025K</a> |
| <a href="#">REA1020471M025K</a> | <a href="#">REA1321330M200K</a> | <a href="#">REA0611330M035K</a> | <a href="#">REA08123R3M400K</a> | <a href="#">REA10132R2M450K</a> |
| <a href="#">REA10134R7M200K</a> | <a href="#">REA05112R2M050K</a> | <a href="#">REA08123R3M200K</a> | <a href="#">REA1016220M160K</a> | <a href="#">REA1321390M200K</a> |
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| <a href="#">REA08123R3M350K</a> | <a href="#">REA1013330M100K</a> | <a href="#">REA1016470M100K</a> | <a href="#">REA0511100M050K</a> | <a href="#">REA0812330M063K</a> |
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| <a href="#">REA1321470M160K</a> | <a href="#">REA0812220M100K</a> | <a href="#">REA0812221M016K</a> | <a href="#">REA0812471M006K</a> | <a href="#">REA1020220M200K</a> |
| <a href="#">REA1335530M350K</a> | <a href="#">REA08122R2M250K</a> | <a href="#">REA08122R2M400K</a> | <a href="#">REA08124R7M160K</a> | <a href="#">REA08124R7M250K</a> |
| <a href="#">REA1020221M063K</a> | <a href="#">REA1020222M006K</a> | <a href="#">REA0611220M050K</a> | <a href="#">REA0812330M050K</a> | <a href="#">REA10134R7M400K</a> |