

# Radial Leaded Aluminum Electrolytic Capacitors

## REH Series



### FEATURES

- High temperature, high ripple current capability, low impedance
- Endurance: 2000 - 5000 hours at 125°C
- RoHS Compliance and Halogen-free



### APPLICATIONS

- Power supplies, general industrial, filtering

### HOW TO ORDER

**Product Type** — Radial Aluminum

**Series Type** — See table below

**Case Size** — See table below

**Capacitance Code** —  $\mu\text{F}$  code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)

**Tolerance** — M =  $\pm 20\%$

**Lead Type**  
 " " empty = Standard long lead  
 "C" = Lead cut only  
 "F" = Lead cut and form  
 "L" = Lead cut and bend (Left)  
 "R" = Lead cut and bend (Right)

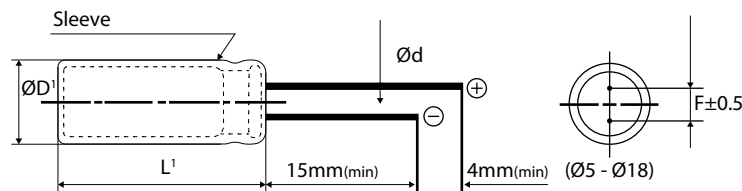
**Packaging**  
 K = Ammo Pack  
 B = Bulk Pack

**Rated DC Voltage**  
 010 = 10Vdc    063 = 63Vdc    200 = 200Vdc  
 016 = 16Vdc    080 = 80Vdc    250 = 250Vdc  
 025 = 25Vdc    100 = 100Vdc    350 = 350Vdc  
 035 = 35Vdc    120 = 120Vdc    400 = 400Vdc  
 050 = 50Vdc    160 = 160Vdc    450 = 450Vdc

**Ordering Example:** R EH 0812 471 M 016 K -

### CASE DIMENSIONS millimeters (inches)

| Code | D $\pm 0.50(0.020)$ | L $\pm 2.00(0.079)$ | d $\pm 0.05(0.002)$ | F $\pm 0.50(0.020)$ | Typical Weight (g) | Code | D $\pm 0.50(0.020)$ | L $\pm 2.00(0.079)$ | d $\pm 0.05(0.002)$ | F $\pm 0.50(0.020)$ | Typical Weight (g) |
|------|---------------------|---------------------|---------------------|---------------------|--------------------|------|---------------------|---------------------|---------------------|---------------------|--------------------|
| 0511 | 5.00 (0.197)        | 11.00 (0.433)       | 0.50 (0.020)        | 2.00 (0.079)        | 0.40               | 1218 | 12.50 (0.492)       | 18.00 (0.709)       | 0.60 (0.024)        | 5.00 (0.197)        | 4.20               |
| 0512 | 5.00 (0.197)        | 12.00 (0.472)       | 0.50 (0.020)        | 2.00 (0.079)        | 0.48               | 1220 | 12.50 (0.492)       | 20.00 (0.787)       | 0.60 (0.024)        | 5.00 (0.197)        | 4.33               |
| 0611 | 6.30 (0.248)        | 11.00 (0.433)       | 0.50 (0.020)        | 2.50 (0.098)        | 0.60               | 1222 | 12.50 (0.492)       | 22.00 (0.866)       | 0.60 (0.024)        | 5.00 (0.197)        | 5.21               |
| 0612 | 6.30 (0.248)        | 12.00 (0.472)       | 0.50 (0.020)        | 2.50 (0.098)        | 0.70               | 1225 | 12.50 (0.492)       | 25.00 (0.984)       | 0.60 (0.024)        | 5.00 (0.197)        | 5.32               |
| 0811 | 8.00 (0.315)        | 11.00 (0.433)       | 0.60 (0.024)        | 3.50 (0.138)        | 0.95               | 1235 | 12.50 (0.492)       | 35.00 (1.378)       | 0.60 (0.024)        | 5.00 (0.197)        | 7.21               |
| 0812 | 8.00 (0.315)        | 12.00 (0.472)       | 0.60 (0.024)        | 3.50 (0.138)        | 1.05               | 1320 | 13.00 (0.512)       | 20.00 (0.787)       | 0.60 (0.024)        | 5.00 (0.197)        | 4.90               |
| 0816 | 8.00 (0.315)        | 16.00 (0.630)       | 0.60 (0.024)        | 3.50 (0.138)        | 1.50               | 1325 | 13.00 (0.512)       | 25.00 (0.984)       | 0.60 (0.024)        | 5.00 (0.197)        | 5.21               |
| 0820 | 8.00 (0.315)        | 20.00 (0.787)       | 0.60 (0.024)        | 3.50 (0.138)        | 1.71               | 1618 | 16.00 (0.630)       | 18.00 (0.709)       | 0.80 (0.031)        | 7.50 (0.295)        | 6.78               |
| 1011 | 10.00 (0.394)       | 11.00 (0.433)       | 0.60 (0.024)        | 5.00 (0.197)        | 1.47               | 1620 | 16.00 (0.630)       | 20.00 (0.787)       | 0.80 (0.031)        | 7.50 (0.295)        | 6.91               |
| 1012 | 10.00 (0.394)       | 12.00 (0.472)       | 0.60 (0.024)        | 5.00 (0.197)        | 1.55               | 1625 | 16.00 (0.630)       | 25.00 (0.984)       | 0.80 (0.031)        | 7.50 (0.295)        | 8.57               |
| 1013 | 10.00 (0.394)       | 13.00 (0.512)       | 0.60 (0.024)        | 5.00 (0.197)        | 1.60               | 1630 | 16.00 (0.630)       | 30.00 (1.181)       | 0.80 (0.031)        | 7.50 (0.295)        | 9.88               |
| 1014 | 10.00 (0.394)       | 14.00 (0.551)       | 0.60 (0.024)        | 5.00 (0.197)        | 2.02               | 1635 | 16.00 (0.630)       | 35.00 (1.378)       | 0.80 (0.031)        | 7.50 (0.295)        | 10.20              |
| 1016 | 10.00 (0.394)       | 16.00 (0.630)       | 0.60 (0.024)        | 5.00 (0.197)        | 2.12               | 1820 | 18.00 (0.709)       | 20.00 (0.787)       | 0.80 (0.031)        | 7.50 (0.295)        | 9.50               |
| 1018 | 10.00 (0.394)       | 18.00 (0.709)       | 0.60 (0.024)        | 5.00 (0.197)        | 2.60               | 1825 | 18.00 (0.709)       | 25.00 (0.984)       | 0.80 (0.031)        | 7.50 (0.295)        | 18.25              |
| 1020 | 10.00 (0.394)       | 20.00 (0.787)       | 0.60 (0.024)        | 5.00 (0.197)        | 2.60               | 1830 | 18.00 (0.709)       | 30.00 (1.181)       | 0.80 (0.031)        | 7.50 (0.295)        | 13.49              |
| 1025 | 10.00 (0.394)       | 25.00 (0.984)       | 0.60 (0.024)        | 5.00 (0.197)        | 3.11               | 1835 | 18.00 (0.709)       | 35.00 (1.378)       | 0.80 (0.031)        | 7.50 (0.295)        | 13.50              |
| 1216 | 12.50 (0.492)       | 16.00 (0.630)       | 0.60 (0.024)        | 5.00 (0.197)        | 3.60               | 1840 | 18.00 (0.709)       | 40.00 (1.575)       | 0.80 (0.031)        | 7.50 (0.295)        | 16.00              |



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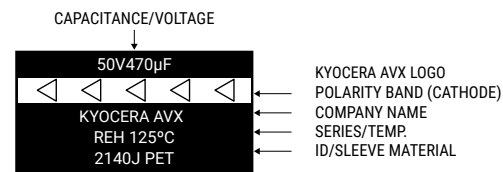


### TECHNICAL SPECIFICATIONS

|                                    |                                                   |                                                              |
|------------------------------------|---------------------------------------------------|--------------------------------------------------------------|
| <b>Category Temperature Range:</b> | -40°C to +125°C                                   |                                                              |
| <b>Capacitance Range:</b>          | At 25°C, 120Hz                                    | 1.0μF - 4700μF                                               |
| <b>Capacitance Tolerance:</b>      | At 25°C, 120Hz                                    | ±20%                                                         |
| <b>Dissipation Factor (%)</b>      | Measurement Frequency: 120Hz at 25°C              | Please see the ratings and part number reference table below |
| <b>Leakage Current</b>             | After 2 minutes at rated working voltage at 25°C* | (10-120V) $I \leq 0.01CV$ or $3\mu A$ , whichever is greater |
|                                    |                                                   | ( $CV \leq 1000$ and 160-450V) $I \leq 0.03CV + 15\mu A$     |
|                                    |                                                   | ( $CV > 1000$ and 160-450V) $I \leq 0.02CV + 25\mu A$        |

\* 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 125°C.

### MARKING



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

| Capacitance |      | Rated Voltage DC (V <sub>R</sub> ) |              |              |                      |              |              |              |              |      |              |              |              |              |              |              |
|-------------|------|------------------------------------|--------------|--------------|----------------------|--------------|--------------|--------------|--------------|------|--------------|--------------|--------------|--------------|--------------|--------------|
| μF          | Code | 10V                                | 16V          | 25V          | 35V                  | 50V          | 63V          | 80V          | 100V         | 120V | 160V         | 200V         | 250V         | 350V         | 400V         | 450V         |
| 1.0         | 1R0  |                                    |              |              |                      | 0511         |              |              |              |      |              |              |              |              |              |              |
| 2.2         | 2R2  |                                    |              |              |                      | 0511<br>0811 |              |              |              |      |              |              |              |              |              |              |
| 3.3         | 3R3  |                                    |              |              |                      | 0511<br>0811 |              |              |              |      |              |              |              |              |              |              |
| 4.7         | 4R7  |                                    |              |              |                      | 0511<br>0811 |              | 0511         | 0511<br>0811 |      |              |              |              |              |              |              |
| 10          | 100  |                                    |              |              |                      | 0511<br>0811 |              | 0511         | 0611<br>0811 |      | 0816<br>1011 | 0816<br>1012 | 0816<br>1012 | 1012<br>1014 | 1014<br>1016 | 1018<br>1216 |
| 22          | 220  |                                    |              |              |                      | 0512<br>0811 |              | 0611         | 0612<br>0812 |      | 1012<br>1014 | 1014<br>1016 | 1018         | 1018         | 1018<br>1218 | 1320         |
| 33          | 330  |                                    |              |              |                      | 0611<br>0811 | 0612<br>0811 | 0612<br>0812 | 0812<br>1013 |      |              |              |              | 1220<br>1222 |              |              |
| 47          | 470  |                                    |              | 0511         | 0611                 | 0611<br>0811 | 0812<br>1013 |              | 0816<br>1016 |      | 1018<br>1216 | 1218         | 1220         | 1225<br>1618 | 1620<br>1625 | 1825<br>1630 |
| 56          | 560  |                                    |              |              | 0512                 |              |              |              |              |      |              |              |              |              |              |              |
| 68          | 680  |                                    |              | 0512         | 0612                 |              |              | 0812         |              |      |              |              |              |              |              |              |
| 82          | 820  |                                    |              |              |                      |              |              |              |              |      | 1220         | 1620         | 1235<br>1625 | 1820<br>1825 | 1825         | 1835         |
| 100         | 101  | 0511                               | 0511         | 0611         | 0612<br>0811         | 0812<br>1013 | 0812<br>1016 | 0816         | 1016<br>1220 |      | 1225<br>1618 | 1625         | 1630<br>1825 | 1630<br>1825 | 1830         | 1840         |
| 150         | 151  |                                    |              |              | 0612                 |              |              | 1016         |              |      |              |              |              |              |              |              |
| 220         | 221  |                                    | 0611         | 0812         | 0812<br>1013         | 0816<br>1013 | 1016<br>1220 | 1020         | 1320<br>1625 |      |              |              |              |              |              |              |
| 330         | 331  | 0612<br>0811                       | 0812         | 0812<br>1013 | 0816<br>1013<br>1016 | 1016<br>1220 | 1220<br>1225 | 1220         | 1625<br>1630 | 1825 |              |              |              |              |              |              |
| 470         | 471  | 0812<br>1013                       | 0812<br>1013 | 0816<br>1013 | 0820<br>1016<br>1020 | 1020<br>1225 | 1325<br>1625 | 1620         | 1830         |      |              |              |              |              |              |              |
| 680         | 681  | 0812<br>1013                       |              |              | 1220                 | 1220<br>1620 |              |              |              |      |              |              |              |              |              |              |
| 1000        | 102  | 1016<br>1020                       | 1020         | 1020<br>1220 | 1220<br>1225         | 1225<br>1630 | 1630         |              |              |      |              |              |              |              |              |              |
| 1200        | 122  |                                    |              |              | 1220                 |              |              |              |              |      |              |              |              |              |              |              |
| 1500        | 152  |                                    |              |              | 1225                 |              |              |              |              |      |              |              |              |              |              |              |
| 1800        | 182  |                                    |              |              | 1225                 |              |              |              |              |      |              |              |              |              |              |              |
| 2200        | 222  | 1225                               | 1025<br>1225 | 1630         | 1635                 | 1840         |              |              |              |      |              |              |              |              |              |              |
| 3300        | 332  | 1625                               | 1630         | 1635         | 1835                 |              |              |              |              |      |              |              |              |              |              |              |
| 4700        | 472  | 1630                               | 1635         |              |                      |              |              |              |              |      |              |              |              |              |              |              |

Released ratings

# Radial Leaded Aluminum Electrolytic Capacitors

## REH Series



### RATINGS & PART NUMBER REFERENCE

| Part No.         | Case Size | Capacitance (μF) | Rated Voltage (V) | DF Max. (%) | 100kHz RMS Current (mA) / 125°C |
|------------------|-----------|------------------|-------------------|-------------|---------------------------------|
| <b>10 Volt</b>   |           |                  |                   |             |                                 |
| REH0511101M010*  | 0511      | 100              | 10                | 24          | 80                              |
| REH0612331M010*  | 0612      | 330              | 10                | 24          | 180                             |
| REH0811331M010*  | 0811      | 330              | 10                | 24          | 360                             |
| REH0812471M010*  | 0812      | 470              | 10                | 24          | 360                             |
| REH1013471M010*  | 1013      | 470              | 10                | 24          | 620                             |
| REH0812681M010*  | 0812      | 680              | 10                | 24          | 400                             |
| REH1013681M010*  | 1013      | 680              | 10                | 24          | 620                             |
| REH1016102M010*  | 1016      | 1000             | 10                | 24          | 660                             |
| REH1020102M010*  | 1020      | 1000             | 10                | 24          | 960                             |
| REH1225222M010*  | 1225      | 2200             | 10                | 24          | 1430                            |
| REH1625332M010B  | 1625      | 3300             | 10                | 24          | 1900                            |
| REH1630472M010B  | 1630      | 4700             | 10                | 24          | 2300                            |
| <b>16 Volt</b>   |           |                  |                   |             |                                 |
| REH0511101M016*  | 0511      | 100              | 16                | 20          | 90                              |
| REH0611221M016*  | 0611      | 220              | 16                | 20          | 125                             |
| REH0812331M016*  | 0812      | 330              | 16                | 20          | 360                             |
| REH0812471M016*  | 0812      | 470              | 16                | 20          | 360                             |
| REH1013471M016*  | 1013      | 470              | 16                | 20          | 620                             |
| REH1020102M016*  | 1020      | 1000             | 16                | 20          | 960                             |
| REH1025222M016*  | 1025      | 2200             | 16                | 20          | 980                             |
| REH1225222M016*  | 1225      | 2200             | 16                | 20          | 1430                            |
| REH1630332M016B  | 1630      | 3300             | 16                | 20          | 2300                            |
| REH1635472M016B  | 1635      | 4700             | 16                | 20          | 2550                            |
| <b>25 Volt</b>   |           |                  |                   |             |                                 |
| REH0511470M025*  | 0511      | 47               | 25                | 18          | 60                              |
| REH0512680M025*  | 0512      | 68               | 25                | 18          | 90                              |
| REH0611101M025*  | 0611      | 100              | 25                | 18          | 145                             |
| REH0812221M025*  | 0812      | 220              | 25                | 18          | 360                             |
| REH0812331M025*  | 0812      | 330              | 25                | 18          | 360                             |
| REH1013331M025*  | 1013      | 330              | 25                | 18          | 620                             |
| REH0816471M025*  | 0816      | 470              | 25                | 18          | 610                             |
| REH1013471M025*  | 1013      | 470              | 25                | 18          | 640                             |
| REH1020102M025*  | 1020      | 1000             | 25                | 18          | 960                             |
| REH1220102M025*  | 1220      | 1000             | 25                | 18          | 1100                            |
| REH1630222M025B  | 1630      | 2200             | 25                | 18          | 2300                            |
| REH1635332M025B  | 1635      | 3300             | 25                | 18          | 2550                            |
| <b>35 Volt</b>   |           |                  |                   |             |                                 |
| REH0611470M035*  | 0611      | 47               | 35                | 16          | 110                             |
| REH0512560M035*  | 0512      | 56               | 35                | 16          | 70                              |
| REH0612680M035*  | 0612      | 68               | 35                | 16          | 130                             |
| REH0612101M035*  | 0612      | 100              | 35                | 16          | 210                             |
| REH0811101M035*  | 0811      | 100              | 35                | 16          | 360                             |
| *REH0612151M035* | 0612      | 150              | 35                | 16          | 210                             |
| REH0812221M035*  | 0812      | 220              | 35                | 16          | 375                             |
| REH1013221M035*  | 1013      | 220              | 35                | 16          | 620                             |
| REH0816331M035*  | 0816      | 330              | 35                | 16          | 550                             |
| REH1013331M035*  | 1013      | 330              | 35                | 16          | 620                             |
| REH1016331M035*  | 1016      | 330              | 35                | 16          | 800                             |
| REH0820471M035*  | 0820      | 470              | 35                | 16          | 620                             |
| REH1016471M035*  | 1016      | 470              | 35                | 16          | 705                             |
| REH1020471M035*  | 1020      | 470              | 35                | 16          | 960                             |
| REH1220681M035*  | 1220      | 680              | 35                | 16          | 990                             |
| REH1220102M035*  | 1220      | 1000             | 35                | 16          | 1180                            |
| REH1225102M035*  | 1225      | 1000             | 35                | 16          | 1430                            |
| REH1220122M035*  | 1220      | 1200             | 35                | 16          | 1200                            |
| REH1225152M035*  | 1225      | 1500             | 35                | 16          | 1430                            |
| REH1225182M035*  | 1225      | 1800             | 35                | 16          | 1700                            |
| REH1635222M035B  | 1635      | 2200             | 35                | 16          | 2550                            |
| REH1835332M035B  | 1835      | 3300             | 35                | 16          | 2800                            |
| <b>50 Volt</b>   |           |                  |                   |             |                                 |
| REH05111R0M050*  | 0511      | 1.0              | 50                | 14          | 26                              |
| REH05112R2M050*  | 0511      | 2.2              | 50                | 14          | 35                              |

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| Part No.         | Case Size | Capacitance (μF) | Rated Voltage (V) | DF Max. (%) | 100kHz RMS Current (mA) / 125°C |
|------------------|-----------|------------------|-------------------|-------------|---------------------------------|
| REH08112R2M050*  | 0811      | 2.2              | 50                | 14          | 50                              |
| REH05113R3M050*  | 0511      | 3.3              | 50                | 14          | 40                              |
| REH08113R3M050*  | 0811      | 3.3              | 50                | 14          | 70                              |
| REH05114R7M050*  | 0511      | 4.7              | 50                | 14          | 42                              |
| REH08114R7M050*  | 0811      | 4.7              | 50                | 14          | 100                             |
| REH0511100M050*  | 0511      | 10               | 50                | 14          | 90                              |
| REH0811100M050*  | 0811      | 10               | 50                | 14          | 200                             |
| REH0512220M050*  | 0512      | 22               | 50                | 14          | 110                             |
| REH0811220M050*  | 0811      | 22               | 50                | 14          | 260                             |
| REH0611330M050*  | 0611      | 33               | 50                | 14          | 150                             |
| REH0811330M050*  | 0811      | 33               | 50                | 14          | 300                             |
| REH0611470M050*  | 0611      | 47               | 50                | 14          | 180                             |
| REH0811470M050*  | 0811      | 47               | 50                | 14          | 300                             |
| REH0812101M050*  | 0812      | 100              | 50                | 14          | 340                             |
| REH1013101M050*  | 1013      | 100              | 50                | 14          | 520                             |
| REH0816221M050*  | 0816      | 220              | 50                | 14          | 520                             |
| REH1013221M050*  | 1013      | 220              | 50                | 14          | 520                             |
| REH1016331M050*  | 1016      | 330              | 50                | 14          | 530                             |
| REH1220331M050*  | 1220      | 330              | 50                | 14          | 1000                            |
| REH1020471M050*  | 1020      | 470              | 50                | 14          | 950                             |
| REH1225471M050*  | 1225      | 470              | 50                | 14          | 1200                            |
| REH1220681M050*  | 1220      | 680              | 50                | 14          | 1060                            |
| REH1620681M050B  | 1620      | 680              | 50                | 14          | 1250                            |
| REH1225102M050*  | 1225      | 1000             | 50                | 14          | 1500                            |
| REH1630102M050B  | 1630      | 1000             | 50                | 14          | 2180                            |
| REH1840222M050B  | 1840      | 2200             | 50                | 14          | 2800                            |
| 63 Volt          |           |                  |                   |             |                                 |
| REH0612330M063*  | 0612      | 33               | 63                | 12          | 150                             |
| REH0811330M063*  | 0811      | 33               | 63                | 12          | 250                             |
| REH0812470M063*  | 0812      | 47               | 63                | 12          | 250                             |
| REH1013470M063*  | 1013      | 47               | 63                | 12          | 400                             |
| REH0812101M063*  | 0812      | 100              | 63                | 12          | 340                             |
| REH1016101M063*  | 1016      | 100              | 63                | 12          | 450                             |
| REH1016221M063*  | 1016      | 220              | 63                | 12          | 450                             |
| REH1220221M063*  | 1220      | 220              | 63                | 12          | 820                             |
| REH1220331M063*  | 1220      | 330              | 63                | 12          | 850                             |
| REH1225331M063*  | 1225      | 330              | 63                | 12          | 1000                            |
| REH1325471M063B  | 1325      | 470              | 63                | 12          | 1000                            |
| REH1625471M063B  | 1625      | 470              | 63                | 12          | 1500                            |
| REH1630102M063B  | 1630      | 1000             | 63                | 12          | 1850                            |
| 80 Volt          |           |                  |                   |             |                                 |
| REH05114R7M080*  | 0511      | 4.7              | 80                | 12          | 26                              |
| REH0511100M080*  | 0511      | 10               | 80                | 12          | 68                              |
| REH0611220M080*  | 0611      | 22               | 80                | 12          | 105                             |
| REH0612330M080*  | 0612      | 33               | 80                | 12          | 105                             |
| REH0812330M080*  | 0812      | 33               | 80                | 12          | 250                             |
| REH0812680M080*  | 0812      | 68               | 80                | 12          | 250                             |
| REH0816101M080*  | 0816      | 100              | 80                | 12          | 400                             |
| REH1016151M080*  | 1016      | 150              | 80                | 12          | 450                             |
| REH1020221M080*  | 1020      | 220              | 80                | 12          | 750                             |
| REH1220331M080*  | 1220      | 330              | 80                | 12          | 850                             |
| REH1620471M080B* | 1620      | 470              | 80                | 12          | 1200                            |
| 100 Volt         |           |                  |                   |             |                                 |
| REH05114R7M100*  | 0511      | 4.7              | 100               | 10          | 40                              |
| REH08114R7M100*  | 0811      | 4.7              | 100               | 10          | 100                             |
| REH0611100M100*  | 0611      | 10               | 100               | 10          | 130                             |
| REH0811100M100*  | 0811      | 10               | 100               | 10          | 200                             |
| REH0612220M100*  | 0612      | 22               | 100               | 10          | 150                             |
| REH0812220M100*  | 0812      | 22               | 100               | 10          | 220                             |
| REH0812330M100*  | 0812      | 33               | 100               | 10          | 220                             |
| REH1013330M100*  | 1013      | 33               | 100               | 10          | 260                             |
| REH0816470M100*  | 0816      | 47               | 100               | 10          | 240                             |
| REH1016470M100*  | 1016      | 47               | 100               | 10          | 330                             |
| REH1016101M100*  | 1016      | 100              | 100               | 10          | 350                             |
| REH1220101M100*  | 1220      | 100              | 100               | 10          | 670                             |

# Radial Leaded Aluminum Electrolytic Capacitors

## REH Series

| Part No.        | Case Size | Capacitance (μF) | Rated Voltage (V) | DF Max. (%) | 100kHz RMS Current (mA) / 125°C |
|-----------------|-----------|------------------|-------------------|-------------|---------------------------------|
| REH1320221M100B | 1320      | 220              | 100               | 10          | 720                             |
| REH1625221M100B | 1625      | 220              | 100               | 10          | 1100                            |
| REH1625331M100B | 1625      | 330              | 100               | 10          | 1300                            |
| REH1630331M100B | 1630      | 330              | 100               | 10          | 1300                            |
| REH1830471M100B | 1830      | 470              | 100               | 10          | 1600                            |
| <b>120 Volt</b> |           |                  |                   |             |                                 |
| REH1825331M120B | 1825      | 330              | 120               | 12          | 775                             |

\*REH0612151M035\* has endurance 2000h

\* 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 2 minutes.

| Part No.        | Case Size | Capacitance (μF) | Rated Voltage (V) | DF Max. (%) | 120Hz RMS Current (mA) / 125°C |
|-----------------|-----------|------------------|-------------------|-------------|--------------------------------|
| <b>160 Volt</b> |           |                  |                   |             |                                |
| REH0816100M160* | 0816      | 10               | 160               | 16          | 58                             |
| REH1011100M160* | 1011      | 10               | 160               | 16          | 60                             |
| REH1012220M160* | 1012      | 22               | 160               | 16          | 110                            |
| REH1014220M160* | 1014      | 22               | 160               | 16          | 120                            |
| REH1018470M160* | 1018      | 47               | 160               | 16          | 155                            |
| REH1216470M160* | 1216      | 47               | 160               | 16          | 160                            |
| REH1220820M160* | 1220      | 82               | 160               | 16          | 210                            |
| REH1225101M160* | 1225      | 100              | 160               | 16          | 285                            |
| REH1618101M160B | 1618      | 100              | 160               | 16          | 292                            |
| <b>200 Volt</b> |           |                  |                   |             |                                |
| REH0816100M200* | 0816      | 10               | 200               | 16          | 82                             |
| REH1012100M200* | 1012      | 10               | 200               | 16          | 90                             |
| REH1014220M200* | 1014      | 22               | 200               | 16          | 115                            |
| REH1016220M200* | 1016      | 22               | 200               | 16          | 120                            |
| REH1218470M200* | 1218      | 47               | 200               | 16          | 165                            |
| REH1620820M200B | 1620      | 82               | 200               | 16          | 240                            |
| REH1625101M200B | 1625      | 100              | 200               | 16          | 310                            |
| <b>250 Volt</b> |           |                  |                   |             |                                |
| REH0816100M250* | 0816      | 10               | 250               | 16          | 80                             |
| REH1012100M250* | 1012      | 10               | 250               | 16          | 85                             |
| REH1018220M250* | 1018      | 22               | 250               | 16          | 125                            |
| REH1220470M250* | 1220      | 47               | 250               | 16          | 175                            |
| REH1235820M250B | 1235      | 82               | 250               | 16          | 260                            |
| REH1625820M250B | 1625      | 82               | 250               | 16          | 275                            |
| REH1630101M250B | 1630      | 100              | 250               | 16          | 325                            |
| REH1825101M250B | 1825      | 100              | 250               | 16          | 350                            |
| <b>350 Volt</b> |           |                  |                   |             |                                |
| REH1012100M350* | 1012      | 10               | 350               | 24          | 80                             |
| REH1014100M350* | 1014      | 10               | 350               | 24          | 85                             |
| REH1018220M350* | 1018      | 22               | 350               | 24          | 125                            |
| REH1220330M350* | 1220      | 33               | 350               | 24          | 145                            |
| REH1222330M350* | 1222      | 33               | 350               | 24          | 160                            |
| REH1225470M350* | 1225      | 47               | 350               | 24          | 175                            |
| REH1618470M350B | 1618      | 47               | 350               | 24          | 185                            |
| REH1820820M350B | 1820      | 82               | 350               | 24          | 260                            |
| REH1825820M350B | 1825      | 82               | 350               | 24          | 275                            |
| REH1630101M350B | 1630      | 100              | 350               | 24          | 325                            |
| REH1825101M350B | 1825      | 100              | 350               | 24          | 350                            |
| <b>400 Volt</b> |           |                  |                   |             |                                |
| REH1014100M400* | 1014      | 10               | 400               | 24          | 80                             |
| REH1016100M400* | 1016      | 10               | 400               | 24          | 85                             |
| REH1018220M400* | 1018      | 22               | 400               | 24          | 125                            |
| REH1218220M400* | 1218      | 22               | 400               | 24          | 130                            |
| REH1620470M400B | 1620      | 47               | 400               | 24          | 200                            |
| REH1625470M400B | 1625      | 47               | 400               | 24          | 210                            |
| REH1825820M400B | 1825      | 82               | 400               | 24          | 325                            |
| REH1830101M400B | 1830      | 100              | 400               | 24          | 395                            |
| <b>450 Volt</b> |           |                  |                   |             |                                |
| REH1018100M450* | 1018      | 10               | 450               | 24          | 85                             |

# Radial Leaded Aluminum Electrolytic Capacitors

## REH Series



| Part No.        | Case Size | Capacitance (μF) | Rated Voltage (V) | DF Max. (%) | 120Hz RMS Current (mA) / 125°C |
|-----------------|-----------|------------------|-------------------|-------------|--------------------------------|
| REH1216100M450* | 1216      | 10               | 450               | 24          | 90                             |
| REH1320220M450B | 1320      | 22               | 450               | 24          | 135                            |
| REH1825470M450B | 1825      | 47               | 450               | 24          | 215                            |
| REH1630470M450B | 1630      | 47               | 450               | 24          | 225                            |
| REH1835820M450B | 1835      | 82               | 450               | 24          | 355                            |
| REH1840101M450B | 1840      | 100              | 450               | 24          | 415                            |

\* 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 +25°C. Capacitance and DF are measured at 120Hz, 0.5RMS with DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes.

### RATED RIPPLE CURRENT MULTIPLIERS (FREQUENCY CORRECTION FACTOR FOR RIPPLE CURRENT)

| 10 to 120 Vdc        |       |      |      |      |      | 160 to 400 Vdc       |      |      |      |      |
|----------------------|-------|------|------|------|------|----------------------|------|------|------|------|
| Cap.(μF) \ Freq.(Hz) | 50/60 | 120  | 1K   | 10K  | 100K | Cap.(μF) \ Freq.(Hz) | 120  | 1K   | 10K  | 100K |
| C < 10               | 0.35  | 0.42 | 0.60 | 0.80 | 1.00 | <100                 | 0.15 | 0.30 | 0.45 | 0.65 |
| 10 ≤ C < 47          | 0.45  | 0.55 | 0.75 | 0.90 | 1.00 | ≥100                 | 0.25 | 0.35 | 0.50 | 0.70 |
| 47 ≤ C < 470         | 0.60  | 0.70 | 0.85 | 0.95 | 1.00 |                      |      |      |      |      |
| 470 ≤ C < 2200       | 0.65  | 0.75 | 0.90 | 0.98 | 1.00 |                      |      |      |      |      |
| C ≥ 2200             | 0.75  | 0.80 | 0.95 | 1.00 | 1.00 |                      |      |      |      |      |

### QUALIFICATION TABLE

| Test                                                      | REH Series (Temperature Range -40°C to +125°C)                                                                                                                                          |                    |                                        |    |            |                                        |         |         |     |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------|----|------------|----------------------------------------|---------|---------|-----|
|                                                           | Condition                                                                                                                                                                               | Characteristics    |                                        |    |            |                                        |         |         |     |
| Low Temperature Characteristics<br>(Max. Impedance Ratio) | At 120Hz                                                                                                                                                                                | Rated Voltage (V)  | 10                                     | 16 | 25-100     | 120                                    | 160-250 | 350-400 | 450 |
|                                                           |                                                                                                                                                                                         | Z(-25°C)/Z(+20°C)  | 3                                      | 2  | 2          | 3                                      | 3       | 6       | 6   |
|                                                           |                                                                                                                                                                                         | Z(-40°C)/Z(+20°C)  | 6                                      | 4  | 3          | 6                                      | 8       | 10      | 15  |
| Endurance                                                 | The following specifications shall be satisfied when the capacitors are restored to 20°C after DC voltage plus rated ripple current is applied for a specified period of time at 125°C. | Visual Examination | no visible damage                      |    |            |                                        |         |         |     |
|                                                           |                                                                                                                                                                                         | ΔC/C               | ≤ ±30% of the initial limit            |    |            |                                        |         |         |     |
|                                                           |                                                                                                                                                                                         | DF                 | ≤ 300% of the initial specified limit  |    |            |                                        |         |         |     |
|                                                           |                                                                                                                                                                                         | DCL                | ≤ the initial specified limit          |    |            |                                        |         |         |     |
|                                                           |                                                                                                                                                                                         | Voltage: 10V-120V  |                                        |    |            | Voltage: 160V-450V                     |         |         |     |
|                                                           |                                                                                                                                                                                         | Diameter (mm)      | Load life (hours)                      |    | 2000 hours |                                        |         |         |     |
|                                                           |                                                                                                                                                                                         | ØD≤6.3             | 2000                                   |    |            |                                        |         |         |     |
|                                                           |                                                                                                                                                                                         | ØD=8               | 3000                                   |    |            |                                        |         |         |     |
|                                                           |                                                                                                                                                                                         | ØD=10              | 4000                                   |    |            |                                        |         |         |     |
| ØD≥12.5                                                   | 5000                                                                                                                                                                                    |                    |                                        |    |            |                                        |         |         |     |
| Shelf Life                                                | The following specifications shall be satisfied when the capacitors are restored to 20°C after leaving them under no load at 105°C for 1000 hours.                                      |                    | Voltage: 10V-120V                      |    |            | Voltage: 160V-450V                     |         |         |     |
|                                                           |                                                                                                                                                                                         | Visual Examination | no visible damage                      |    |            | no visible damage                      |         |         |     |
|                                                           |                                                                                                                                                                                         | ΔC/C               | ≤ ±30% of the initial limit            |    |            | ≤ ±20% of the initial limit            |         |         |     |
|                                                           |                                                                                                                                                                                         | DF:                | ≤ 300% of the initial specified limit  |    |            | ≤ 200% of the initial specified limit  |         |         |     |
|                                                           |                                                                                                                                                                                         | DCL:               | ≤ 500 % of the initial specified limit |    |            | ≤ 200 % of the initial specified limit |         |         |     |

### SOLDERING

#### 1. When soldering with a soldering iron:

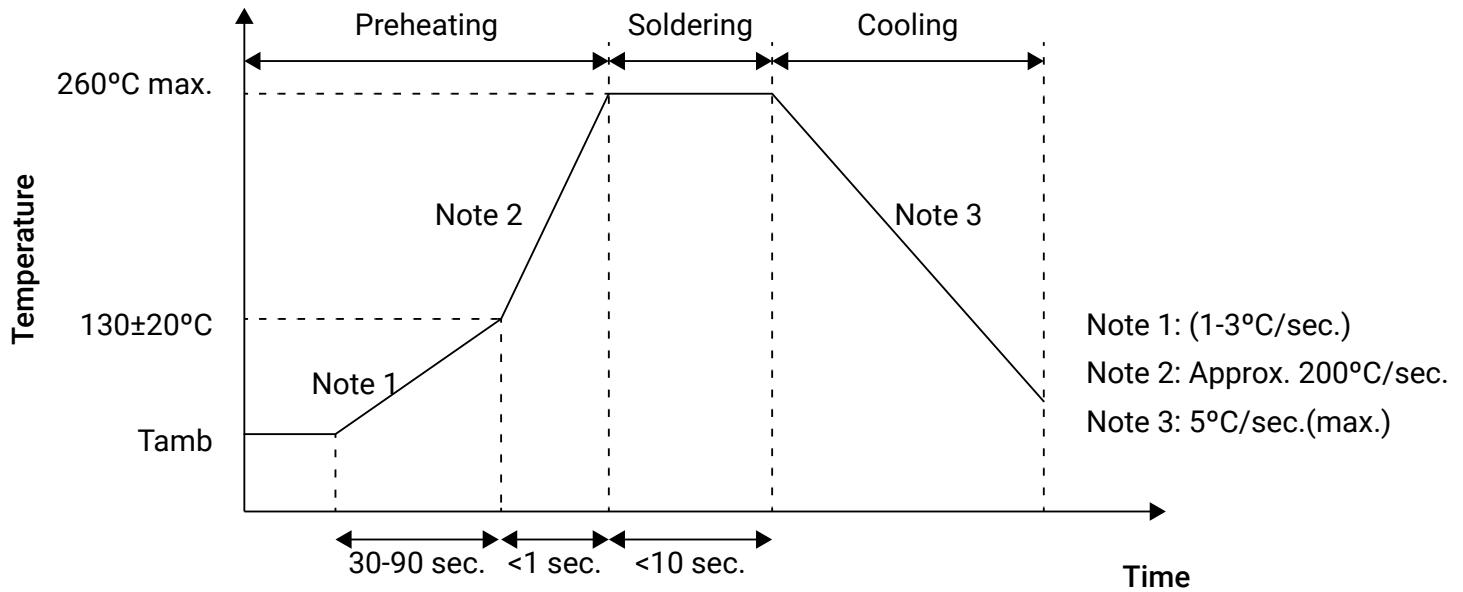
- Soldering conditions (temperature and time) should be within the limits prescribed in the catalogs or the product specifications.
- If the terminal spacing of a capacitor does not fit the terminal hole spacing of the PC board, reform the terminals in a manner to minimize a mechanical stress into the body of the capacitor.
- Remove the capacitors from the PC board, after the solder is completely melted, reworking by using a soldering iron minimizes the mechanical stress to the capacitors.
- Do not touch the capacitor body with the hot tip of the soldering iron.

#### 2. Flow Soldering:

- Do not dip the body of a capacitor into the solder bath, only dip the terminals in. The soldering must be done on the reverse side of PC board.
- Do not apply flux to any part of capacitors other than their terminals.
- Make sure the capacitors do not come into contact with any other components while soldering.
- Soldering conditions (preheat, solder temperature and dipping time) should be within the limits prescribed in the picture below.

# Radial Leaded Aluminum Electrolytic Capacitors

## REH Series



### STORAGE

- Store with the temperature range between 5 to 35°C (If between 35 to 85°C, it should be less than three months), and the relative humidity of 75% without direct sunshine and store in the package states if possible.
- It is recommended that you open the bag just before use and use up as early as possible.
- Store the capacitors in places free from water, oil or salt water or in condensation status.
- Never store in any area filled with poisonous gases (including hydrogen sulfide, sulfurous acid, nitrous acid, chlorine and ammonia).
- Store the capacitors in places free from ozone, ultraviolet rays or radiation:

(Radial Lead Type)

Before unseal: within 1 year after delivery

After opening: within 1 month

# Radial Leaded Aluminum Electrolytic Capacitors

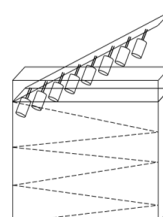
## REH Series

### PACKING

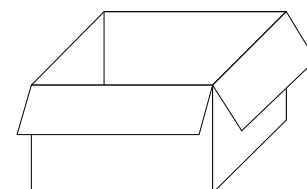
| Size Code | Bulk Pack |                        |                |                        |                | Ammo Pack |                           |                    |                        |              |
|-----------|-----------|------------------------|----------------|------------------------|----------------|-----------|---------------------------|--------------------|------------------------|--------------|
|           | Bags      | Inner Box              |                | Carton                 |                | Inner Box |                           | Carton             |                        |              |
|           |           | (LxWxH)<br>290*216*158 |                | (LxWxH)<br>455*310*350 |                | Quantity  | Inner Box Size<br>(LxWxH) | Inner Box Quantity | Carton Size<br>(LxWxH) | Whole Pieces |
|           | Quantity  | Bags Number            | Quantity / pcs | Inner Box Number       | Quantity / pcs |           |                           |                    |                        |              |
| 0511      | 1000      | 12                     | 12,000         | 4                      | 48,000         | 2000      | 320x230x50                | 10                 | 485x345x275            | 20,000       |
| 0512      | 1000      | 12                     | 12,000         | 4                      | 48,000         | 2000      | 320x230x50                | 10                 | 485x345x275            | 20,000       |
| 0611      | 1000      | 8                      | 8000           | 4                      | 32,000         | 2000      | 340x290x48                | 10                 | 600x354x265            | 20,000       |
| 0612      | 500       | 10                     | 5000           | 4                      | 20,000         | 2000      | 340x290x48                | 10                 | 600x354x265            | 20,000       |
| 0811      | 500       | 10                     | 5000           | 4                      | 20,000         | 950       | 320x230x50                | 6                  | 485x345x275            | 5700         |
| 0812      | 500       | 10                     | 5000           | 4                      | 20,000         | 950       | 320x230x50                | 6                  | 485x345x275            | 5700         |
| 0816      | 300       | 10                     | 3000           | 4                      | 12,000         | 950       | 320x230x55                | 6                  | 485x345x300            | 5700         |
| 0820      | 300       | 10                     | 3000           | 4                      | 12,000         | 950       | 320x230x55                | 6                  | 485x345x300            | 5700         |
| 1011      | 250       | 10                     | 2500           | 4                      | 10,000         | 600       | 320x230x50                | 10                 | 485x345x275            | 6000         |
| 1012      | 250       | 10                     | 2500           | 4                      | 10,000         | 600       | 320x230x50                | 6                  | 485x345x275            | 3600         |
| 1013      | 250       | 10                     | 2500           | 4                      | 10,000         | 600       | 320x230x50                | 6                  | 485x345x275            | 3600         |
| 1014      | 200       | 10                     | 2000           | 4                      | 8000           | 600       | 320x230x50                | 10                 | 485x345x275            | 6000         |
| 1016      | 250       | 10                     | 2500           | 4                      | 10,000         | 600       | 320x230x55                | 6                  | 485x345x300            | 3600         |
| 1018      | 200       | 10                     | 2000           | 4                      | 8000           | 600       | 320x230x55                | 10                 | 485x345x300            | 6000         |
| 1020      | 200       | 10                     | 2000           | 4                      | 8000           | 600       | 320x230x55                | 6                  | 485x345x300            | 3600         |
| 1025      | 150       | 10                     | 1500           | 4                      | 6000           | 600       | 320x230x68                | 8                  | 485x345x300            | 4800         |
| 1216      | 100       | 14                     | 1400           | 4                      | 5600           | 500       | 320x290x60                | 5                  | 330x300x350            | 2500         |
| 1218      | 100       | 12                     | 1200           | 4                      | 4800           | 500       | 320x290x60                | 5                  | 330x300x350            | 2500         |
| 1220      | 100       | 12                     | 1200           | 4                      | 4800           | 500       | 320x290x60                | 5                  | 330x300x350            | 2500         |
| 1222      | 100       | 12                     | 1200           | 4                      | 4800           | 500       | 320x290x60                | 5                  | 330x300x350            | 2500         |
| 1225      | 100       | 10                     | 1000           | 4                      | 4000           | 500       | 320x290x60                | 5                  | 330x300x350            | 2500         |
| 1320      | 100       | 12                     | 1200           | 4                      | 4800           | -         | -                         | -                  | -                      | -            |
| 1325      | 100       | 10                     | 1000           | 4                      | 4000           | -         | -                         | -                  | -                      | -            |
| 1618      | 100       | 8                      | 800            | 4                      | 3200           | -         | -                         | -                  | -                      | -            |
| 1620      | 100       | 5                      | 500            | 4                      | 2000           | -         | -                         | -                  | -                      | -            |
| 1820      | 100       | 5                      | 500            | 4                      | 2000           | -         | -                         | -                  | -                      | -            |

| Size Code | Bulk Pack |                |                    |             |              |
|-----------|-----------|----------------|--------------------|-------------|--------------|
|           | Inner Box |                | Carton             |             |              |
|           | Quantity  | Inner Box Size | Inner Box Quantity | Carton Size | Whole Pieces |
|           |           | (LxWxH)        |                    | (LxWxH)     |              |
| 1235      | 440       | 340x235x50     | 5                  | 365x260x315 | 2200         |
| 1625      | 250       | 340x235x50     | 5                  | 365x260x290 | 1250         |
| 1630      | 250       | 340x235x50     | 5                  | 365x260x290 | 1250         |
| 1635      | 220       | 340x235x50     | 5                  | 365x260x290 | 1100         |
| 1825      | 250       | 340x235x50     | 5                  | 365x260x290 | 1250         |
| 1830      | 230       | 340x235x50     | 5                  | 365x260x290 | 1150         |
| 1835      | 200       | 340x235x50     | 5                  | 365x260x290 | 1000         |
| 1840      | 180       | 340x235x50     | 5                  | 365x260x290 | 900          |

### AMMO PACKING



### BULK PACKING

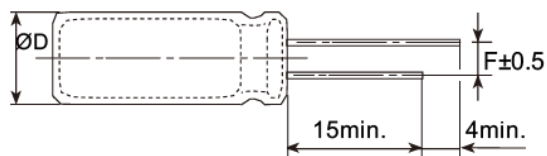


# Radial Leaded Aluminum Electrolytic Capacitors

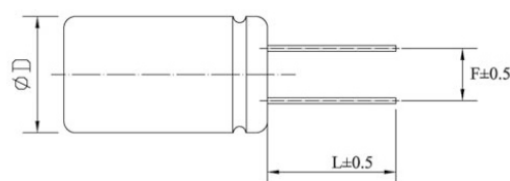
## REH Series

### TERMINATION TYPE

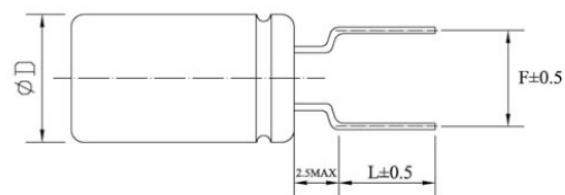
Letter " ": Empty = Standard Long lead.



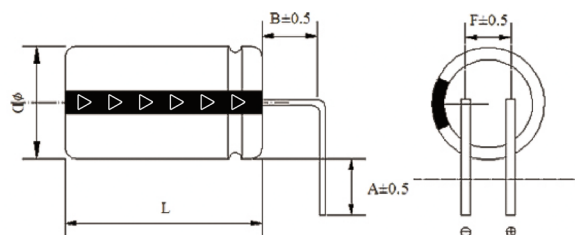
Letter "C": Lead cut only.



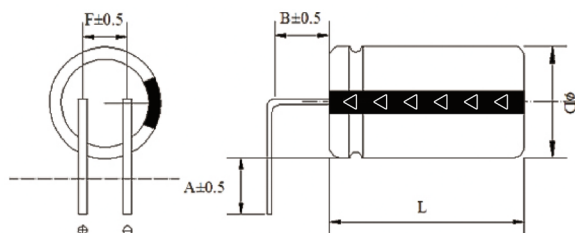
Letter "F": Lead cut and form.



Letter "R": Lead cut and bend (Right).



Letter "L": Lead cut and bend (Left).



| Letter | Termination Type   | Dø | 4ø   | 5ø   | 6.3ø | 8ø   | 10ø  | 12.5ø | 13ø  | 16ø  | 18ø  |
|--------|--------------------|----|------|------|------|------|------|-------|------|------|------|
|        | Standard long lead | F  | 1.50 | 2.00 | 2.50 | 3.50 | 5.00 | 5.00  | 5.00 | 7.50 | 7.50 |
| C      | Lead cut only      | F  | 1.50 | 2.00 | 2.50 | 3.50 | 5.00 | 5.00  | 5.00 | 7.50 | 7.50 |
|        |                    | L  | 3.60 | 3.60 | 3.60 | 3.60 | 3.60 | 3.60  | 3.60 | 3.60 | 3.60 |
| F      | Lead cut and form  | F  | 5.00 | 5.00 | 5.00 | 5.00 |      |       |      |      |      |
|        |                    | L  | 3.50 | 3.50 | 3.50 | 3.50 |      |       |      |      |      |
| R / L  | Lead cut and bend  | F  |      |      |      |      | 5.00 | 5.00  | 5.00 | 7.50 | 7.50 |
|        |                    | A  |      |      |      |      | 3.50 | 3.50  | 3.50 | 3.50 | 3.50 |
|        |                    | B  |      |      |      |      | 2.50 | 2.50  | 2.50 | 2.50 | 2.50 |

\*All dimensions in mm.

# Mouser Electronics

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## KYOCERA AVX:

|                                 |                                 |                                 |                                 |                                 |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| <a href="#">REH1635332M025B</a> | <a href="#">REH1825470M450B</a> | <a href="#">REH1825820M400B</a> | <a href="#">REH1620681M050B</a> | <a href="#">REH1625101M200B</a> |
| <a href="#">REH1625471M063B</a> | <a href="#">REH1630222M025B</a> | <a href="#">REH1630472M010B</a> | <a href="#">REH1630332M016B</a> | <a href="#">REH1630331M100B</a> |
| <a href="#">REH1630102M063B</a> | <a href="#">REH1630102M050B</a> | <a href="#">REH1625820M250B</a> | <a href="#">REH1625470M400B</a> | <a href="#">REH1625271M120B</a> |
| <a href="#">REH1620471M080B</a> | <a href="#">REH1620470M400B</a> | <a href="#">REH1620221M120B</a> | <a href="#">REH1618470M350B</a> | <a href="#">REH1325471M063B</a> |
| <a href="#">REH1320221M100B</a> | <a href="#">REH1320220M450B</a> | <a href="#">REH1235820M250B</a> | <a href="#">REH1630101M250B</a> | <a href="#">REH1625332M010B</a> |
| <a href="#">REH1620820M200B</a> | <a href="#">REH1630101M350B</a> | <a href="#">REH1618101M160B</a> | <a href="#">REH1625331M100B</a> | <a href="#">REH1630470M450B</a> |
| <a href="#">REH1625221M100B</a> | <a href="#">REH0511101M010K</a> | <a href="#">REH0811101M035K</a> | <a href="#">REH1020102M010K</a> | <a href="#">REH1220820M160K</a> |
| <a href="#">REH1225222M010K</a> | <a href="#">REH1325471M063K</a> | <a href="#">REH1630101M250K</a> | <a href="#">REH0812221M035K</a> | <a href="#">REH0812681M010K</a> |
| <a href="#">REH1013471M016K</a> | <a href="#">REH1625470M400K</a> | <a href="#">REH1014220M160K</a> | <a href="#">REH1218470M200K</a> | <a href="#">REH1620221M120K</a> |
| <a href="#">REH1630331M100K</a> | <a href="#">REH0511100M050K</a> | <a href="#">REH0611221M016K</a> | <a href="#">REH0816470M100K</a> | <a href="#">REH1016101M063K</a> |
| <a href="#">REH1016331M050K</a> | <a href="#">REH1016470M120K</a> | <a href="#">REH1018220M400K</a> | <a href="#">REH1220681M035K</a> | <a href="#">REH1625471M063K</a> |
| <a href="#">REH0812331M016K</a> | <a href="#">REH0812470M063K</a> | <a href="#">REH1011100M160K</a> | <a href="#">REH1012100M200K</a> | <a href="#">REH1618101M160K</a> |
| <a href="#">REH0812220M120K</a> | <a href="#">REH1013331M035K</a> | <a href="#">REH1013470M063K</a> | <a href="#">REH1016331M035K</a> | <a href="#">REH05113R3M050K</a> |
| <a href="#">REH0511470M025K</a> | <a href="#">REH0612330M080K</a> | <a href="#">REH0816221M050K</a> | <a href="#">REH1020471M035K</a> | <a href="#">REH1220331M080K</a> |
| <a href="#">REH1220470M250K</a> | <a href="#">REH1625332M010K</a> | <a href="#">REH0611220M080K</a> | <a href="#">REH0811330M063K</a> | <a href="#">REH0812471M010K</a> |
| <a href="#">REH0812471M016K</a> | <a href="#">REH1014220M200K</a> | <a href="#">REH1018220M350K</a> | <a href="#">REH1220101M100K</a> | <a href="#">REH1220102M025K</a> |
| <a href="#">REH1225102M050K</a> | <a href="#">REH0811100M100K</a> | <a href="#">REH08113R3M050K</a> | <a href="#">REH0816331M035K</a> | <a href="#">REH1016470M100K</a> |
| <a href="#">REH1018470M160K</a> | <a href="#">REH1020820M120K</a> | <a href="#">REH1220681M050K</a> | <a href="#">REH1235820M250K</a> | <a href="#">REH1620681M050K</a> |
| <a href="#">REH0811100M050K</a> | <a href="#">REH1013471M010K</a> | <a href="#">REH1220121M120K</a> | <a href="#">REH05114R7M100K</a> | <a href="#">REH0611470M050K</a> |
| <a href="#">REH0811220M050K</a> | <a href="#">REH08114R7M050K</a> | <a href="#">REH1013221M050K</a> | <a href="#">REH1025222M016K</a> | <a href="#">REH1222220M450K</a> |