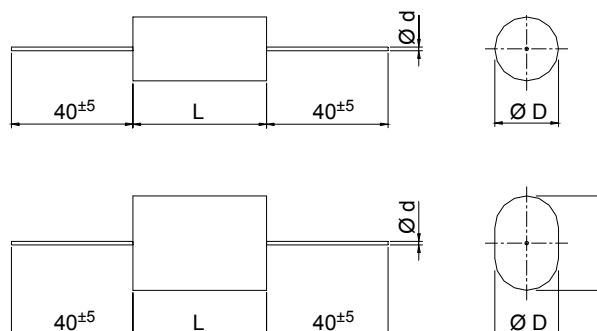


## General characteristics

- Self-Healing
- Low losses
- High ripple current
- High contact reliability
- Suitable for high frequency applications

|   |                  |                |                  |
|---|------------------|----------------|------------------|
| D | < 10 mm          | 10 mm ÷ 22mm   | > 22 mm          |
| d | 0.8 mm<br>20 AWG | 1 mm<br>18 AWG | 1.2 mm<br>16 AWG |



## TECHNICAL DATA

|                                                                           |                 |                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General technical data                                                    |                 | VDE 0560 - IEC61071 - EN61071                                                                                                                                                                                                            |
| Application class (DIN 40040)                                             |                 | GPE / LS                                                                                                                                                                                                                                 |
| Temperature range (Case)                                                  |                 | -40 °C to + 85 °C                                                                                                                                                                                                                        |
| Max permissible ambient temperature                                       |                 | +70 °C                                                                                                                                                                                                                                   |
| Capacitance tolerance code (15 <sup>th</sup> digit)                       |                 | J = ± 5% ; K = ± 10%                                                                                                                                                                                                                     |
| Peak non-repetitive max current                                           |                 | $I_{PKR} \times 1.5$                                                                                                                                                                                                                     |
| Test voltage terminal to terminal $U_{TT}$                                |                 | 2 $U_n$ for 10 seconds                                                                                                                                                                                                                   |
| Insulation resistance test conditions                                     |                 | Temperature : +25 °C ± 5%<br>Voltage charge time : 1 minute<br>Test voltage : 100 Vdc<br>Typical value ( $R_{is} \times C$ ) : 3000 seconds                                                                                              |
| Test voltage terminal to case $U_{TC}$                                    |                 | 3kV <sub>DC</sub> 50Hz for 60 seconds                                                                                                                                                                                                    |
| Dissipation factor ( $tg\delta$ )                                         |                 | $\leq 5 \times 10^{-4}$ at 1 kHz and 20 °C                                                                                                                                                                                               |
| Damp heat test -                                                          | Test conditions | Temperature : +40 °C<br>Relative humidity : 93% ±2%<br>Test duration : 56 days<br>Capacitance change : $\leq \pm 5\%$<br>$tg\delta$ change : $\leq 50\%$ of nominal value at 1 kHz<br>Insulation resistance : $\leq 50\%$ of limit value |
|                                                                           | Performances    |                                                                                                                                                                                                                                          |
| IEC climatic category                                                     |                 | 40 / 85 / 56 according to IEC 68-1                                                                                                                                                                                                       |
| Capacitance deviation in the operating temperature range of -40 to +85 °C |                 | ±1.5% max on capacitance value measured at +20 °C                                                                                                                                                                                        |
| Change of capacitance versus operating time                               |                 | -3% after 30.000 hours at $U_{RMS}$ or after 100.000 hours at $U_n$                                                                                                                                                                      |
| Protection                                                                |                 | Polyester wrapping with epoxy resin fill                                                                                                                                                                                                 |
| Flame retardant ( IEC 384-1 )                                             |                 | Standard execution: not flame retardant 4 <sup>th</sup> digit code A<br>On request flame retardant execution category C, 4 <sup>th</sup> digit code S                                                                                    |
| Leads                                                                     |                 | Tinned copper (medium lead content 5%)                                                                                                                                                                                                   |
| Installation                                                              |                 | Whatever Position                                                                                                                                                                                                                        |
| Life Expectancy                                                           |                 | $\geq 30.000$ hours at $U_{RMS}$ ; $\geq 100.000$ hours at $U_n$                                                                                                                                                                         |
| Failure quota                                                             |                 | 300 / 10 <sup>9</sup> components hour                                                                                                                                                                                                    |
| Vibration strength                                                        |                 | DIN 40040 , Table 6 , Class V                                                                                                                                                                                                            |

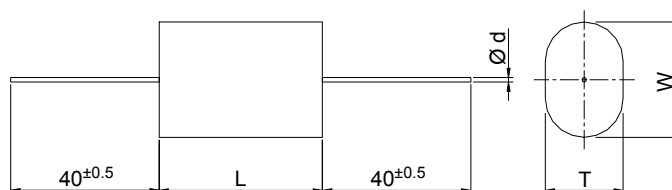


## PEAK VOLTAGE TABLE

|                  |        |        |        |        |
|------------------|--------|--------|--------|--------|
| Un               | 850 V  | 1200 V | 2000 V | 3000 V |
| U <sub>MAX</sub> | 1200 V | 1600 V | 2400 V | 3500 V |

## GENERAL CHARACTERISTICS

| Code            | C      | Un   | URMS | dv/dt | IPKR | ESR               | IRMS               | Max Dimensions |    |     |
|-----------------|--------|------|------|-------|------|-------------------|--------------------|----------------|----|-----|
|                 | µF     | Vdc  | Vac  | V/µs  | A    | Max @100kHz<br>mΩ | 100kHz @ 70°C<br>A | D              | L  | d   |
| C4CAMUB3100AA0J | 0.1    | 850  | 450  | 450   | 45   | 16.6              | 5                  | 10.5           | 33 | 0.8 |
| C4CAMUB3150AA0J | 0.15   | 850  | 450  | 450   | 68   | 11.5              | 7                  | 12.5           | 33 | 0.8 |
| C4CAMUC3220AA0J | 0.22   | 850  | 450  | 450   | 99   | 8.1               | 9                  | 15.5           | 33 | 1.0 |
| C4CAMUC3330AA0J | 0.33   | 850  | 450  | 450   | 149  | 5.8               | 9                  | 18.5           | 33 | 1.0 |
| C4CAMUC3470AA0J | 0.47   | 850  | 450  | 450   | 212  | 4.6               | 9                  | 21.5           | 33 | 1.0 |
| C4CAMUC3680AA1J | 0.68   | 850  | 450  | 300   | 204  | 5.1               | 9                  | 21             | 44 | 1.0 |
| C4CAMUD4100AA1J | 1      | 850  | 450  | 300   | 300  | 3.8               | 12                 | 25             | 44 | 1.2 |
| C4CAMUD4150AA1J | 1.5    | 850  | 450  | 300   | 450  | 3.1               | 12                 | 30.5           | 44 | 1.2 |
| C4CAMUD4200AA3J | 2      | 850  | 450  | 200   | 400  | 3.8               | 12                 | 28.5           | 58 | 1.2 |
| C4CAMUD4220AA3J | 2.2    | 850  | 450  | 200   | 440  | 3.7               | 12                 | 29.5           | 58 | 1.2 |
| C4CAMUD4250AA3J | 2.5    | 850  | 450  | 200   | 500  | 3.5               | 12                 | 31.5           | 58 | 1.2 |
| C4CAPUB2470AA0J | 0.047  | 1200 | 500  | 700   | 33   | 27.1              | 4                  | 10             | 33 | 0.8 |
| C4CAPUB2680AA0J | 0.068  | 1200 | 500  | 700   | 48   | 19.1              | 5                  | 12             | 33 | 0.8 |
| C4CAPUB3100AA0J | 0.1    | 1200 | 500  | 700   | 70   | 13.4              | 7                  | 14             | 33 | 0.8 |
| C4CAPUC3150AA0J | 0.15   | 1200 | 500  | 700   | 105  | 9.2               | 9                  | 17.5           | 33 | 1.0 |
| C4CAPUC3220AA0J | 0.22   | 1200 | 500  | 700   | 154  | 6.8               | 9                  | 20.5           | 33 | 1.0 |
| C4CAPUC3330AA1J | 0.33   | 1200 | 500  | 450   | 149  | 7.2               | 9                  | 20             | 44 | 1.0 |
| C4CAPUC3470AA1J | 0.47   | 1200 | 500  | 450   | 212  | 5.6               | 9                  | 23             | 44 | 1.0 |
| C4CAPUD3680AA1J | 0.68   | 1200 | 500  | 450   | 306  | 4.2               | 12                 | 27.5           | 44 | 1.2 |
| C4CAPUD4100AA1J | 1      | 1200 | 500  | 450   | 450  | 3.5               | 12                 | 33             | 44 | 1.2 |
| C4CAPUD4120AA3J | 1.2    | 1200 | 500  | 275   | 330  | 4.5               | 12                 | 29             | 58 | 1.2 |
| C4CAPUD4150AA3J | 1.5    | 1200 | 500  | 275   | 413  | 4                 | 12                 | 32             | 58 | 1.2 |
| C4CAWUB2220AA0J | 0.022  | 2000 | 630  | 1150  | 25   | 48.2              | 3                  | 10.5           | 33 | 0.8 |
| C4CAWUB2330AA0J | 0.033  | 2000 | 630  | 1150  | 38   | 32.5              | 4                  | 12.5           | 33 | 0.8 |
| C4CAWUC2470AA0J | 0.047  | 2000 | 630  | 1150  | 54   | 23                | 6                  | 15             | 33 | 1.0 |
| C4CAWUC2680AA0J | 0.068  | 2000 | 630  | 1150  | 78   | 16.3              | 7                  | 17.5           | 33 | 1.0 |
| C4CAWUC3100AA0J | 0.1    | 2000 | 630  | 1150  | 115  | 11.6              | 9                  | 20.5           | 33 | 1.0 |
| C4CAWUC3150AA1J | 0.15   | 2000 | 630  | 700   | 105  | 11.3              | 9                  | 19.5           | 44 | 1.0 |
| C4CAWUD3220AA1J | 0.22   | 2000 | 630  | 700   | 154  | 8                 | 12                 | 23.5           | 44 | 1.2 |
| C4CAWUD3330AA1J | 0.33   | 2000 | 630  | 700   | 231  | 5.9               | 12                 | 28.5           | 44 | 1.2 |
| C4CAWUD3470AA1J | 0.47   | 2000 | 630  | 700   | 329  | 4.8               | 12                 | 33.5           | 44 | 1.2 |
| C4CAWUD3560AA3J | 0.56   | 2000 | 630  | 400   | 224  | 6.1               | 12                 | 29             | 58 | 1.2 |
| C4CAWUD3680AA3J | 0.68   | 2000 | 630  | 400   | 272  | 5.4               | 12                 | 32             | 58 | 1.2 |
| C4CAYUB1680AA0J | 0.0068 | 3000 | 750  | 2100  | 14.5 | 132               | 2                  | 10             | 33 | 0.8 |
| C4CAYUB2100AA0J | 0.01   | 3000 | 750  | 2100  | 21   | 90.3              | 3                  | 12             | 33 | 0.8 |
| C4CAYUC2150AA0J | 0.015  | 3000 | 750  | 2100  | 32   | 60.5              | 4                  | 14.5           | 33 | 1.0 |
| C4CAYUC2220AA0J | 0.022  | 3000 | 750  | 2100  | 46   | 41.6              | 5                  | 17             | 33 | 1.0 |
| C4CAYUC2330AA0J | 0.033  | 3000 | 750  | 2100  | 69   | 28.3              | 6                  | 20.5           | 33 | 1.0 |
| C4CAYUC2470AA1J | 0.047  | 3000 | 750  | 1250  | 59   | 25.7              | 7                  | 19             | 44 | 1.0 |
| C4CAYUC2680AA1J | 0.068  | 3000 | 750  | 1250  | 85   | 18.3              | 9                  | 22.5           | 44 | 1.0 |
| C4CAYUD3100AA1J | 0.1    | 3000 | 750  | 1250  | 125  | 12.8              | 12                 | 27             | 44 | 1.2 |
| C4CAYUD3150AA1J | 0.15   | 3000 | 750  | 1250  | 188  | 9.2               | 12                 | 32             | 44 | 1.2 |
| C4CAYUD3220AA3J | 0.22   | 3000 | 750  | 750   | 165  | 9.5               | 12                 | 31             | 58 | 1.2 |

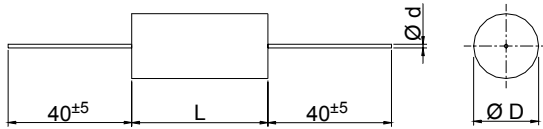


## PEAK VOLTAGE TABLE

|                  |        |        |        |        |
|------------------|--------|--------|--------|--------|
| Un               | 850 V  | 1200 V | 2000 V | 3000 V |
| U <sub>max</sub> | 1200 V | 1600 V | 2400 V | 3500 V |

## GENERAL CHARACTERISTICS

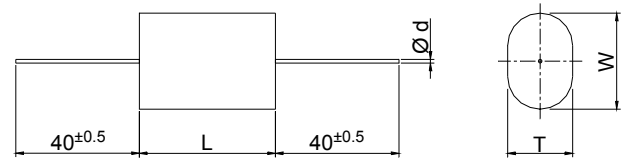
| Code            | C<br>μF | Un<br>Vdc | URMS<br>Vac | dv/dt<br>V/μs | IPKR<br>A | ESR<br>Max @ 100kHz<br>mΩ | IRMS<br>100kHz @70°<br>A | MAX DIMENSIONS<br>(mm) |      |    |     |
|-----------------|---------|-----------|-------------|---------------|-----------|---------------------------|--------------------------|------------------------|------|----|-----|
|                 |         |           |             |               |           |                           |                          | T                      | W    | L  | d   |
| C4HAMUB3100AA0J | 0.1     | 850       | 450         | 450           | 45        | 16.7                      | 5                        | 8                      | 12   | 33 | 0.8 |
| C4HAMUB3150AA0J | 0.15    | 850       | 450         | 450           | 68        | 11.5                      | 6                        | 10                     | 14   | 33 | 0.8 |
| C4HAMUC3220AA0J | 0.22    | 850       | 450         | 450           | 99        | 8.1                       | 9                        | 11                     | 17.5 | 33 | 1.0 |
| C4HAMUC3330AA0J | 0.33    | 850       | 450         | 450           | 149       | 5.8                       | 9                        | 14.5                   | 20.5 | 33 | 1.0 |
| C4HAMUC3680AA1J | 0.68    | 850       | 450         | 300           | 204       | 5.1                       | 9                        | 17                     | 23   | 44 | 1.0 |
| C4HAMUD4100AA3J | 1       | 850       | 450         | 190           | 190       | 6.1                       | 12                       | 16.5                   | 22.5 | 58 | 1.2 |
| C4HAPUB2470AA0J | 0.047   | 1200      | 500         | 700           | 33        | 27.2                      | 4                        | 7.5                    | 11.5 | 33 | 0.8 |
| C4HAPUB2680AA0J | 0.068   | 1200      | 500         | 700           | 48        | 19.1                      | 5                        | 9.5                    | 13.5 | 33 | 0.8 |
| C4HAPUB3100AA0J | 0.1     | 1200      | 500         | 700           | 70        | 13.5                      | 6                        | 11.5                   | 15.5 | 33 | 0.8 |
| C4HAPUC3150AA0J | 0.15    | 1200      | 500         | 700           | 105       | 9.2                       | 9                        | 13                     | 19.5 | 33 | 1.0 |
| C4HAPUC3220AA0J | 0.22    | 1200      | 500         | 700           | 154       | 6.8                       | 9                        | 16.5                   | 22.5 | 33 | 1.0 |
| C4HAPUC3330AA1J | 0.33    | 1200      | 500         | 450           | 149       | 7.2                       | 9                        | 15.5                   | 22   | 44 | 1.0 |
| C4HAPUC3470AA1J | 0.47    | 1200      | 500         | 450           | 212       | 5.6                       | 9                        | 19                     | 25.5 | 44 | 1.0 |
| C4HAPUD3680AA3J | 0.68    | 1200      | 500         | 270           | 184       | 6.6                       | 12                       | 18                     | 24   | 58 | 1.2 |
| C4HAWUB2220AA0J | 0.022   | 2000      | 630         | 1150          | 25        | 48.3                      | 3                        | 8                      | 11.5 | 33 | 0.8 |
| C4HAWUB2330AA0J | 0.033   | 2000      | 630         | 1150          | 38        | 32.6                      | 4                        | 9.5                    | 13.5 | 33 | 0.8 |
| C4HAWUC2470AA0J | 0.047   | 2000      | 630         | 1150          | 54        | 23.1                      | 5                        | 10.5                   | 17   | 33 | 1.0 |
| C4HAWUC2680AA0J | 0.068   | 2000      | 630         | 1150          | 78        | 16.3                      | 7                        | 13                     | 19.5 | 33 | 1.0 |
| C4HAWUC3100AA0J | 0.1     | 2000      | 630         | 1150          | 115       | 11.6                      | 9                        | 16.5                   | 22.5 | 33 | 1.0 |
| C4HAWUC3150AA1J | 0.15    | 2000      | 630         | 700           | 105       | 11.3                      | 9                        | 15.5                   | 22   | 44 | 1.0 |
| C4HAWUD3220AA1J | 0.22    | 2000      | 630         | 700           | 154       | 8                         | 12                       | 19.5                   | 25.5 | 44 | 1.2 |
| C4HAWUD3330AA3J | 0.33    | 2000      | 630         | 410           | 135       | 9.2                       | 12                       | 18.5                   | 25   | 58 | 1.2 |
| C4HAYUB1680AA0J | 0.0068  | 3000      | 750         | 2100          | 14.5      | 133                       | 2                        | 7.5                    | 11.5 | 33 | 0.8 |
| C4HAYUB2100AA0J | 0.001   | 3000      | 750         | 2100          | 21        | 90.5                      | 2                        | 9                      | 13   | 33 | 0.8 |
| C4HAYUC2150AA0J | 0.015   | 3000      | 750         | 2100          | 32        | 60.6                      | 3                        | 10.5                   | 16.5 | 33 | 1.0 |
| C4HAYUC2220AA0J | 0.022   | 3000      | 750         | 2100          | 46        | 41.7                      | 4                        | 13                     | 19   | 33 | 1.0 |
| C4HAYUC2330AA0J | 0.033   | 3000      | 750         | 2100          | 69        | 28.3                      | 5                        | 16                     | 22.5 | 33 | 1.0 |
| C4HAYUC2470AA1J | 0.047   | 3000      | 750         | 1250          | 59        | 25.7                      | 6                        | 15                     | 21   | 44 | 1.0 |
| C4HAYUC2680AA1J | 0.068   | 3000      | 750         | 1250          | 85        | 18.3                      | 9                        | 18                     | 24.5 | 44 | 1.0 |
| C4HAYUD3100AA3J | 0.1     | 3000      | 750         | 750           | 75        | 18.9                      | 10                       | 17                     | 23.5 | 58 | 1.2 |


**PEAK VOLTAGE TABLE**

|      |       |       |       |        |        |
|------|-------|-------|-------|--------|--------|
| Un   | 250 V | 400 V | 600 V | 700 V  | 850 V  |
| Ūmax | 400 V | 600 V | 800 V | 1000 V | 1200 V |

**GENERAL CHARACTERISTICS**

| Code            | C    | Un  | URMS | dv/dt | IPKR | ESR                | IRMS               | MAX DIMENSIONS |      |     |
|-----------------|------|-----|------|-------|------|--------------------|--------------------|----------------|------|-----|
|                 | μF   | Vdc | Vac  | V/μs  | A    | Max @ 100kHz<br>mΩ | 100kHz @ 70°C<br>A | D              | L    | d   |
| C4GADUB4100AA4J | 1    | 250 | 160  | 60    | 60   | 6.7                | 6                  | 11             | 20.5 | 0.8 |
| C4GADUB4220AA0J | 2.2  | 250 | 160  | 30    | 66   | 10.9               | 6                  | 11.5           | 33   | 0.8 |
| C4GADUB4250AA0J | 2.5  | 250 | 160  | 30    | 75   | 9.8                | 7                  | 12             | 33   | 0.8 |
| C4GADUC4300AA0J | 3    | 250 | 160  | 30    | 90   | 8.2                | 8                  | 13.5           | 33   | 1.0 |
| C4GADUC4330AA0J | 3.3  | 250 | 160  | 30    | 99   | 7.5                | 9                  | 14             | 33   | 1.0 |
| C4GADUC4400AA0J | 4    | 250 | 160  | 30    | 120  | 6.4                | 9                  | 15.5           | 33   | 1.0 |
| C4GADUC4500AA0J | 5    | 250 | 160  | 30    | 150  | 5.4                | 9                  | 17             | 33   | 1.0 |
| C4GADUC4680AA0J | 6.8  | 250 | 160  | 30    | 204  | 4.4                | 9                  | 19.5           | 33   | 1.0 |
| C4GADUC5100AA1J | 10   | 250 | 160  | 20    | 200  | 5.3                | 9                  | 20             | 44   | 1.0 |
| C4GADUD5150AA1J | 15   | 250 | 160  | 20    | 300  | 3.9                | 12                 | 24.5           | 44   | 1.2 |
| C4GADUD5200AA1J | 20   | 250 | 160  | 20    | 400  | 3.4                | 12                 | 28             | 44   | 1.2 |
| C4GADUD5250AA1J | 25   | 250 | 160  | 20    | 500  | 3.1                | 12                 | 31             | 44   | 1.2 |
| C4GADUD5300AA3J | 30   | 250 | 160  | 15    | 450  | 4                  | 12                 | 29             | 58   | 1.2 |
| C4GADUD5400AA3J | 40   | 250 | 160  | 15    | 600  | 3.5                | 12                 | 33.5           | 58   | 1.2 |
| C4GAFUB3470AA5J | 0.47 | 400 | 250  | 60    | 28   | 11.1               | 6                  | 9.5            | 28   | 0.8 |
| C4GAFUB3680AA0J | 0.68 | 400 | 250  | 45    | 31   | 11.7               | 6                  | 10             | 33   | 0.8 |
| C4GAFUB4100AA0J | 1    | 400 | 250  | 45    | 45   | 8.3                | 7                  | 12             | 33   | 0.8 |
| C4GAFUC4150AA0J | 1.5  | 400 | 250  | 45    | 68   | 5.8                | 9                  | 14.5           | 33   | 1.0 |
| C4GAFUC4200AA0J | 2    | 400 | 250  | 45    | 90   | 4.7                | 9                  | 16.5           | 33   | 1.0 |
| C4GAFUC4220AA0J | 2.2  | 400 | 250  | 45    | 99   | 4.4                | 9                  | 17.5           | 33   | 1.0 |
| C4GAFUC4250AA0J | 2.5  | 400 | 250  | 45    | 113  | 4                  | 9                  | 18.5           | 33   | 1.0 |
| C4GAFUC4300AA0J | 3    | 400 | 250  | 45    | 135  | 3.6                | 9                  | 20             | 33   | 1.0 |
| C4GAFUC4330AA1J | 3.3  | 400 | 250  | 30    | 99   | 5.2                | 9                  | 18             | 44   | 1.0 |
| C4GAFUC4400AA1J | 4    | 400 | 250  | 30    | 120  | 4.6                | 9                  | 19.5           | 44   | 1.0 |
| C4GAFUC4470AA1J | 4.7  | 400 | 250  | 30    | 141  | 4.1                | 9                  | 21             | 44   | 1.0 |
| C4GAFUC4500AA1J | 5    | 400 | 250  | 30    | 150  | 4                  | 9                  | 21.5           | 44   | 1.0 |
| C4GAFUD4680AA1J | 6.8  | 400 | 250  | 30    | 204  | 3.2                | 12                 | 25             | 44   | 1.2 |
| C4GAFUD5100AA1J | 10   | 400 | 250  | 30    | 300  | 2.7                | 12                 | 30             | 44   | 1.2 |
| C4GAFUD5150AA3J | 15   | 400 | 250  | 20    | 300  | 4.8                | 12                 | 31.5           | 58   | 1.2 |
| C4GAFUD5200AA3J | 20   | 400 | 250  | 20    | 400  | 4                  | 12                 | 35             | 58   | 1.2 |
| C4GAHUB3470AA0J | 0.47 | 600 | 330  | 60    | 28   | 13.1               | 6                  | 11             | 33   | 0.8 |
| C4GAHUB3680AA0J | 0.68 | 600 | 330  | 60    | 41   | 9.4                | 7                  | 13             | 33   | 0.8 |
| C4GAHUC4100AA0J | 1    | 600 | 330  | 60    | 60   | 6.6                | 9                  | 15.5           | 33   | 1.0 |
| C4GAHUC4200AA1J | 2    | 600 | 330  | 40    | 80   | 6.3                | 9                  | 18.5           | 44   | 1.0 |
| C4GAHUC4220AA1J | 2.2  | 600 | 330  | 40    | 88   | 5.2                | 9                  | 19.5           | 44   | 1.0 |
| C4GAHUC4300AA1J | 3    | 600 | 330  | 40    | 120  | 4.8                | 9                  | 22.5           | 44   | 1.0 |
| C4GAHUC4330AA1J | 3.3  | 600 | 330  | 40    | 132  | 4.3                | 12                 | 23.5           | 44   | 1.2 |
| C4GAHUC4400AA1J | 4    | 600 | 330  | 40    | 160  | 3.8                | 12                 | 25.5           | 44   | 1.2 |
| C4GAHUD4470AA1J | 4.7  | 600 | 330  | 40    | 188  | 3.5                | 12                 | 27.5           | 44   | 1.2 |
| C4GAHUD4500AA1J | 5    | 600 | 330  | 40    | 200  | 3.4                | 12                 | 28.5           | 44   | 1.2 |
| C4GAHUD4680AA3J | 6.8  | 600 | 330  | 30    | 204  | 6.8                | 12                 | 28.5           | 58   | 1.2 |
| C4GAHUD5100AA3J | 10   | 600 | 330  | 30    | 300  | 5.3                | 12                 | 34.5           | 58   | 1.2 |
| C4GAJUC3470AA0J | 0.47 | 700 | 400  | 80    | 38   | 9.5                | 8                  | 14.5           | 33   | 1.0 |
| C4GAHUB3680AA0J | 0.68 | 700 | 400  | 80    | 55   | 7                  | 9                  | 17             | 33   | 1.0 |
| C4GAJUC4100AA0J | 1    | 700 | 400  | 80    | 80   | 5.2                | 9                  | 20.5           | 33   | 1.0 |
| C4GAJUC4150AA1J | 1.5  | 700 | 400  | 60    | 90   | 6.4                | 9                  | 20.5           | 44   | 1.0 |
| C4GAJUD4200AA1J | 2    | 700 | 400  | 60    | 120  | 5                  | 12                 | 23.5           | 44   | 1.2 |
| C4GAJUD4220AA1J | 2.2  | 700 | 400  | 60    | 132  | 4.7                | 12                 | 24.5           | 44   | 1.2 |
| C4GAJUD4300AA1J | 3    | 700 | 400  | 60    | 180  | 3.9                | 12                 | 28.5           | 44   | 1.2 |
| C4GAJUD4330AA1J | 3.3  | 700 | 400  | 60    | 198  | 3.7                | 12                 | 30             | 44   | 1.2 |
| C4GAJUD4400AA1J | 4    | 700 | 400  | 60    | 240  | 3.5                | 12                 | 33             | 44   | 1.2 |
| C4GAJUD4470AA3J | 4.7  | 700 | 400  | 40    | 188  | 7.9                | 12                 | 29.5           | 58   | 1.2 |
| C4GAJUD4500AA3J | 5    | 700 | 400  | 40    | 200  | 7.5                | 12                 | 30.5           | 58   | 1.2 |
| C4GAJUD4680AA3J | 6.8  | 700 | 400  | 40    | 272  | 6.1                | 12                 | 35             | 58   | 1.2 |
| C4GAMUB3150AA0J | 0.15 | 850 | 450  | 210   | 32   | 14.5               | 5                  | 10             | 33   | 0.8 |
| C4GAMUB3220AA0J | 0.22 | 850 | 450  | 210   | 46   | 10.3               | 7                  | 12             | 33   | 0.8 |
| C4GAMUC3330AA0J | 0.33 | 850 | 450  | 210   | 69   | 7.1                | 9                  | 14.5           | 33   | 1.0 |
| C4GAMUC3470AA0J | 0.47 | 850 | 450  | 210   | 99   | 5.4                | 9                  | 17             | 33   | 1.0 |
| C4GAMUC3680AA0J | 0.68 | 850 | 450  | 210   | 143  | 4.2                | 9                  | 20.5           | 33   | 1.0 |
| C4GAMUC4100AA1J | 1    | 850 | 450  | 140   | 140  | 4.7                | 9                  | 20.5           | 44   | 1.0 |
| C4GAMUD4150AA1J | 1.5  | 850 | 450  | 140   | 210  | 3.5                | 12                 | 24.5           | 44   | 1.2 |
| C4GAMUD4200AA1J | 2    | 850 | 450  | 140   | 280  | 3.1                | 12                 | 28.5           | 44   | 1.2 |
| C4GAMUD4220AA1J | 2.2  | 850 | 450  | 140   | 308  | 3                  | 12                 | 29.5           | 44   | 1.2 |
| C4GAMUD4250AA1J | 2.5  | 850 | 450  | 140   | 350  | 2.9                | 12                 | 31.5           | 44   | 1.2 |
| C4GAMUD4300AA3J | 3    | 850 | 450  | 90    | 270  | 3.6                | 12                 | 28             | 58   | 1.2 |
| C4GAMUD4330AA3J | 3.3  | 850 | 450  | 90    | 297  | 3.5                | 12                 | 29.5           | 58   | 1.2 |
| C4GAMUD4400AA3J | 4    | 850 | 450  | 90    | 360  | 3.2                | 12                 | 32.5           | 58   | 1.2 |



## PEAK VOLTAGE TABLE

|                 |       |       |       |        |        |
|-----------------|-------|-------|-------|--------|--------|
| Un              | 250 V | 400 V | 600 V | 700 V  | 850 V  |
| $\hat{U}_{MAX}$ | 400 V | 600 V | 800 V | 1000 V | 1200 V |

## GENERAL CHARACTERISTICS

| Code            | C<br><br>μF | Un<br><br>Vdc | URMS<br><br>Vac | dv/dt<br><br>V/μs | IPKR<br><br>A | ESR<br>Max @ 100kHz<br><br>mΩ | IRMS<br>100kHz @ 70°C<br><br>A | MAX DIMENSIONS<br>(mm) |      |      |     |
|-----------------|-------------|---------------|-----------------|-------------------|---------------|-------------------------------|--------------------------------|------------------------|------|------|-----|
|                 |             |               |                 |                   |               |                               |                                | T                      | W    | L    | d   |
| C4MADUB4100AA4J | 1           | 250           | 160             | 60                | 60            | 6.7                           | 6                              | 8.5                    | 12.5 | 20.5 | 0.8 |
| C4MADUB4220AA0J | 2.2         | 250           | 160             | 30                | 66            | 11                            | 6                              | 9                      | 13   | 33   | 0.8 |
| C4MADUB4250AA0J | 2.5         | 250           | 160             | 30                | 75            | 9.9                           | 7                              | 9.5                    | 13.5 | 33   | 0.8 |
| C4MADUC4300AA0J | 3           | 250           | 160             | 30                | 90            | 8.2                           | 8                              | 9.5                    | 16   | 33   | 1.0 |
| C4MADUC4330AA0J | 3.3         | 250           | 160             | 30                | 99            | 7.6                           | 9                              | 10                     | 16.5 | 33   | 1.0 |
| C4MADUC4400AA0J | 4           | 250           | 160             | 30                | 120           | 6.5                           | 9                              | 11.5                   | 17.5 | 33   | 1.0 |
| C4MADUC4500AA0J | 5           | 250           | 160             | 30                | 150           | 5.4                           | 9                              | 13                     | 19.5 | 33   | 1.0 |
| C4MADUC4680AA0J | 6.8         | 250           | 160             | 30                | 204           | 4.4                           | 9                              | 15.5                   | 22   | 33   | 1.0 |
| C4MADUC5100AA1J | 10          | 250           | 160             | 20                | 200           | 5.4                           | 9                              | 16                     | 22.5 | 44   | 1.0 |
| C4MADUD5150AA3J | 15          | 250           | 160             | 15                | 225           | 6.4                           | 12                             | 17                     | 23   | 58   | 1.2 |
| C4MADUD5200AA3J | 20          | 250           | 160             | 15                | 300           | 5.1                           | 12                             | 20                     | 26.5 | 58   | 1.2 |
| C4MAFUB3470AA5J | 0.47        | 400           | 250             | 60                | 28            | 11.2                          | 5                              | 7                      | 11   | 28   | 0.8 |
| C4MAFUB3680AA0J | 0.68        | 400           | 250             | 45                | 31            | 11.8                          | 6                              | 7.5                    | 11.5 | 33   | 0.8 |
| C4MAFUB4100AA0J | 1           | 400           | 250             | 45                | 45            | 8.4                           | 7                              | 10                     | 14   | 33   | 0.8 |
| C4MAFUC4150AA0J | 1.5         | 400           | 250             | 45                | 68            | 5.8                           | 9                              | 11                     | 17.5 | 33   | 1.0 |
| C4MAFUC4200AA0J | 2           | 400           | 250             | 45                | 90            | 4.7                           | 9                              | 13                     | 19.5 | 33   | 1.0 |
| C4MAFUC4220AA0J | 2.2         | 400           | 250             | 45                | 99            | 4.4                           | 9                              | 13.5                   | 19.5 | 33   | 1.0 |
| C4MAFUC4250AA0J | 2.5         | 400           | 250             | 45                | 113           | 4                             | 9                              | 14.5                   | 20.5 | 33   | 1.0 |
| C4MAFUC4300AA0J | 3           | 400           | 250             | 45                | 135           | 3.6                           | 9                              | 16                     | 22.5 | 33   | 1.0 |
| C4MAFUC4330AA1J | 3.3         | 400           | 250             | 30                | 99            | 5.2                           | 9                              | 14                     | 20.5 | 44   | 1.0 |
| C4MAFUC4400AA1J | 4           | 400           | 250             | 30                | 120           | 4.6                           | 9                              | 15.5                   | 22   | 44   | 1.0 |
| C4MAFUC4470AA1J | 4.7         | 400           | 250             | 30                | 141           | 4.2                           | 9                              | 17                     | 23.5 | 44   | 1.0 |
| C4MAFUC4500AA1J | 5           | 400           | 250             | 30                | 150           | 4                             | 9                              | 18                     | 24   | 44   | 1.0 |
| C4MAFUD4680AA3J | 6.8         | 400           | 250             | 20                | 136           | 8.5                           | 12                             | 17.5                   | 24   | 58   | 1.2 |
| C4MAHUB3470AA0J | 0.47        | 600           | 330             | 60                | 28            | 13.2                          | 6                              | 8.5                    | 12.5 | 33   | 0.8 |
| C4MAHUB3680AA0J | 0.68        | 600           | 330             | 60                | 41            | 9.5                           | 7                              | 10.5                   | 14.5 | 33   | 0.8 |
| C4MAHUC4100AA0J | 1           | 600           | 330             | 60                | 60            | 6.7                           | 9                              | 12                     | 18   | 33   | 1.0 |
| C4MAHUC4200AA1J | 2           | 600           | 330             | 40                | 80            | 6.4                           | 9                              | 14.5                   | 21   | 44   | 1.0 |
| C4MAHUC4220AA1J | 2.2         | 600           | 330             | 40                | 88            | 5.9                           | 9                              | 15.5                   | 22   | 44   | 1.0 |
| C4MAHUC4300AA1J | 3           | 600           | 330             | 40                | 120           | 4.8                           | 9                              | 18.5                   | 25   | 44   | 1.0 |
| C4MAHUD4330AA3J | 3.3         | 600           | 330             | 30                | 99            | 12.6                          | 11                             | 16.5                   | 22.5 | 58   | 1.2 |
| C4MAHUD4400AA3J | 4           | 600           | 330             | 30                | 120           | 10.6                          | 12                             | 18                     | 24.5 | 58   | 1.2 |
| C4MAHUD4470AA3J | 4.7         | 600           | 330             | 30                | 141           | 9.3                           | 12                             | 20                     | 26   | 58   | 1.2 |
| C4MAJUC3470AA0J | 0.47        | 700           | 400             | 80                | 38            | 9.6                           | 8                              | 10.5                   | 17   | 33   | 1.0 |
| C4MAJUC3680AA0J | 0.68        | 700           | 400             | 80                | 55            | 7                             | 9                              | 13.5                   | 19.5 | 33   | 1.0 |
| C4MAJUC4100AA0J | 1           | 700           | 400             | 80                | 80            | 5.3                           | 9                              | 16.5                   | 23   | 33   | 1.0 |
| C4MAJUC4150AA1J | 1.5         | 700           | 400             | 60                | 90            | 6.5                           | 9                              | 16.5                   | 23   | 44   | 1.0 |
| C4MAJUD4200AA3J | 2           | 700           | 400             | 40                | 80            | 16.4                          | 10                             | 16                     | 22   | 58   | 1.2 |
| C4MAJUD4220AA3J | 2.2         | 700           | 400             | 40                | 88            | 15                            | 11                             | 16.5                   | 23   | 58   | 1.2 |
| C4MAJUD4300AA3J | 3           | 700           | 400             | 40                | 120           | 11.4                          | 12                             | 20                     | 26   | 58   | 1.2 |

## ORDERING CODES - Axial Series C4C, C4G, C4H, C4M

| Digits                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| Series                    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Degree of protection      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Nominal Voltage Un        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Case                      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Terminals                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Capacitance value         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Execution                 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Total length of capacitor |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Tolerance %               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |

### Digits 1-2-3: Series

|            |                                                                     |
|------------|---------------------------------------------------------------------|
| <b>C4C</b> | Axials cylindrical MKP capacitors for <b>snubber</b> applications   |
| <b>C4G</b> | Axials cylindrical MKP capacitors for <b>switching</b> applications |
| <b>C4H</b> | Axials ovoidal MKP capacitors for <b>snubber</b> applications       |
| <b>C4M</b> | Axials ovoidal MKP capacitors for <b>switching</b> application      |

### Digit 4: Degree of protection:

|          |                                               |
|----------|-----------------------------------------------|
| <b>A</b> | Standard execution <b>not flame retardant</b> |
| <b>S</b> | Standard execution <b>flame retardant</b>     |

### Digit 5: Nominal D.C. Voltage Un

|              |              |              |                     |
|--------------|--------------|--------------|---------------------|
| A = 550 Vdc  | B = 160 Vdc  | C = 200 Vdc  | D = 250 Vdc         |
| E = 300 Vdc  | F = 400 Vdc  | G = 450 Vdc  | H = 600 Vdc         |
| I = 630 Vdc  | J = 700 Vdc  | K = 750 Vdc  | L = 500 Vdc         |
| M = 850 Vdc  | N = 1000 Vdc | P = 1200 Vdc | R = 1400 Vdc        |
| S = 1500 Vdc | T = 1600 Vdc | U = 1700 Vdc | V = 1800 Vdc        |
| W = 2000 Vdc | X = 2400 Vdc | Y = 3000 Vdc | Z = Special voltage |

### Digit 6: Case

|   |                                                |
|---|------------------------------------------------|
| 0 | Capacitor unprotected.                         |
| U | Capacitor protected with tape and resin.       |
| Z | Capacitor protected with a special executions. |

### Digit 7: Terminals

|   |                             |   |                             |
|---|-----------------------------|---|-----------------------------|
| 0 | Without terminals           | A | Tinned copper wire D 0.6 mm |
| B | Tinned copper wire D 0.8 mm | C | Tinned copper wire D 1.0 mm |
| D | Tinned copper wire D 1.2 mm | Z | Special terminals           |

### Digits 8-9-10-11: Capacitance

The nominal capacitance is exponential: the digits 9, 10, 11 show the first 3 significative numbers of capacitance, the digit 8 defines the exponent on 10 base to obtain the nominal capacitance in pF, example  $\Rightarrow 2330 = 0,033 \mu F \Rightarrow 330 \times 10^2 \Rightarrow 330 \times 100 \Rightarrow 33000 \text{ pF} = 0,033 \mu F$

### Digits 12-13: Execution

The standard execution is coded as AA, all the others are not standard.

### Digit 14: Total Length of Capacitor

|                                    |                                  |
|------------------------------------|----------------------------------|
| 0 = H max 33 mm (tape H=31.5 mm)   | 1 = H max 44 mm (tape H=42 mm)   |
| 2 = H max 46 mm (tape H=44 mm)     | 3 = H max 58 mm (tape H=56 mm)   |
| 4 = H max 20.5 mm (tape H = 19 mm) | 5 = H max 28 mm (tape H=26.5 mm) |
| 6 = H max 38 mm (tape H = 36 mm)   |                                  |

### Digit 15: Tolerance

According to IEC 1968, this code defines the tolerance on nominal capacitance of the capacitor.

J =  $\pm 5\%$     K =  $\pm 10\%$     X = Special tolerance