



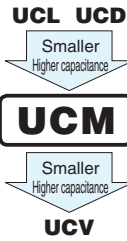
**THE DATASHEET OF  
UCM1A221MCL1GS**



## UCM Chip Type, Low Impedance



- Chip type, low impedance temperature range up to +105°C.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).
- AEC-Q200 Qualified. Please contact us for details.



### Specifications

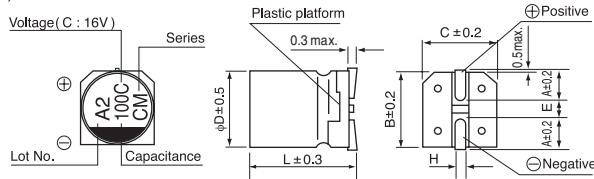
| Item                          | Performance Characteristics   |   |    |    |    |    |    |    |    |     |
|-------------------------------|---|---|----|----|----|----|----|----|----|-----|
| Category Temperature Range    | -55 to +105°C   |   |    |    |    |    |    |    |    |     |
| Rated Voltage Range           | 6.3 to 100V   |   |    |    |    |    |    |    |    |     |
| Rated Capacitance Range       | 10 to 5100μF  |   |    |    |    |    |    |    |    |     |
| Capacitance Tolerance         | ±20% at 120Hz, 20°C   |   |    |    |    |    |    |    |    |     |
| Leakage Current ※             | After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01 CV(μA).  |   |    |    |    |    |    |    |    |     |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz at 20°C   |   |    |    |    |    |    |    |    |     |
|                               | Rated voltage (V)   | 6.3   | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 |
| Stability at Low Temperature  | Measurement frequency : 120Hz   |   |    |    |    |    |    |    |    |     |
|                               | Rated voltage (V)   | 6.3   | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 |
|                               | Impedance ratio Z(-25°C) / Z(+20°C)   | 2   | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2   |
| Endurance                     | The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 5000 hours (2000 hours for φD ≧ 10) at 105°C.   |   |    |    |    |    |    |    |    |     |
|                               | Capacitance change  | Within ±30% of the initial capacitance value  |    |    |    |    |    |    |    |     |
| Shelf Life                    | After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above. |   |    |    |    |    |    |    |    |     |
|                               | tan δ   | 200% or less than the initial specified value (For 63V or more : 300% or less than the initial specified value) |    |    |    |    |    |    |    |     |
| Resistance to soldering heat  | The capacitors are kept on a hot plate for 30 seconds, which is maintained at 250°C. The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to 20°C.               |   |    |    |    |    |    |    |    |     |
|                               | Capacitance change  | Within ±10% of the initial capacitance value  |    |    |    |    |    |    |    |     |
| Marking                       | Black print on the case top.  |   |    |    |    |    |    |    |    |     |
|                               | tan δ   | Less than or equal to the initial specified value   |    |    |    |    |    |    |    |     |
|                               | Leakage current   |   |    |    |    |    |    |    |    |     |
|                               |   | Less than or equal to the initial specified value   |    |    |    |    |    |    |    |     |

### Chip Type ※ φ6.3×5.8L or less, φ12.5×21L :

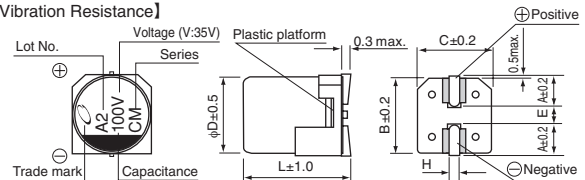
The vibration structure-resistant product can't support.

※ I : Leakage Current (μA), C : Rated Capacitance (μF), V : Rated Voltage (V)

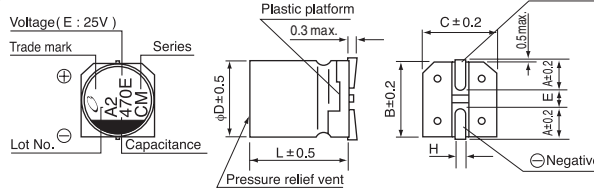
#### (φ4 to φ6.3)



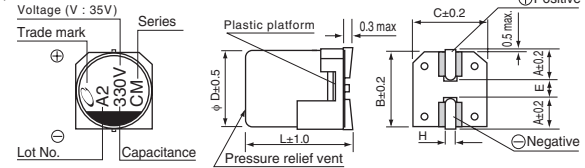
#### (φ6.3) [Vibration Resistance]



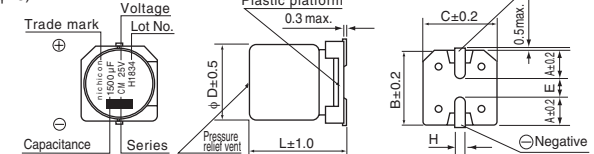
#### (φ8 × φ10)



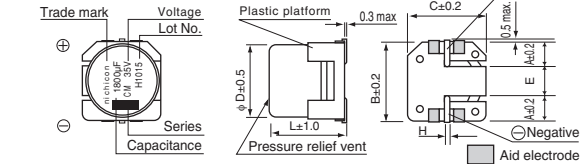
#### (φ8, φ10) [Vibration Resistance]



#### (φ12.5 to φ18)



#### (φ12.5 to φ18) [Vibration Resistance]



#### Standard

| φD×L | (mm)       |            |            |            |            |            |            |            | Vibration Resistance (mm) |     |     |  |
|------|------------|------------|------------|------------|------------|------------|------------|------------|---------------------------|-----|-----|--|
|      | 4×5.8      | 5×5.8      | 6.3×5.8    | 6.3×7.7    | 8×10       | 10×10      | φ12        | φ16        | φ12.5                     | φ16 | φ18 |  |
| A    | 1.8        | 2.1        | 2.4        | 2.4        | 2.9        | 3.2        | 5.15       | 5.65       | 6.65                      |     |     |  |
| B    | 4.3        | 5.3        | 6.6        | 6.6        | 8.3        | 10.3       | 13.6       | 17.1       | 19.1                      |     |     |  |
| C    | 4.3        | 5.3        | 6.6        | 6.6        | 8.3        | 10.3       | 13.6       | 17.1       | 19.1                      |     |     |  |
| E    | 1          | 1.3        | 2.2        | 2.2        | 3.1        | 4.5        | (3.3)      | (5.8)      | (5.8)                     |     |     |  |
| L    | 5.8        | 5.8        | 5.8        | 7.7        | 10         | 10         | 13.5,21.5  | 16.5,21.5  | 16.5,21.5                 |     |     |  |
| H    | 0.5 to 0.8 | 0.5 to 0.8 | 0.5 to 0.8 | 0.5 to 0.8 | 0.8 to 1.1 | 0.8 to 1.1 | 1.0 to 1.4 | 1.0 to 1.4 | 1.0 to 1.4                |     |     |  |

#### Voltage

|      |     |    |    |    |    |    |    |    |     |
|------|-----|----|----|----|----|----|----|----|-----|
| v    | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 |
| Code | j   | A  | C  | E  | V  | H  | J  | K  | 2A  |

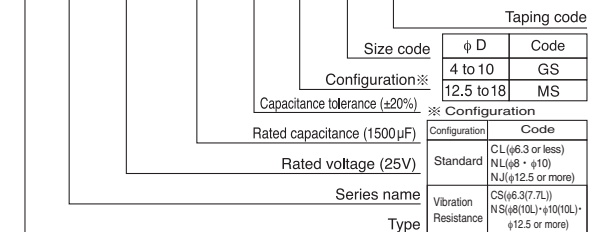
#### Frequency coefficient of rated ripple current

|             |       |        |        |       |                |
|-------------|-------|--------|--------|-------|----------------|
| Frequency   | 50 Hz | 120 Hz | 300 Hz | 1 kHz | 10 kHz or more |
| Coefficient | 0.35  | 0.50   | 0.64   | 0.83  | 1.00           |

● Dimension table in next page.

#### Type numbering system (Example : 25V 1500μF)

1 2 3 4 5 6 7 8 9 10 11 12 13 14  
**U C M 1 E 1 5 2 M N J 1 M S**



## UCM

### ■ Dimensions

| Rated Voltage (V) (code) | Rated Capacitance (μF) | Case Size φD×L (mm) | tan δ | Leakage Current (μA) (at 20°C after 2 minutes) | Impedance (Ω) max. (20°C/100kHz) | Rated Ripple (mA rms) (105°C/100kHz) | Part Number    |
|--------------------------|------------------------|---------------------|-------|--|----------------------------------|--------------------------------------|----------------|
| 6.3 (0J)                 | 100                    | 4×5.8               | 0.26  | 6.3  | 1.00                             | 160                                  | UCM0J101MCL1GS |
|                          | 220                    | 5×5.8               | 0.26  | 13.86  | 0.36                             | 240                                  | UCM0J221MCL1GS |
|                          | 330                    | 6.3×5.8             | 0.26  | 20.79  | 0.26                             | 300                                  | UCM0J331MCL1GS |
|                          | 470                    | 6.3×7.7             | 0.26  | 29.61  | 0.16                             | 600                                  | UCM0J471M□□1GS |
|                          | 680                    | 6.3×7.7             | 0.26  | 42.84  | 0.16                             | 600                                  | UCM0J681M□□1GS |
|                          | 1500                   | 8×10                | 0.26  | 94.5   | 0.080                            | 850                                  | UCM0J152M□□1GS |
|                          | 2200                   | 10×10               | 0.26  | 138.6  | 0.060                            | 1190                                 | UCM0J222M□□1GS |
| 10 (1A)                  | 68                     | 4×5.8               | 0.19  | 6.8  | 1.00                             | 160                                  | UCM1A680MCL1GS |
|                          | 150                    | 5×5.8               | 0.19  | 15   | 0.36                             | 240                                  | UCM1A151MCL1GS |
|                          | 220                    | 6.3×5.8             | 0.19  | 22   | 0.26                             | 300                                  | UCM1A221MCL1GS |
|                          | 330                    | 6.3×7.7             | 0.19  | 33   | 0.16                             | 600                                  | UCM1A331M□□1GS |
|                          | 470                    | 6.3×7.7             | 0.19  | 47   | 0.16                             | 600                                  | UCM1A471M□□1GS |
|                          | 1000                   | 8×10                | 0.19  | 100  | 0.080                            | 850                                  | UCM1A102M□□1GS |
|                          | 1500                   | 10×10               | 0.19  | 150  | 0.060                            | 1190                                 | UCM1A152M□□1GS |
| 16 (1C)                  | 47                     | 4×5.8               | 0.16  | 7.52   | 1.00                             | 160                                  | UCM1C470MCL1GS |
|                          | 68                     | 5×5.8               | 0.16  | 10.88  | 0.36                             | 240                                  | UCM1C680MCL1GS |
|                          | 100                    | 5×5.8               | 0.16  | 16   | 0.36                             | 240                                  | UCM1C101MCL1GS |
|                          | 150                    | 6.3×5.8             | 0.16  | 24   | 0.26                             | 300                                  | UCM1C151MCL1GS |
|                          | 220                    | 6.3×5.8             | 0.16  | 35.2   | 0.26                             | 300                                  | UCM1C221MCL1GS |
|                          | 330                    | 6.3×7.7             | 0.16  | 52.8   | 0.16                             | 600                                  | UCM1C331M□□1GS |
|                          | 680                    | 8×10                | 0.16  | 108.8  | 0.080                            | 850                                  | UCM1C681M□□1GS |
|                          | 1000                   | 10×10               | 0.16  | 160  | 0.060                            | 1190                                 | UCM1C102M□□1GS |
| 25 (1E)                  | 22                     | 4×5.8               | 0.14  | 5.5  | 1.00                             | 160                                  | UCM1E220MCL1GS |
|                          | 33                     | 4×5.8               | 0.14  | 8.25   | 1.00                             | 160                                  | UCM1E330MCL1GS |
|                          | 47                     | 5×5.8               | 0.14  | 11.75  | 0.36                             | 240                                  | UCM1E470MCL1GS |
|                          | 68                     | 5×5.8               | 0.14  | 17   | 0.36                             | 240                                  | UCM1E680MCL1GS |
|                          | 100                    | 6.3×5.8             | 0.14  | 25   | 0.26                             | 300                                  | UCM1E101MCL1GS |
|                          | 150                    | 6.3×7.7             | 0.14  | 37.5   | 0.16                             | 600                                  | UCM1E151M□□1GS |
|                          | 220                    | 6.3×7.7             | 0.14  | 55   | 0.16                             | 600                                  | UCM1E221M□□1GS |
|                          | 470                    | 8×10                | 0.14  | 117.5  | 0.080                            | 850                                  | UCM1E471M□□1GS |
|                          | 820                    | 10×10               | 0.14  | 205  | 0.060                            | 1190                                 | UCM1E821M□□1GS |
|                          | 1500                   | 12.5×13.5           | 0.14  | 375  | 0.058                            | 1420                                 | UCM1E152M□□1MS |
|                          | 2400                   | 12.5×21             | 0.16  | 600  | 0.046                            | 2080                                 | UCM1E242M□□1MS |
|                          | 2700                   | 16×16.5             | 0.16  | 675  | 0.047                            | 1910                                 | UCM1E272M□□1MS |
|                          | 3600                   | 18×16.5             | 0.18  | 900  | 0.045                            | 2060                                 | UCM1E362M□□1MS |
| 3900                     | 16×21.5                | 0.18                | 975   | 0.034  | 2540                             | UCM1E392M□□1MS                       |                |
| 5100                     | 18×21.5                | 0.22                | 1275  | 0.032  | 2640                             | UCM1E512M□□1MS                       |                |
| 35 (1V)                  | 22                     | 4×5.8               | 0.12  | 7.7  | 1.00                             | 160                                  | UCM1V220MCL1GS |
|                          | 33                     | 5×5.8               | 0.12  | 11.55  | 0.36                             | 240                                  | UCM1V330MCL1GS |
|                          | 47                     | 5×5.8               | 0.12  | 16.45  | 0.36                             | 240                                  | UCM1V470MCL1GS |
|                          | 68                     | 6.3×5.8             | 0.12  | 23.8   | 0.26                             | 300                                  | UCM1V680MCL1GS |
|                          | 100                    | 6.3×5.8             | 0.12  | 35   | 0.26                             | 300                                  | UCM1V101MCL1GS |
|                          | 150                    | 6.3×7.7             | 0.12  | 52.5   | 0.16                             | 600                                  | UCM1V151M□□1GS |
|                          | 330                    | 8×10                | 0.12  | 115.5  | 0.080                            | 850                                  | UCM1V331M□□1GS |
|                          | 560                    | 10×10               | 0.12  | 196  | 0.060                            | 1190                                 | UCM1V561M□□1GS |
|                          | 910                    | 12.5×13.5           | 0.12  | 318.5  | 0.058                            | 1420                                 | UCM1V911M□□1MS |
|                          | 1600                   | 12.5×21             | 0.12  | 560  | 0.046                            | 2080                                 | UCM1V162M□□1MS |
|                          | 1800                   | 16×16.5             | 0.12  | 630  | 0.047                            | 1910                                 | UCM1V182M□□1MS |
|                          | 2200                   | 18×16.5             | 0.14  | 770  | 0.045                            | 2060                                 | UCM1V222M□□1MS |
|                          | 2700                   | 16×21.5             | 0.14  | 945  | 0.034                            | 2540                                 | UCM1V272M□□1MS |
|                          | 3600                   | 18×21.5             | 0.16  | 1260   | 0.032                            | 2640                                 | UCM1V362M□□1MS |

□□ : Enter the appropriate configuration code.

## UCM

### ■ Dimensions



| Rated Voltage (V)<br>(code) | Rated Capacitance (μF) | Case Size φD×L (mm) | tan δ | Leakage Current (μA)<br>(at 20°C after 2 minutes) | Impedance (Ω)<br>max.<br>(20°C/100kHz) | Rated Ripple (mA <sub>rms</sub> )<br>(105°C/100kHz) | Part Number    |
|-----------------------------|------------------------|---------------------|-------|---|--|---|----------------|
| 50<br>(1H)                  | 10                     | 4×5.8               | 0.10  | 5   | 2.30                                   | 85  | UCM1H100MCL6GS |
|                             | 10                     | 5×5.8               | 0.10  | 5   | 0.88                                   | 165   | UCM1H100MCL1GS |
|                             | 22                     | 5×5.8               | 0.10  | 11  | 0.88                                   | 165   | UCM1H220MCL1GS |
|                             | 47                     | 6.3×5.8             | 0.10  | 23.5  | 0.68                                   | 195   | UCM1H470MCL1GS |
|                             | 100                    | 6.3×7.7             | 0.10  | 50  | 0.34                                   | 350   | UCM1H101M□□1GS |
|                             | 220                    | 8×10                | 0.10  | 110   | 0.18                                   | 670   | UCM1H221M□□1GS |
|                             | 330                    | 10×10               | 0.10  | 165   | 0.12                                   | 900   | UCM1H331M□□1GS |
|                             | 470                    | 12.5×13.5           | 0.10  | 235   | 0.12                                   | 1340  | UCM1H471M□□1MS |
|                             | 750                    | 12.5×21             | 0.10  | 375   | 0.080                                  | 1970  | UCM1H751MNJ1MS |
|                             | 820                    | 16×16.5             | 0.10  | 410   | 0.080                                  | 1820  | UCM1H821M□□1MS |
|                             | 1100                   | 18×16.5             | 0.10  | 550   | 0.078                                  | 1980  | UCM1H112M□□1MS |
|                             | 1200                   | 16×21.5             | 0.10  | 600   | 0.050                                  | 2440  | UCM1H122M□□1MS |
| 1600                        | 18×21.5                | 0.10                | 800   | 0.050   | 2550                                   | UCM1H162M□□1MS                                      |                |
| 63<br>(1J)                  | 47                     | 6.3×7.7             | 0.08  | 29.61   | 0.80                                   | 190   | UCM1J470M□□1GS |
|                             | 100                    | 8×10                | 0.08  | 63  | 0.40                                   | 300   | UCM1J101M□□1GS |
|                             | 220                    | 10×10               | 0.08  | 138.6   | 0.25                                   | 500   | UCM1J221M□□1GS |
|                             | 360                    | 12.5×13.5           | 0.08  | 226.8   | 0.14                                   | 1250  | UCM1J361M□□1MS |
|                             | 560                    | 12.5×21             | 0.08  | 352.8   | 0.086                                  | 1850  | UCM1J561MNJ1MS |
|                             | 620                    | 16×16.5             | 0.08  | 390.6   | 0.082                                  | 1740  | UCM1J621M□□1MS |
|                             | 820                    | 18×16.5             | 0.08  | 516.6   | 0.080                                  | 1880  | UCM1J821M□□1MS |
|                             | 910                    | 16×21.5             | 0.08  | 573.3   | 0.055                                  | 2330  | UCM1J911M□□1MS |
| 1200                        | 18×21.5                | 0.08                | 756   | 0.054   | 2430                                   | UCM1J122M□□1MS                                      |                |
| 80<br>(1K)                  | 33                     | 6.3×7.7             | 0.08  | 26.4  | 0.80                                   | 190   | UCM1K330M□□1GS |
|                             | 68                     | 8×10                | 0.08  | 54.4  | 0.40                                   | 300   | UCM1K680M□□1GS |
|                             | 100                    | 10×10               | 0.08  | 80  | 0.25                                   | 500   | UCM1K101M□□1GS |
|                             | 220                    | 12.5×13.5           | 0.08  | 176   | 0.18                                   | 1050  | UCM1K221M□□1MS |
|                             | 360                    | 12.5×21             | 0.08  | 288   | 0.11                                   | 1580  | UCM1K361MNJ1MS |
|                             | 390                    | 16×16.5             | 0.08  | 312   | 0.10                                   | 1500  | UCM1K391M□□1MS |
|                             | 510                    | 18×16.5             | 0.08  | 408   | 0.098                                  | 1670  | UCM1K511M□□1MS |
|                             | 560                    | 16×21.5             | 0.08  | 448   | 0.066                                  | 2040  | UCM1K561M□□1MS |
|                             | 750                    | 18×21.5             | 0.08  | 600   | 0.063                                  | 2140  | UCM1K751M□□1MS |
| 100<br>(2A)                 | 130                    | 12.5×13.5           | 0.07  | 130   | 0.18                                   | 1050  | UCM2A131M□□1MS |
|                             | 220                    | 12.5×21             | 0.07  | 220   | 0.11                                   | 1580  | UCM2A221MNJ1MS |
|                             | 240                    | 16×16.5             | 0.07  | 240   | 0.10                                   | 1500  | UCM2A241M□□1MS |
|                             | 330                    | 18×16.5             | 0.07  | 330   | 0.098                                  | 1670  | UCM2A331M□□1MS |
|                             | 390                    | 16×21.5             | 0.07  | 390   | 0.066                                  | 2040  | UCM2A391M□□1MS |
|                             | 510                    | 18×21.5             | 0.07  | 510   | 0.063                                  | 2140  | UCM2A511M□□1MS |

□□ : Enter the appropriate configuration code.

• For taping specifications, recommended land size/soldering by reflow and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.

## Looking for pricing, stock, or lifecycle information?

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