

## Features:

- Developed short body length to 7 m/m, for the demand of smaller and thinner electronic equipment
- Most suitable for high-density electronic equipment, such as: automatic office machines, pocket calculators, car stereos and mini-audio sets, VCR, camera, CD-ROM, notebook

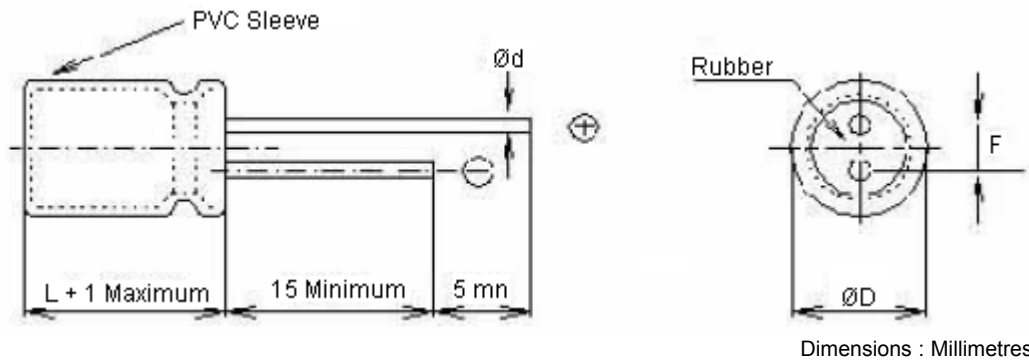
## Specifications:

| Item                                                     | Performance                                                                                                                                                                                                                                                                                                                                                                                                              |                     |                               |                    |                                  |                            |                                   |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------|--------------------|----------------------------------|----------------------------|-----------------------------------|----|----|---------------|------|-----|------|------|------|-----|------|---------------|---|---|---|---|---|---|---|
| Operating temperature range                              | -40°C to +105°C                                                                                                                                                                                                                                                                                                                                                                                                          |                     |                               |                    |                                  |                            |                                   |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |
| Rated working voltage range                              | 6.3 to 63 V dc                                                                                                                                                                                                                                                                                                                                                                                                           |                     |                               |                    |                                  |                            |                                   |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |
| Nominal capacitance range                                | 0.1 to 470 μF                                                                                                                                                                                                                                                                                                                                                                                                            |                     |                               |                    |                                  |                            |                                   |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |
| Capacitance tolerance                                    | ±20% (at+20°C,120 Hz)                                                                                                                                                                                                                                                                                                                                                                                                    |                     |                               |                    |                                  |                            |                                   |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |
| Leakage current                                          | I = 0.01 CV or 3 (μ A) after two minutes                                                                                                                                                                                                                                                                                                                                                                                 |                     |                               |                    |                                  |                            |                                   |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |
| Dissipation factor (Tan δ) (120 Hz\+20°C)                | <table><tr><td>Working voltage (V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td></tr><tr><td>Maximum tan δ</td><td>0.24</td><td>0.2</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.1</td><td>0.08</td></tr></table>                                                                                                                                                               | Working voltage (V) | 6.3                           | 10                 | 16                               | 25                         | 35                                | 50 | 63 | Maximum tan δ | 0.24 | 0.2 | 0.16 | 0.14 | 0.12 | 0.1 | 0.08 |               |   |   |   |   |   |   |   |
| Working voltage (V)                                      | 6.3                                                                                                                                                                                                                                                                                                                                                                                                                      | 10                  | 16                            | 25                 | 35                               | 50                         | 63                                |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |
| Maximum tan δ                                            | 0.24                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.2                 | 0.16                          | 0.14               | 0.12                             | 0.1                        | 0.08                              |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |
| Characteristics at low temperature (stability at 120 Hz) | <table><tr><td>Working voltage (V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td></tr><tr><td>-25°C /+ 20°C</td><td>4</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td>-40°C /+ 20°C</td><td>8</td><td>6</td><td>4</td><td>4</td><td>3</td><td>3</td><td>3</td></tr></table>                                                                             | Working voltage (V) | 6.3                           | 10                 | 16                               | 25                         | 35                                | 50 | 63 | -25°C /+ 20°C | 4    | 3   | 2    | 2    | 2    | 2   | 2    | -40°C /+ 20°C | 8 | 6 | 4 | 4 | 3 | 3 | 3 |
| Working voltage (V)                                      | 6.3                                                                                                                                                                                                                                                                                                                                                                                                                      | 10                  | 16                            | 25                 | 35                               | 50                         | 63                                |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |
| -25°C /+ 20°C                                            | 4                                                                                                                                                                                                                                                                                                                                                                                                                        | 3                   | 2                             | 2                  | 2                                | 2                          | 2                                 |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |
| -40°C /+ 20°C                                            | 8                                                                                                                                                                                                                                                                                                                                                                                                                        | 6                   | 4                             | 4                  | 3                                | 3                          | 3                                 |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |
| High temperature loading                                 | <p>After 1,000 hours application of DC rated working voltage at +105°C, The capacitor shall meet the following limits:<br/>Post test requirements at +20°C</p> <table><tr><td>Leakage current</td><td>£ the initial specified value</td></tr><tr><td>Capacitance change</td><td>£ ±20% of initial measured value</td></tr><tr><td>Dissipation factor (tan δ)</td><td>£ 200% of initial specified value</td></tr></table> | Leakage current     | £ the initial specified value | Capacitance change | £ ±20% of initial measured value | Dissipation factor (tan δ) | £ 200% of initial specified value |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |
| Leakage current                                          | £ the initial specified value                                                                                                                                                                                                                                                                                                                                                                                            |                     |                               |                    |                                  |                            |                                   |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |
| Capacitance change                                       | £ ±20% of initial measured value                                                                                                                                                                                                                                                                                                                                                                                         |                     |                               |                    |                                  |                            |                                   |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |
| Dissipation factor (tan δ)                               | £ 200% of initial specified value                                                                                                                                                                                                                                                                                                                                                                                        |                     |                               |                    |                                  |                            |                                   |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |
| Shelf life                                               | <p>After storage for 500 hours at +105°C with no voltage applied<br/>Post test requirements at +20°C same limits as high temperature loading</p>                                                                                                                                                                                                                                                                         |                     |                               |                    |                                  |                            |                                   |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |
| Solvent proof                                            | <p>This capacitor can withstand circuit-board cleaning within 5 min dipped in Freon TE, TES at 40°C (ultrasonic also permitted) or in the steam of these cleaners</p>                                                                                                                                                                                                                                                    |                     |                               |                    |                                  |                            |                                   |    |    |               |      |     |      |      |      |     |      |               |   |   |   |   |   |   |   |

# 7mm 105°C MCMHR Series



Diagram of Dimensions



|                   |     |      |      |      |     |
|-------------------|-----|------|------|------|-----|
| ØD (+0.5 Maximum) | 3   | 4    | 5    | 6.3  | 8   |
| F (±0.5)          | 1   | 1.5  | 2    | 2.5  | 3.5 |
| Ød (±0.02)        | 0.4 | 0.45 | 0.45 | 0.45 | 0.5 |

Case Size Table ØD x L (mm)

| <div>W.V. (SV)</div> <div>μF</div> | 6.3     | 10      | 16      | 25      | 35      | 50      | 63      |
|------------------------------------|---------|---------|---------|---------|---------|---------|---------|
|                                    | (8)     | (13)    | (20)    | (32)    | (44)    | (63)    | (79)    |
| 0.1                                | -       | -       | -       | -       | R       | 4 × 7   | 4 × 7   |
| 0.22                               | -       | -       | -       | -       |         |         |         |
| 0.33                               | -       | -       | -       | -       |         |         |         |
| 0.47                               | -       | -       | -       | -       |         |         |         |
| 1.0                                | -       | -       | -       | -       |         |         |         |
| 2.2                                | -       | -       | -       | -       |         |         |         |
| 3.3                                | -       | -       | -       | -       |         |         |         |
| 4.7                                | -       | -       | R       | 4 × 7   | 4 × 7   | 5 × 7   | 5 × 7   |
| 10                                 | -       | R       | 4 × 7   | 5 × 7   | 5 × 7   | 6.3 × 7 | 6.3 × 7 |
| 22                                 | 4 × 7   | 5 × 7   | 5 × 7   | 6.3 × 7 | 6.3 × 7 |         | -       |
| 33                                 | 5 × 7   |         | 6.3 × 7 |         | 6.3 × 7 | 8 × 7   | -       |
| 47                                 |         | 8 × 7   |         |         |         | 8 × 9   | -       |
| 100                                | 6.3 × 7 | 6.3 × 7 |         | 8 × 9   | -       | -       | -       |
| 220                                | 8 × 7   |         | 8 × 7   |         | 8 × 9   | -       | -       |
| 330                                |         | -       |         | -       |         | -       | -       |
| 470                                | 8 × 9   | 8 × 9   | -       | -       | -       | -       | -       |

All blank voltage on sleeve marking is the same voltage as "R" point to.

# 7mm 105°C MCMHR Series



## Part Number Table

| Description            | Part Number       |
|------------------------|-------------------|
| CAPACITOR, 22UF, 6.3V  | MCMHR6V3226M4X7   |
| CAPACITOR, 33UF, 6.3V  | MCMHR6V3336M5X7   |
| CAPACITOR, 47UF, 6.3V  | MCMHR6V3476M5X7   |
| CAPACITOR, 100UF, 6.3V | MCMHR6V3107M6.3X7 |
| CAPACITOR, 220UF, 6.3V | MCMHR6V3227M8X7   |
| CAPACITOR, 470UF, 6.3V | MCMHR6V3477M8X7   |
| CAPACITOR, 22UF, 10V   | MCMHR10V226M5X7   |
| CAPACITOR, 33UF, 10V   | MCMHR10V336M5X7   |
| CAPACITOR, 47UF, 10V   | MCMHR10V476M5X7   |
| CAPACITOR, 100UF, 10V  | MCMHR10V107M5X7   |
| CAPACITOR, 220UF, 10V  | MCMHR10V227M8X7   |
| CAPACITOR, 330UF, 10V  | MCMHR10V337M8X7   |
| CAPACITOR, 470UF, 10V  | MCMHR10V477M8X7   |
| CAPACITOR, 220UF, 16V  | MCMHR16V227M8X7   |
| CAPACITOR, 330UF, 16V  | MCMHR16V337M8X7   |
| CAPACITOR, 4.7UF, 25V  | MCMHR25V475M4X7   |
| CAPACITOR, 10UF, 25V   | MCMHR25V106M5X7   |
| CAPACITOR, 22UF, 25V   | MCMHR25V226M6.3X7 |
| CAPACITOR, 33UF, 25V   | MCMHR25V336M6.3X7 |
| CAPACITOR, 47UF, 25V   | MCMHR25V476M6.3X7 |
| CAPACITOR, 100UF, 25V  | MCMHR25V107M8X7   |
| CAPACITOR, 4.7UF, 35V  | MCMHR35V475M4X7   |
| CAPACITOR, 0.1UF, 50V  | MCMHR50V104M4X7   |
| CAPACITOR, 0.22UF, 50V | MCMHR50V224M4X7   |
| CAPACITOR, 0.33UF, 50V | MCMHR50V334M4X7   |
| CAPACITOR, 0.47UF, 50V | MCMHR50V474M4X7   |
| CAPACITOR, 1UF, 50V    | MCMHR50V105M4X7   |
| CAPACITOR, 2.2UF, 50V  | MCMHR50V225M4X7   |
| CAPACITOR, 4.7UF, 50V  | MCMHR50V475M5X7   |
| CAPACITOR, 33UF, 50V   | MCMHR50V336M8X7   |

| Description            | Part Number       |
|------------------------|-------------------|
| CAPACITOR, 47UF, 50V   | MCMHR50V476M8X7   |
| CAPACITOR, 0.22UF, 63V | MCMHR63V224M4X7   |
| CAPACITOR, 0.33UF, 63V | MCMHR63V334M4X7   |
| CAPACITOR, 0.47UF, 63V | MCMHR63V474M4X7   |
| CAPACITOR, 2.2UF, 63V  | MCMHR63V225M4X7   |
| CAPACITOR, 3.3UF, 63V  | MCMHR63V335M4X7   |
| CAPACITOR, 10UF, 63V   | MCMHR63V106M6.3X7 |
| CAPACITOR, 330UF, 6.3V | MCMHR6V3337M8X7   |
| CAPACITOR, 10UF, 16V   | MCMHR16V106M4X7   |
| CAPACITOR, 22UF, 16V   | MCMHR16V226M5X7   |
| CAPACITOR, 33UF, 16V   | MCMHR16V336M6.3X7 |
| CAPACITOR, 47UF, 16V   | MCMHR16V476M6.3X7 |
| CAPACITOR, 100UF, 16V  | MCMHR16V107M6.3X7 |
| CAPACITOR, 10UF, 35V   | MCMHR35V106M5X7   |
| CAPACITOR, 22UF, 35V   | MCMHR35V226M6.3X7 |
| CAPACITOR, 33UF, 35V   | MCMHR35V336M6.3X7 |
| CAPACITOR, 47UF, 35V   | MCMHR35V476M8X7   |
| CAPACITOR, 3.3UF, 50V  | MCMHR50V335M4X7   |
| CAPACITOR, 10UF, 50V   | MCMHR50V106M6.3X7 |
| CAPACITOR, 22UF, 50V   | MCMHR50V226M6.3X7 |
| CAPACITOR, 0.1UF, 63V  | MCMHR63V104M4X7   |
| CAPACITOR, 1UF, 63V    | MCMHR63V105M4X7   |
| CAPACITOR, 4.7UF, 63V  | MCMHR63V475M5X7   |

**Disclaimer** This data sheet and its contents (the "Information") belong to the Premier Farnell Group (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2012.