

# HNM 系列 Series

## 特点 Features

- 5mm高, 双极性。  
Be 5mm in height, Bi-polar.
- 适用于信号耦合等极性需反转变换电路。  
Used in circuits what polarity is reversed, such as signal coupling, etc.
- RoHS指令已对应完毕。  
Adapted to the RoHS directive.



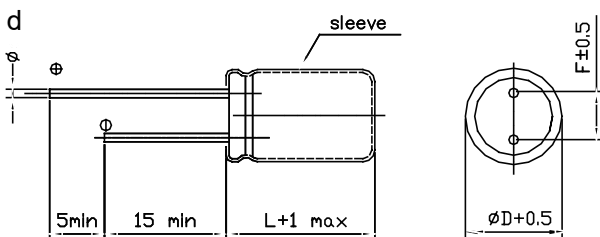
## 主要技术性能 Specifications

| 项目 Item                                                        | 特性 Performance Characteristics                                                                                                                                                                                                                                                                                                                                                                       |                    |      |      |      |      |    |    |                 |      |      |      |      |      |      |                 |   |   |   |   |   |   |
|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------|------|------|------|----|----|-----------------|------|------|------|------|------|------|-----------------|---|---|---|---|---|---|
| 使用温度范围<br>Operating Temperature Range                          | -40~+85°C                                                                                                                                                                                                                                                                                                                                                                                            |                    |      |      |      |      |    |    |                 |      |      |      |      |      |      |                 |   |   |   |   |   |   |
| 额定电压范围<br>Rated Voltage Range                                  | 6.3~50V                                                                                                                                                                                                                                                                                                                                                                                              |                    |      |      |      |      |    |    |                 |      |      |      |      |      |      |                 |   |   |   |   |   |   |
| 标称容量范围<br>Nominal Capacitance Range                            | 0.1~47μF                                                                                                                                                                                                                                                                                                                                                                                             |                    |      |      |      |      |    |    |                 |      |      |      |      |      |      |                 |   |   |   |   |   |   |
| 标称容量允许偏差<br>Capacitance Tolerance                              | ±20% (120Hz, +20°C)                                                                                                                                                                                                                                                                                                                                                                                  |                    |      |      |      |      |    |    |                 |      |      |      |      |      |      |                 |   |   |   |   |   |   |
| 正反漏电流<br>Leakage Current                                       | ≤0.05CV or 10(μA) 2分钟(at 20°C, after 2 minutes) 取较大者(whichever is greater)                                                                                                                                                                                                                                                                                                                           |                    |      |      |      |      |    |    |                 |      |      |      |      |      |      |                 |   |   |   |   |   |   |
| 损耗角正切值 (tgδ)<br>Dissipation Factor (+20°C, 120Hz)              | <table border="1"> <thead> <tr> <th>U<sub>r</sub> (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>tgδ</td> <td>0.28</td> <td>0.24</td> <td>0.20</td> <td>0.18</td> <td>0.15</td> <td>0.15</td> </tr> </tbody> </table>                                                                                                             | U <sub>r</sub> (V) | 6.3  | 10   | 16   | 25   | 35 | 50 | tgδ             | 0.28 | 0.24 | 0.20 | 0.18 | 0.15 | 0.15 |                 |   |   |   |   |   |   |
| U <sub>r</sub> (V)                                             | 6.3                                                                                                                                                                                                                                                                                                                                                                                                  | 10                 | 16   | 25   | 35   | 50   |    |    |                 |      |      |      |      |      |      |                 |   |   |   |   |   |   |
| tgδ                                                            | 0.28                                                                                                                                                                                                                                                                                                                                                                                                 | 0.24               | 0.20 | 0.18 | 0.15 | 0.15 |    |    |                 |      |      |      |      |      |      |                 |   |   |   |   |   |   |
| 温度特性 Temperature Characteristics<br>(Impedance ratio at 120Hz) | <table border="1"> <thead> <tr> <th>U<sub>r</sub> (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>Z-25°C / Z+20°C</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-40°C / Z+20°C</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> </tr> </tbody> </table>             | U <sub>r</sub> (V) | 6.3  | 10   | 16   | 25   | 35 | 50 | Z-25°C / Z+20°C | 4    | 3    | 2    | 2    | 2    | 2    | Z-40°C / Z+20°C | 8 | 6 | 4 | 4 | 3 | 3 |
| U <sub>r</sub> (V)                                             | 6.3                                                                                                                                                                                                                                                                                                                                                                                                  | 10                 | 16   | 25   | 35   | 50   |    |    |                 |      |      |      |      |      |      |                 |   |   |   |   |   |   |
| Z-25°C / Z+20°C                                                | 4                                                                                                                                                                                                                                                                                                                                                                                                    | 3                  | 2    | 2    | 2    | 2    |    |    |                 |      |      |      |      |      |      |                 |   |   |   |   |   |   |
| Z-40°C / Z+20°C                                                | 8                                                                                                                                                                                                                                                                                                                                                                                                    | 6                  | 4    | 4    | 3    | 3    |    |    |                 |      |      |      |      |      |      |                 |   |   |   |   |   |   |
| 耐久性<br>Load life                                               | +85°C加额定电压1000小时(每250小时反转极性一次)恢复16小时后:<br>After applying rated voltage for 1000 hours at +85°C (with the polarity inverted every 250 hours) and then resumed for 16 hours:<br>电容量变化率 Capacitance change : ±25%初始测量值以内 ±25% of the initial measured value<br>漏电流 Leakage current : ≤初始规定值 ≤The initial specified value<br>损耗角正切值 Dissipation factor : ≤2倍初始规定值 ≤2times of the initial specified value |                    |      |      |      |      |    |    |                 |      |      |      |      |      |      |                 |   |   |   |   |   |   |
| 高温贮存<br>Shelf life                                             | +85°C, 1000小时贮存后, 恢复16小时后:<br>After storage for 1000 hours at +85°C and then resumed for 16 hours:<br>电容量变化率 Capacitance change : ±25%初始测量值以内 ±25% of the initial measured value<br>漏电流 Leakage current : ≤2倍初始规定值 ≤2times of the initial specified value<br>损耗角正切值 Dissipation factor : ≤2倍初始规定值 ≤2times of the initial specified value                                                             |                    |      |      |      |      |    |    |                 |      |      |      |      |      |      |                 |   |   |   |   |   |   |

## 频率修正系数 Frequency Coefficient

| F(Hz)   | 60  | 120 | 1K   | ≥10k |
|---------|-----|-----|------|------|
| CAP(μF) |     |     |      |      |
| 0.1~47  | 0.8 | 1   | 1.45 | 1.7  |

## 外形图及尺寸表 Case Size Table



单位 Unit: mm

|   |      |     |     |
|---|------|-----|-----|
| D | 4    | 5   | 6.3 |
| F | 1.5  | 2.0 | 2.5 |
| d | 0.45 |     |     |

尺寸 Dimensions

| CAP(μF) |     | WV    |        | 6.3V(0J) |        | 10V(1A) |        | 16V(1C) |        | 25V(1E) |        | 35V(1V) |        | 50V(1H) |        |
|---------|-----|-------|--------|----------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|
|         |     | Size  | Ripple | Size     | Ripple | Size    | Ripple | Size    | Ripple | Size    | Ripple | Size    | Ripple | Size    | Ripple |
| 0.1     | 0R1 |       |        |          |        |         |        |         |        |         |        |         |        | 4×5     | 1.0    |
| 0.22    | R22 |       |        |          |        |         |        |         |        |         |        |         |        | 4×5     | 2.0    |
| 0.33    | R33 |       |        |          |        |         |        |         |        |         |        |         |        | 4×5     | 2.8    |
| 0.47    | R47 |       |        |          |        |         |        |         |        |         |        |         |        | 4×5     | 4.0    |
| 1       | 010 |       |        |          |        |         |        |         |        |         |        |         |        | 4×5     | 8.4    |
| 2.2     | 2R2 |       |        |          |        |         |        |         |        |         |        |         |        | 5×5     | 13     |
| 3.3     | 3R3 |       |        |          |        |         |        |         |        | 5×5     | 12     | 5×5     | 15     | 5×5     | 17     |
| 4.7     | 4R7 |       |        |          |        | 4×5     | 12     | 5×5     | 16     | 5×5     | 18     | 6.3×5   | 20     | 6.3×5   | 20     |
| 10      | 100 |       |        | 4×5      | 17     | 5×5     | 23     | 6.3×5   | 27     | 6.3×5   | 29     | 6.3×5   | 33     | 6.3×5   | 33     |
| 22      | 220 | 5×5   | 28     | 6.3×5    | 33     | 6.3×5   | 37     | 6.3×5   | 42     |         |        |         |        |         |        |
| 33      | 330 | 6.3×5 | 37     | 6.3×5    | 41     |         |        |         |        |         |        |         |        |         |        |
| 47      | 470 | 6.3×5 | 45     |          |        |         |        |         |        |         |        |         |        |         |        |

Size φD×L(mm)

Maximum Allowable Ripple Current (mA rms) at 85°C 120Hz