Metallized Polyester (PET) Capacitors in PCM 5 mm

Special Features
- High volume/capacitance ratio
- Self-healing
- According to RoHS 2011/65/EC

Typical Applications
For general DC-applications e.g.
- By-pass
- Blocking
- Coupling and decoupling
- Timing

Construction
Dielectric:
Polyethylene-terephthalate (PET) film
Capacitor electrodes:
Vacuum-deposited
Internal construction:

Encapsulation:
Solvent-resistant, flame-retardant plastic case with epoxy resin seal, UL 94 V-0

Terminals:
Tinned wire.

Marking:

Electrical Data

<table>
<thead>
<tr>
<th>Capacitance range: 0.01 ΩF to 10 ΩF</th>
<th>Test specifications: In accordance with IEC 60384-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated voltages: 50 VDC, 63 VDC, 100 VDC, 250 VDC, 400 VDC, 630 VDC</td>
<td>Test voltage: 1.6 U/&lt;sub&gt;r&lt;/sub&gt;, 2 sec.</td>
</tr>
<tr>
<td>Capacitance tolerances: ±20%, ±10%, ±5%</td>
<td>Voltage derating: A voltage derating factor of 1.25% per K must be applied from +85°C for DC voltages and from +75°C for AC voltages</td>
</tr>
<tr>
<td>Operating temperature range: -55°C to +100°C (+125°C available subject to special enquiry)</td>
<td>Reliability: Operational life &gt; 300,000 hours</td>
</tr>
<tr>
<td>Reliability: Operational life 300,000 hours</td>
<td>Failure rate &lt; 2 fit (0.5 x U/&lt;sub&gt;r&lt;/sub&gt; and 40°C)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Capacitance tolerances: ±20%, ±10%, ±5%</th>
<th>Operating temperature range: -55°C to +100°C (+125°C available subject to special enquiry)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring time: 1 min.</td>
<td>Dissipation factors at +20°C: tan δ</td>
</tr>
<tr>
<td>Maximum pulse rise time: for pulses equal to the rated voltage</td>
<td></td>
</tr>
</tbody>
</table>

| Capacitance 

µF | 50 VDC | 63 VDC | 100 VDC | 250 VDC | 400 VDC | 630 VDC |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01 ... 0.022</td>
<td>–</td>
</tr>
<tr>
<td>0.033 ... 0.068</td>
<td>–</td>
</tr>
<tr>
<td>0.1 ... 0.47</td>
<td>10/100</td>
</tr>
<tr>
<td>0.68 ... 1.0</td>
<td>8/80</td>
</tr>
<tr>
<td>1.5 ... 3.3</td>
<td>8/80</td>
</tr>
<tr>
<td>4.7</td>
<td>5/50</td>
</tr>
<tr>
<td>6.8</td>
<td>3/30</td>
</tr>
<tr>
<td>10</td>
<td>2.5/25</td>
</tr>
</tbody>
</table>

| Capacitance 

µF | 50 VDC | 63 VDC | 100 VDC | 250 VDC | 400 VDC | 630 VDC |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01 ... 0.022</td>
<td>–</td>
</tr>
<tr>
<td>0.033 ... 0.068</td>
<td>–</td>
</tr>
<tr>
<td>0.1 ... 0.47</td>
<td>10/100</td>
</tr>
<tr>
<td>0.68 ... 1.0</td>
<td>8/80</td>
</tr>
<tr>
<td>1.5 ... 3.3</td>
<td>8/80</td>
</tr>
<tr>
<td>4.7</td>
<td>5/50</td>
</tr>
<tr>
<td>6.8</td>
<td>3/30</td>
</tr>
<tr>
<td>10</td>
<td>2.5/25</td>
</tr>
</tbody>
</table>

Mechanical Tests

| Pull test on pins: | 10 N in direction of pins according to IEC 60068-2-21 |
| Vibration: | 6 hours at 10...2000 Hz and 0.75 mm displacement amplitude or 10 g in accordance with IEC 60068-2-6 |
| Low air density: | 1kPa = 10 mbar in accordance with IEC 60068-2-13 |
| Bump test: | 4000 bumps at 390 m/sec² in accordance with IEC 60068-2-29 |

Packing

Available taped and reeled.

Detailed taping information and graphs at the end of the catalogue.

For further details and graphs please refer to Technical Information.
### General Data

<table>
<thead>
<tr>
<th>Capacitance</th>
<th>50 VDC/30 VAC*</th>
<th>Part number</th>
<th>63 VDC/40 VAC*</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>W</td>
<td>H</td>
<td>L</td>
<td>PCM**</td>
</tr>
<tr>
<td>0.01 µF</td>
<td>2.5</td>
<td>6.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.015 µF</td>
<td>2.5</td>
<td>6.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.022 µF</td>
<td>2.5</td>
<td>6.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.033 µF</td>
<td>2.5</td>
<td>6.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.047 µF</td>
<td>2.5</td>
<td>6.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.068 µF</td>
<td>2.5</td>
<td>6.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.1 µF</td>
<td>3.5</td>
<td>8.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.15 µF</td>
<td>4.5</td>
<td>9.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.22 µF</td>
<td>5</td>
<td>10</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.33 µF</td>
<td>6.5</td>
<td>11.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.47 µF</td>
<td>8.5</td>
<td>14</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.68 µF</td>
<td>11</td>
<td>16</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>1.0 µF</td>
<td>2.5</td>
<td>6.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>1.5 µF</td>
<td>3.5</td>
<td>8.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>2.2 µF</td>
<td>4.5</td>
<td>9.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>3.3 µF</td>
<td>5.5</td>
<td>11.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>4.7 µF</td>
<td>7.2</td>
<td>13</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>6.8 µF</td>
<td>8.5</td>
<td>14</td>
<td>7.2</td>
<td>5</td>
</tr>
</tbody>
</table>

* AC voltage: f = 50 Hz; 1.4 x U_{rms} + U_{DC} ≤ U_{r}

** PCM = Printed circuit module = pin spacing.

** PCM = Printed circuit module = pin spacing.

Non-blocking conductors at the pin exit points (± 0.5)

Rights reserved to amend design data without prior notification.

### Capacitance

<table>
<thead>
<tr>
<th>Capacitance</th>
<th>100 VDC/63 VAC*</th>
<th>Part number</th>
<th>250 VDC/160 VAC*</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>W</td>
<td>H</td>
<td>L</td>
<td>PCM**</td>
</tr>
<tr>
<td>0.01 µF</td>
<td>2.5</td>
<td>6.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.015 µF</td>
<td>2.5</td>
<td>6.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.022 µF</td>
<td>2.5</td>
<td>6.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.033 µF</td>
<td>2.5</td>
<td>6.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.047 µF</td>
<td>2.5</td>
<td>6.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.068 µF</td>
<td>2.5</td>
<td>6.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.1 µF</td>
<td>3.5</td>
<td>8.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.15 µF</td>
<td>4.5</td>
<td>9.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.22 µF</td>
<td>5</td>
<td>10</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.33 µF</td>
<td>6.5</td>
<td>11.5</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.47 µF</td>
<td>8.5</td>
<td>14</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>0.68 µF</td>
<td>11</td>
<td>16</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>1.0 µF</td>
<td>7.2</td>
<td>13</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>1.5 µF</td>
<td>8.5</td>
<td>14</td>
<td>7.2</td>
<td>5</td>
</tr>
<tr>
<td>2.2 µF</td>
<td>11</td>
<td>16</td>
<td>7.2</td>
<td>5</td>
</tr>
</tbody>
</table>

Part number completion:

- Tolerance: 20 % = M
- 10 % = K
- 5 % = J
- Packing: bulk = S
- Pin length: 6-2 = SD
- Taped version see page 148.

Rights reserved to amend design data without prior notification.
### General Data

<table>
<thead>
<tr>
<th>Capacitance</th>
<th>W</th>
<th>H</th>
<th>L</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01 µF</td>
<td>2.5</td>
<td>6.5</td>
<td>7.2</td>
<td>MKS2G021001A00_ _ _ _</td>
</tr>
<tr>
<td>0.015 µF</td>
<td>2.5</td>
<td>6.5</td>
<td>7.2</td>
<td>MKS2G021501A00_ _ _ _</td>
</tr>
<tr>
<td>0.022 µF</td>
<td>3.5</td>
<td>8.5</td>
<td>7.2</td>
<td>MKS2G022201C00_ _ _ _</td>
</tr>
<tr>
<td>0.033 µF</td>
<td>4.5</td>
<td>9.5</td>
<td>7.2</td>
<td>MKS2G023301E00_ _ _ _</td>
</tr>
<tr>
<td>0.047 µF</td>
<td>4.5</td>
<td>9.5</td>
<td>7.2</td>
<td>MKS2G024701E00_ _ _ _</td>
</tr>
<tr>
<td>0.068 µF</td>
<td>5.5</td>
<td>11.5</td>
<td>7.2</td>
<td>MKS2G026801H00_ _ _ _</td>
</tr>
<tr>
<td>0.1 µF</td>
<td>7.2</td>
<td>13</td>
<td>7.2</td>
<td>MKS2G031001K00_ _ _ _</td>
</tr>
<tr>
<td>0.15 µF</td>
<td>8.5</td>
<td>14</td>
<td>7.2</td>
<td>MKS2G031501M00_ _ _ _</td>
</tr>
<tr>
<td>0.22 µF</td>
<td>11</td>
<td>16</td>
<td>7.2</td>
<td>MKS2G032201N00_ _ _ _</td>
</tr>
</tbody>
</table>

* AC voltage: f = 50 Hz; 1.4 x Urms + UDC ≤ U,

** PCM = Printed circuit module = pin spacing.

Dims. in mm.

The values of the WIMA MKM 2 and WIMA MKI 2 ranges according to the main catalogue 2009 are still available on request.

Rights reserved to amend design data without prior notification.

---

### Impedance change with frequency (general guide).

Permissible AC voltage in relation to frequency at 10°C internal temperature rise (general guide).

---

Part number completion:
- **Tolerance:** 20 % = M, 10 % = K, 5 % = J
- **Packing:** bulk = S
- **Pin length:** 6-2 = SD
- **Taped version** see page 148.
Recommendation for Processing and Application of Through-Hole Capacitors

Soldering Process

A preheating of through-hole WIMA capacitors is allowed for temperatures $T_{\text{max}} < 100^\circ\text{C}$.

In practice a preheating duration of $t < 5$ min. has been proven to be best.

Single wave soldering

Soldering bath temperature: $T < 260^\circ\text{C}$
Immersion time: $t < 5$ sec

Double wave soldering

Soldering bath temperature: $T < 260^\circ\text{C}$
Immersion time: $2 \times t < 3$ sec

Due to different soldering processes and heat requirements the graphs are to be regarded as a recommendation only.

Typical temperature/time graph for double wave soldering

WIMA Quality and Environmental Philosophy

ISO 9001:2008 Certification

ISO 9001:2008 is an international basic standard of quality assurance systems for all branches of industry. The approval according to ISO 9001:2008 of our factories by the VDE inspectorate certifies that organisation, equipment and monitoring of quality assurance in our factories correspond to internationally recognized standards.

WIMA WPCS

The WIMA Process Control System (WPCS) is a quality surveillance and optimization system developed by WIMA. WPCS is a major part of the quality-oriented WIMA production. Points of application of WPCS during production process:

- incoming material inspection
- metallization
- film inspection
- schoopage
- pre-healing
- pin attachment
- cast resin preparation/encapsulation
- 100% final inspection
- AQL check

WIMA Environmental Policy

All WIMA capacitors, irrespective of whether through-hole devices or SMD, are made of environmentally friendly materials. Neither during manufacture nor in the product itself any toxic substances are used, e.g.

- Lead
- PCB
- CFC
- Hydrocarbon chloride
- Chromium 6+
- PBB/PBDE
- Arsenic
- Cadmium
- Mercury
- etc.

We merely use pure, recyclable materials for packing our components, such as:

- carton
- cardboard
- adhesive tape made of paper
- polystyrene

We almost completely refrain from using packing materials such as:

- foamed polystyrene (Styropor®)
- adhesive tapes made of plastic
- metal clips

RoHS Compliance

According to the RoHS Directive 2011/65/EC certain hazardous substances like e.g. lead, cadmium, mercury must not be used any longer in electronic equipment as of July 1st, 2006. For the sake of the environment WIMA has refrained from using such substances since years already.

Tape for lead-free WIMA capacitors

DIN EN ISO 14001:2004

WIMA’s environmental management has been established in accordance with the guidelines of DIN EN ISO 14001:2004 to optimize the production processes with regard to energy and resources.
**Typical Dimensions for Taping Configuration**

**Diagram 1: PCM 2.5/5/7.5mm**

**Diagram 2: PCM 10/15 mm**

**Diagram 3: PCM 22.5 and 27.5**

*PCM 27.5 taping possible with two feed holes between components*

---

**Dimensions for Radial Taping**

<table>
<thead>
<tr>
<th>Designation</th>
<th>Symbol</th>
<th>PCM 2.5 taping</th>
<th>PCM 5 taping</th>
<th>PCM 7.5 taping</th>
<th>PCM 10 taping*</th>
<th>PCM 15 taping*</th>
<th>PCM 22.5 taping</th>
<th>PCM 27.5 taping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrier tape width</td>
<td>W</td>
<td>18.0 ±0.5</td>
<td>18.0 ±0.5</td>
<td>18.0 ±0.5</td>
<td>18.0 ±0.5</td>
<td>18.0 ±0.5</td>
<td>18.0 ±0.5</td>
<td>18.0 ±0.5</td>
</tr>
<tr>
<td>Hold-down tape width</td>
<td>W₀</td>
<td>6.0 for hot-sealing adhesive tape</td>
<td>6.0 for hot-sealing adhesive tape</td>
<td>12.0 for hot-sealing adhesive tape</td>
<td>12.0 for hot-sealing adhesive tape</td>
<td>12.0 for hot-sealing adhesive tape</td>
<td>12.0 for hot-sealing adhesive tape</td>
<td>12.0 for hot-sealing adhesive tape</td>
</tr>
<tr>
<td>Hole position</td>
<td>W₁</td>
<td>9.0 ±0.5</td>
<td>9.0 ±0.5</td>
<td>9.0 ±0.5</td>
<td>9.0 ±0.5</td>
<td>9.0 ±0.5</td>
<td>9.0 ±0.5</td>
<td>9.0 ±0.5</td>
</tr>
<tr>
<td>Hold-down tape position</td>
<td>W₂</td>
<td>0.5 to 3.0 max.</td>
<td>0.5 to 3.0 max.</td>
<td>0.5 to 3.0 max.</td>
<td>0.5 to 3.0 max.</td>
<td>0.5 to 3.0 max.</td>
<td>0.5 to 3.0 max.</td>
<td>0.5 to 3.0 max.</td>
</tr>
<tr>
<td>Feed hole diameter</td>
<td>D₀</td>
<td>4.0 ±0.2</td>
<td>4.0 ±0.2</td>
<td>4.0 ±0.2</td>
<td>4.0 ±0.2</td>
<td>4.0 ±0.2</td>
<td>4.0 ±0.2</td>
<td>4.0 ±0.2</td>
</tr>
<tr>
<td>Pitch of component</td>
<td>P</td>
<td>12.7 ±0</td>
<td>12.7 ±0</td>
<td>12.7 ±0</td>
<td>25.4 ±1</td>
<td>25.4 ±1</td>
<td>38.1 ±1.5</td>
<td>38.1 ±1.5 or 50.8 ±1.5</td>
</tr>
<tr>
<td>Feed hole pitch</td>
<td>P₀</td>
<td>12.7 ±0.3</td>
<td>12.7 ±0.3</td>
<td>12.7 ±0.3</td>
<td>12.7 ±0.3</td>
<td>12.7 ±0.3</td>
<td>12.7 ±0.3</td>
<td>12.7 ±0.3</td>
</tr>
<tr>
<td>Feed hole centre to pin</td>
<td>P₁</td>
<td>5.1 ±0.5</td>
<td>3.85 ±0.7</td>
<td>2.6 ±0.7</td>
<td>7.7 ±0.7</td>
<td>7.8 ±0.7</td>
<td>7.8 ±0.7</td>
<td>5.3 ±0.7</td>
</tr>
<tr>
<td>Hole centre to component centre</td>
<td>P₂</td>
<td>6.35 ±0.3</td>
<td>6.35 ±0.3</td>
<td>6.35 ±0.3</td>
<td>12.7 ±1.3</td>
<td>12.7 ±1.3</td>
<td>19.05 ±1.3</td>
<td>19.05 ±1.3</td>
</tr>
<tr>
<td>Feed hole centre to bottom edge of the component</td>
<td>H</td>
<td>16.5 ±0.5</td>
<td>16.5 ±0.5</td>
<td>16.5 ±0.5</td>
<td>16.5 ±0.5</td>
<td>16.5 ±0.5</td>
<td>16.5 ±0.5</td>
<td>16.5 ±0.5</td>
</tr>
<tr>
<td>Feed hole centre to tap edge of the component</td>
<td>H₀</td>
<td>32.25 max.</td>
<td>32.25 max.</td>
<td>24.5 to 31.5</td>
<td>24.5 to 31.5</td>
<td>26.0 to 37.0</td>
<td>30.0 to 43.0</td>
<td>35.0 to 45.0</td>
</tr>
<tr>
<td>Pin spacing at upper edge of carrier tape</td>
<td>F</td>
<td>2.5 ±0.5</td>
<td>5.0 ±0.8</td>
<td>7.5 ±0.8</td>
<td>10.0 ±1.6</td>
<td>15 ±0.6</td>
<td>22.5 ±0.6</td>
<td>27.5 ±0.6</td>
</tr>
<tr>
<td>Pin diameter</td>
<td>d</td>
<td>0.4 ±0.06</td>
<td>0.5 ±0.06</td>
<td>0.5 ±0.06</td>
<td>0.5 ±0.06 or 0.6 ±0.06</td>
<td>0.5 ±0.06 or 0.6 ±0.06</td>
<td>0.8 ±0.06</td>
<td>0.8 ±0.06</td>
</tr>
<tr>
<td>Component alignment</td>
<td>Δh</td>
<td>± 2.0 max.</td>
<td>± 2.0 max.</td>
<td>± 2.0 max.</td>
<td>± 3.0 max.</td>
<td>± 3.0 max.</td>
<td>± 3.0 max.</td>
<td>± 3.0 max.</td>
</tr>
<tr>
<td>Total tape thickness</td>
<td>t</td>
<td>0.7 ±0.2</td>
<td>0.7 ±0.2</td>
<td>0.7 ±0.2</td>
<td>0.7 ±0.2</td>
<td>0.7 ±0.2</td>
<td>0.7 ±0.2</td>
<td>0.7 ±0.2</td>
</tr>
</tbody>
</table>

---

**Designations**

- ** PCM 2.5 taping**
- ** PCM 5 taping**
- ** PCM 7.5 taping**
- ** PCM 10 taping**
- ** PCM 15 taping**
- ** PCM 22.5 taping**
- ** PCM 27.5 taping**

---

**Dims in mm.**

* Diameter of pins see General Data.

* PCM 10 and PCM 15 can be crimped to PCM 7.5.

**Position of components according to PCM 7.5 (sketch 1): P₀ = 12.7 or 15.0 is possible**

---

**Please clarify customer-specific deviations with the manufacturer.**

---

**Dimensions for Radial Taping**

**Diagram 1:** PCM 2.5/5/7.5mm

**Diagram 2:** PCM 10/15 mm

**Diagram 3:** PCM 22.5 and 27.5**

---

**Please clarify customer-specific deviations with the manufacturer.**
Types of Tape Packaging of Capacitors for Automatic Radial Insertion

- ROLL Packaging
- AMMO Packaging
- REEL Packaging

BAR CODE (Labelling)

Labelling of package units in plain text and with alphanumerical Bar Code

Scanner decoding of:
- WIMA supplier number
- Customer’s P/O number
- Customer’s part number
- WIMA confirmation number
- WIMA part number
- Lot number
- Date code
- Quantity

In addition part description of:
- article
- capacitance value
- rated voltage
- dimensions
- capacitance tolerance
- packing

as well as gross weight and customer’s name are indicated in plain text.

BARCODE „Code 39“
## Packing Quantities for Capacitors with Radial Pins in PCM 2.5 mm to 22.5 mm

<table>
<thead>
<tr>
<th>PCM</th>
<th>Size</th>
<th>W</th>
<th>H</th>
<th>L</th>
<th>Codes</th>
<th>bulk</th>
<th>ROLL</th>
<th>REEL</th>
<th>AMMO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pcs. per packing unit</td>
<td>H16.5</td>
<td>H18.5</td>
<td>H16.5</td>
<td>H18.5</td>
<td>H16.5</td>
<td>H18.5</td>
<td>H16.5</td>
<td>H18.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>340 x 340</td>
<td>490 x 370</td>
<td>340 x 340</td>
<td>490 x 370</td>
<td>340 x 340</td>
<td>490 x 370</td>
<td>340 x 340</td>
<td>490 x 370</td>
</tr>
<tr>
<td>2.5 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.5 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* TPS (Tray-Packing-System). Plate versions may have different packing units.

---

* Moulded versions. Rights reserved to amend design data without prior notification.

Samples and pre-production needs on request.
### Packing Quantities for Capacitors with Radial Pins in PCM 27.5 mm to 52.5 mm

<table>
<thead>
<tr>
<th>PCM</th>
<th>Size</th>
<th>W</th>
<th>H</th>
<th>L</th>
<th>Codes</th>
<th>pcs. per packing unit</th>
<th>ROLL</th>
<th>REEL</th>
<th>AMMO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>H16.5</td>
<td>H18.5</td>
<td>H16.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>H16.5</td>
<td>H18.5</td>
<td>H16.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>H16.5</td>
<td>H18.5</td>
<td>H16.5</td>
</tr>
<tr>
<td>27.5 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37.5 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48.5 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>52.5 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* for 2-inch transport pitches.
* TPS Tray-Packing System. Plate versions may have different packing units. Samples and pre-production needs on request.

Moulded versions. Rights reserved to amend design data without prior notification.
WIMA Part Number System

A WIMA part number consists of 18 digits and is composed as follows:

- **Field 1 - 4**: Type description
- **Field 5 - 6**: Rated voltage
- **Field 7 - 10**: Capacitance
- **Field 11 - 12**: Size and PCM
- **Field 13 - 14**: Version code (e.g., Snubber versions)
- **Field 15**: Capacitance tolerance
- **Field 16**: Packing
- **Field 17 - 18**: Lead length (untaped)

| M | K | S | 2 | C | 0 | 2 | 1 | 0 | 0 | 1 | A | 0 | 0 | M | S | S | S | D |
| MKS 2 | 63 VDC | 0.01 μF | 2.5x6.5x7.2 | - | 20% | bulk | 6-2 |

**Type description:**

- SMD-PET = SMVT
- SMD-PPS = SMVN
- FK0 2 = FK00
- MK0 2 = MKS0
- FK 2 = FK22
- FK 2 = FK22
- MK 2 = MKS2
- MK 2 = MKS2
- MK 2 = MKS2
- MK 2 = MKS2
- MK 3 = MKS3
- MK 3 = MKS3
- MK 3 = MKS3
- MK 3 = MKS3
- MK 4 = MKS4
- MK 4 = MKS4
- MK 4 = MKS4
- MK 4 = MKS4
- MK 5 = MKP1
- FK 4 = FK44
- FK 1 = FK11
- MKP-X2 = MKX2
- MKP-X2 = MKX2
- MKP-X2 = MKX2
- MKP-X2 = MKX2
- MP 3-X2 = MPX2
- MP 3-X1 = MPX1
- MP 3-Y2 = MPY2
- MP 3-Y2 = MPY2
- Snubber MKP = SNVMP
- Snubber FK = SNF PK
- GTO MKP = GTOMP
- DC-LINK MKP 3 = DCP3
- DC-LINK MKP 4 = DCP4
- DC-LINK MKP 4 = DCP4
- DC-LINK MKP 5 = DCP5
- DC-LINK MKP 5 = DCP5
- DC-LINK MKP 5 = DCP5
- DC-LINK MKP 6 = DCP6
- DC-LINK HC = DCH_1
- DC-LINK HY = DCHY
- SuperCap C = SCCS
- SuperCap MC = SCMS
- SuperCap C60 = SCSC
- SuperCap R = SCR
- SuperCap MR = MRRP

**Rated voltage:**

- 2.5 VDC = A1
- 4 VDC = A2
- 14 VDC = A3
- 28 VDC = A4
- 40 VDC = A5
- 50 VDC = A6
- 63 VDC = C0
- 100 VDC = D0
- 160 VDC = E0
- 250 VDC = G0
- 450 VDC = H0
- 600 VDC = I0
- 630 VDC = J0
- 900 VDC = N0
- 1000 VDC = O1
- 1100 VDC = P0
- 1200 VDC = Q0
- 1250 VDC = R0
- 1500 VDC = S0
- 1600 VDC = T0
- 2000 VDC = U0
- 2500 VDC = V0
- 4000 VDC = X0
- 6000 VDC = Y0
- 250 VAC = OW
- 275 VAC = IW
- 300 VAC = TW
- 400 VAC = VW
- 440 VAC = AW
- 500 VAC = SW

**Capacitance:**

- 22 pF = 0022
- 47 pF = 0047
- 100 pF = 0100
- 150 pF = 0150
- 220 pF = 0220
- 470 pF = 0470
- 880 pF = 0880
- 1000 pF = 1100
- 1500 pF = 1500
- 2200 pF = 2200
- 6800 pF = 6800
- 15000 pF = 15000
- 22000 pF = 22000
- 47000 pF = 47000
- 88000 pF = 88000
- 110000 pF = 110000
- 150000 pF = 150000
- 220000 pF = 220000
- 470000 pF = 470000
- 880000 pF = 880000
- 1100000 pF = 1100000

**Size:**

- 4.8x3.3x3 = A8
- 4.8x3.4x4 = A8
- 4.8x3.5x5 = A8
- 4.8x3.6x6 = A8
- 4.8x3.7x7 = A8
- 4.8x3.8x8 = A8
- 4.8x3.9x9 = A8
- 4.8x4.0x10 = A8
- 4.8x4.1x11 = A8
- 4.8x4.2x12 = A8

**Tolerance:**

- 20% = M
- 10% = K
- 5% = J
- 2.5% = H
- 1% = E

**Packing:**

- AMMO H16.5 340 x 340 = A
- AMMO H16.5 490 x 370 = B
- AMMO H18.5 340 x 340 = C
- AMMO H18.5 490 x 370 = D
- REEL H16.5 360 = F
- REEL H16.5 500 = G
- REEL H18.5 500 = H
- ROLL H16.5 = I
- ROLL H18.5 = J
- BUSTER W12 180 = K
- BUSTER W12 330 = L
- BUSTER W16 180 = M
- BUSTER W16 330 = N
- Bulk/TPS Standard = S

**Lead length (untaped):**

- 3.5 ± 0.5 = C9
- 6 ± 2 = SD
- 16 ± 1 = P1

The data on this page is not complete and serves only to explain the part number system. Part number information is listed on the pages of the respective WIMA range.