EPCOS is known as one of the world’s leading manufacturer of electronic components. Hardly any other supplier offers one-stop-shopping for all key components. The growing sale of power-quality products has led EPCOS to develop a strategy for AC applications.

In view of the growing importance of power quality, EPCOS is focusing on AC filtering solutions. The wide range of different powers means that filtering products are split up into various segments: small single-phase systems mostly with powers up to 12 kVA, followed by 3-phase mid and high-power ranges up to 50 kVA, 200 kVA and even above 200 kVA. When used as filters, capacitors will smooth any irregularities that could be introduced in the power network and help to improve power quality and reliability.
AC Filtering in Industrial Applications

A typical inverter of the mid power range uses an average of ten or more power capacitors per system for filtering whereas smaller range uses one or two film capacitors per phase. EPCOS offers these components in different variants. The appropriate film capacitors for input and output filters of inverter systems are FilterCap, MKP or AC series.

### Capacitors overview

<table>
<thead>
<tr>
<th>Number</th>
<th>Image</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B3236*</td>
<td><img src="B3236.png" alt="Image" /></td>
<td>FilterCap, MKP series</td>
</tr>
<tr>
<td>B3237*</td>
<td><img src="B3237.png" alt="Image" /></td>
<td>FilterCap, MKP series</td>
</tr>
<tr>
<td>B3292x A/B4</td>
<td><img src="B3292.png" alt="Image" /></td>
<td>MKP series</td>
</tr>
<tr>
<td>B3275*</td>
<td><img src="B3275.png" alt="Image" /></td>
<td>FilterCap, MKP series</td>
</tr>
<tr>
<td>B32354S</td>
<td><img src="B32354S.png" alt="Image" /></td>
<td>FilterCap, AC series</td>
</tr>
<tr>
<td>B3331V</td>
<td><img src="B3331V.png" alt="Image" /></td>
<td>AC series</td>
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</table>
AC Filtering in Industrial Applications

### Overview

#### Applications

<table>
<thead>
<tr>
<th>UPS</th>
<th>Wind energy</th>
<th>Photo voltaic</th>
<th>Inverters</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 10 kW</td>
<td>10 ... 50 kW</td>
<td>&gt; 50 kW</td>
<td>Modular</td>
</tr>
<tr>
<td>B3236*, B3237*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B3275*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B3292xA/B4</td>
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<td></td>
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<tr>
<td>B32354S</td>
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<tr>
<td>B33331V</td>
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<td></td>
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#### Technical data

<table>
<thead>
<tr>
<th>Voltage V&lt;sub&gt;rms&lt;/sub&gt;</th>
<th>Mounting</th>
<th>Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 460</td>
<td>460 ... 690</td>
<td>&gt; 690</td>
</tr>
<tr>
<td>B3236*, B3237*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B3275*</td>
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<td></td>
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<tr>
<td>B33331V</td>
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</tbody>
</table>

#### Block diagram medium power inverters

![Block diagram medium power inverters](image-url)
AC Filtering in Industrial Applications
Power Electronic Capacitors B3236* Series

General

Features
- Very high reliability
- High peak-current capability
- Voltage series up to 480 V RMS
- Customized configurations

Design
- Resin filling, non-PCB, soft polyurethane
- Safety device: over pressure disconnector, self-healing technology
- Mounting and grounding by stud on bottom of aluminum can
- Naturally air-cooled or forced air-cooling
- Indoor mounting
- Reference standard IEC 61071
- UL-approval file E106388

Technical data

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<th>Type/series</th>
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<th>( V_0 ) V RMS</th>
<th>( C_0 ) µF</th>
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<td>250</td>
<td>50 ... 200</td>
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<td>460</td>
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<tr>
<td>B32362</td>
<td>350</td>
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<td>150 ... 600</td>
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<td></td>
<td>460</td>
<td>330</td>
<td>100 ... 400</td>
</tr>
<tr>
<td></td>
<td>680</td>
<td>480</td>
<td>60 ... 250</td>
</tr>
</tbody>
</table>

Dimensional drawings

B32361

B32362
AC Filtering in Industrial Applications
Power Electronic Capacitors B3237* Series – Single-phase

General

Features
- Very high reliability
- High peak-current capability
- Voltage series up to 600 V RMS
- Five different terminal styles
- Customized configurations

Design
- Resin filling, non-PCB, soft polyurethane
- Safety device: over pressure disconnector, self-healing technology
- Mounting and grounding by stud on bottom of aluminum can
- Naturally air-cooled or forced air-cooling
- Indoor mounting
- Reference standard IEC 61071
- UL-approval file E487229

Technical data

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<tr>
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<td>460</td>
<td>330</td>
<td>10 ... 120</td>
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<td>590</td>
<td>420</td>
<td>10 ... 100</td>
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<tr>
<td></td>
<td>680</td>
<td>480</td>
<td>6.8 ... 70</td>
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<td></td>
<td>750</td>
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<td>10 ... 60</td>
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<tr>
<td></td>
<td>850</td>
<td>600</td>
<td>5 ... 45</td>
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<tr>
<td>B32371 (M6)</td>
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<td>50 ... 200</td>
</tr>
<tr>
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<td>460</td>
<td>330</td>
<td>30 ... 120</td>
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<tr>
<td></td>
<td>590</td>
<td>420</td>
<td>10 ... 100</td>
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<tr>
<td></td>
<td>680</td>
<td>480</td>
<td>10 ... 70</td>
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<tr>
<td></td>
<td>750</td>
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<td>10 ... 50</td>
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<td>850</td>
<td>600</td>
<td>10 ... 40</td>
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<tr>
<td>B32372 (M8)</td>
<td>350</td>
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<td>100 ... 300</td>
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<td>460</td>
<td>330</td>
<td>80 ... 300</td>
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<tr>
<td></td>
<td>590</td>
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<td>60 ... 200</td>
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<tr>
<td></td>
<td>680</td>
<td>480</td>
<td>20 ... 250</td>
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<tr>
<td>B32373 (M10)</td>
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<td>150 ... 600</td>
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<td>460</td>
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<td>100 ... 500</td>
</tr>
<tr>
<td></td>
<td>590</td>
<td>420</td>
<td>60 ... 400</td>
</tr>
<tr>
<td></td>
<td>680</td>
<td>480</td>
<td>60 ... 350</td>
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<tr>
<td></td>
<td>750</td>
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<td>850</td>
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<td>70 ... 300</td>
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<tr>
<td>B32374 (Clamp terminals)</td>
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<td>250</td>
<td>100 ... 400</td>
</tr>
<tr>
<td></td>
<td>460</td>
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<td>100 ... 300</td>
</tr>
<tr>
<td></td>
<td>590</td>
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<td>100 ... 200</td>
</tr>
<tr>
<td></td>
<td>850</td>
<td>600</td>
<td>100 ... 150</td>
</tr>
</tbody>
</table>

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AC Filtering in Industrial Applications
Power Electronic Capacitors B3237* Series – Single-phase

Dimensional drawings

B32370

B32371 ... B32373

B32374

Hexagonal nut DIN 934

Toothed lock washer DIN 125

M6

M12

Tightening torque = 12 Nm max.

Toothed lock washer DIN 6797

Hexagonal nut DIN 934

KLK/5/0x-0-E

KLK/5/0x-1-E

KLK/5/0x-2-E

KLK/5/0x-3-E
AC Filtering in Industrial Applications
Power Electronic Capacitors B3237* Series – Three-phase

General

Features
- Very high reliability
- High peak-current capability
- Voltage series up to 600 V RMS
- Customized configurations

Design
- Resin filling, non-PCB, soft polyurethane
- Safety device: over pressure disconnector, self-healing technology
- Mounting and grounding by stud on bottom of aluminum can
- Naturally air-cooled or forced air-cooling
- Indoor mounting
- Reference standard IEC 61071
- UL-approval

Technical data

<table>
<thead>
<tr>
<th>Type/series</th>
<th>( V_{\text{R AC}} )</th>
<th>( V_{\text{R RMS}} )</th>
<th>( C_{\text{R}} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>B32377 … B32378</td>
<td>350 … 850</td>
<td>250 … 600</td>
<td>3× 20 … 3× 400</td>
</tr>
</tbody>
</table>

Dimensional drawings

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AC Filtering in Industrial Applications
Film Capacitors B3275* Series

General

Construction
- Dielectric: polypropylene (PP)
- Plastic case (UL 94 V-0)
- Epoxy resin sealing (UL 94 V-0)

Features
- Optimized AC voltage performance
- High ripple current/frequency handling capability
- For PCB mounting
- +60 °C, 95% RH, V AC, 1000 h

Typical applications
- Output AC filter for power converters
- UPS
- Motor drives

Technical data

<table>
<thead>
<tr>
<th>Type/series</th>
<th>$V_{\text{RMS}}$ V AC</th>
<th>$C_0$ µF</th>
</tr>
</thead>
<tbody>
<tr>
<td>B3275xC/G2</td>
<td>250</td>
<td>1 … 70</td>
</tr>
<tr>
<td>B3275xC/G7</td>
<td>275</td>
<td>1 … 55</td>
</tr>
<tr>
<td>B3275xC/G3</td>
<td>310</td>
<td>1 … 45</td>
</tr>
</tbody>
</table>

Dimensional drawings

B3275xC…
- 2-pin

B3275xG…
- 4-pin
AC Filtering in Industrial Applications
Film Capacitors B3292xA/B4 Series

**General**

**Construction**
- Dielectric: polypropylene (PP)
- Plastic case (UL 94 V-0)
- Epoxy resin sealing (UL 94 V-0)

**Features**
- Internal series construction
- Good self-healing properties
- High current handling
- Stable capacitance in severe ambient conditions
- +85 °C, 85% RH, 330 V AC, 1000 h

**Typical applications**
- X2 class for interference suppression
- Severe ambient conditions
  e.g. solar inverters, drives
- E-meters, In-series with mains
- Across-the-line applications

**Terminals**
- Parallel wire leads, lead-free tinned
- Special lead lengths available on request

**Technical data**

<table>
<thead>
<tr>
<th>Type/series</th>
<th>$V_{RMS}$ V AC</th>
<th>$C_R$ µF</th>
</tr>
</thead>
<tbody>
<tr>
<td>B3292xA/B4</td>
<td>350 (X2), $V_{max}$ 400 at +85 °C</td>
<td>0.47 … 20</td>
</tr>
</tbody>
</table>

**Dimensional drawings**

2-pin

4-pin

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AC Filtering in Industrial Applications
AC Capacitors B32354S Series

General

Construction
- Dielectric: polypropylene (PP)
- Electrode: segmented metalized film
- Dry type
- Plastic case (UL 94-V0)
- Resin sealing (UL 94-V0)

Features
- Self-healing properties
- Low dissipation factor
- Safety function
- High insulation resistance
- Low ESR value
- For PCB mounting
- CE compatible (pending)
- +85 °C, 85% RH, 350 V AC, 1000 h (pending)
- Reference standard IEC 61071 (pending)

Typical applications
- UPS
- General sine-wave filters
- Output AC filter for power converters
- Motor drives

Terminals
- Tin copper leads for balanced fitment in PCB

Technical data

<table>
<thead>
<tr>
<th>Type/series</th>
<th>$V_{AC}$ V</th>
<th>$V_{RMS}$ V</th>
<th>$C_R$ µF</th>
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</thead>
<tbody>
<tr>
<td>B32354S</td>
<td>350, 500</td>
<td>250, 350</td>
<td>10 ... 40</td>
</tr>
</tbody>
</table>

Dimensional drawings

B32354S
4-pin
AC Filtering in Industrial Applications

AC Capacitors B3331V Series

**General**

**Construction**
- Dielectric: polypropylene (PP)
- Aluminum can and top
- Soft polyurethane resin

**Features**
- Self-healing properties
- Low dissipation factor
- Overpressure disconnector for all terminals
- CE compatible
- Low ESR value
- UL 810 approval file E238746
- +85 °C, 85% RH, 460 V AC, 1000 h
- Reference standard IEC 61071

**Typical applications**
- UPS
- General sine-wave filters
- Output AC filter for power converters
- Motor drives

**Terminals**
- 2+2 fast-on terminals 6.3 x 0.8 mm

**Technical data**

<table>
<thead>
<tr>
<th>Type/series</th>
<th>$V_R$ V AC</th>
<th>$V_R$ V RMS</th>
<th>$C_R$ µF</th>
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</thead>
<tbody>
<tr>
<td>B33331V</td>
<td>650</td>
<td>460</td>
<td>2 ... 50</td>
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**Dimensional drawings**

B33331V

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