Ultra Compact EMC Filter

- Rated currents from 0.5 to 8.4 A
- Aluminium case
- Very compact PCB-mountable design
- Low profile
- Optional medical versions (B type)

Performance indicators

<table>
<thead>
<tr>
<th>Standard</th>
<th>High</th>
<th>Very high</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>0.5</td>
<td>3.6</td>
<td>6.4</td>
</tr>
</tbody>
</table>

Technical specifications

- Maximum continuous operating voltage: 250 VAC, 50/60 Hz
- Operating frequency: DC to 400 Hz
- Rated currents: 0.5 to 8.4 A @ 40°C max.
- High potential test voltage:
  - P → PE 2000 VAC for 2 sec (standard types)
  - P → N 760 VAC for 2 sec
  - P → PE 2500 VAC for 2 sec (B types)
- Temperature range (operation and storage): -25°C to +100°C (25/100/21)
- Design corresponding to: UL 1283, CSA 22.2 No. B 1986, IEC/EN 60939
- Flammability corresponding to: UL 94 V-0
- MTBF @ 40°C/230 V (Mil-HB-217F): 1,900,000 hours

Approvals

The FN 406 PCB filter is a single-phase filter designed for easy, fast and compact PCB-mounting. Choosing the FN 406 product line brings you the rapid availability of a standard filter associated with the necessary safety acceptance. Standard PCB single-phase filters are a practical solution helping you to pass EMI system approval in a short time. A selection on amperage ratings and medical types are designed to offer you the desired standard product.

Features and benefits

- Good conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior.
- PCB through hole mounting.
- Low profile.
- Custom specific versions on request.

Typical applications

- Electrical and electronic equipment
- Small to medium-sized machines and household equipment
- Single-phase power supplies, switch-mode power supplies
- Test and measurement equipment
- Medical equipment

Typical electrical schematic
## Filter selection table

<table>
<thead>
<tr>
<th>Filter</th>
<th>Rated current @ 40 °C (25 °C)</th>
<th>Leakage current* @ 230 VAC/50 Hz</th>
<th>Inductance L [mH]</th>
<th>Capacitance Cx [nF]</th>
<th>Capacitance Cy [nF]</th>
<th>Resistance R [kΩ]</th>
<th>Input/Output connections</th>
<th>Weight [g]</th>
</tr>
</thead>
<tbody>
<tr>
<td>FN 406-0.5-02</td>
<td>0.5 (0.6)</td>
<td>373</td>
<td>24</td>
<td>100</td>
<td>2.2</td>
<td>1000</td>
<td>-02</td>
<td>36</td>
</tr>
<tr>
<td>FN 406-1-02</td>
<td>1 (1.2)</td>
<td>373</td>
<td>1.2</td>
<td>100</td>
<td>2.2</td>
<td>1000</td>
<td>-02</td>
<td>36</td>
</tr>
<tr>
<td>FN 406-3-02</td>
<td>3 (3.6)</td>
<td>373</td>
<td>2.5</td>
<td>100</td>
<td>2.2</td>
<td>1000</td>
<td>-02</td>
<td>36</td>
</tr>
<tr>
<td>FN 406-6-02</td>
<td>6 (6.9)</td>
<td>373</td>
<td>0.78</td>
<td>100</td>
<td>2.2</td>
<td>1000</td>
<td>-02</td>
<td>36</td>
</tr>
<tr>
<td>FN 406-8.4-02</td>
<td>8.4 (9.6)</td>
<td>373</td>
<td>0.3</td>
<td>100</td>
<td>2.2</td>
<td>1000</td>
<td>-02</td>
<td>36</td>
</tr>
<tr>
<td>FN 406 B-0.5-02</td>
<td>0.5 (0.6)</td>
<td>2</td>
<td>24</td>
<td>100</td>
<td>1000</td>
<td>-02</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>FN 406 B-1-02</td>
<td>1 (1.2)</td>
<td>2</td>
<td>1.2</td>
<td>100</td>
<td>1000</td>
<td>-02</td>
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<td></td>
</tr>
<tr>
<td>FN 406 B-3-02</td>
<td>3 (3.6)</td>
<td>2</td>
<td>2.5</td>
<td>100</td>
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<td>36</td>
<td></td>
</tr>
<tr>
<td>FN 406 B-8.4-02</td>
<td>8.4 (9.6)</td>
<td>2</td>
<td>0.3</td>
<td>100</td>
<td>1000</td>
<td>-02</td>
<td>36</td>
<td></td>
</tr>
</tbody>
</table>

* Maximum leakage under normal operating conditions. Note: if the neutral line is interrupted, worst case leakage could reach twice this level.

### Product selector

**FN 406x-yy-..**

02: PCB through hole mounting

0.5 to 8.4: Rated current

Blank: Standard version

B: Medical version (without Y2-capacitor)

For example: FN 406-0.5-02, FN 406 B-8.4-02
Typical filter attenuation

Per CISPR 17; A=50 Ω/50 Ω sym; B=50 Ω/50 Ω asym; C=0.1 Ω/100 Ω sym; D=100 Ω/0.1 Ω sym

0.5 to 3 A types

6 A types

8.4 A types

Mechanical data

FN 406

All dimensions in mm; 1 inch = 25.4 mm
Tolerances according: ISO 2768-m/EN 22768-m

Please visit www.schaffner.com to find more details on filter connectors.
EMC/EMI Products
Schaffner Group
Datasheets
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Headquarters, global innovation and development

Switzerland
Schaffner Group
Nordstrasse 11
4542 Luterbach
T +41 32 681 66 26
info@schaffner.com
www.schaffner.com

To find your local partner within Schaffner's global network: www.schaffner.com

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Sales and application centers

China
Schaffner EMC Ltd. Shanghai
T20-3 C, No 565 Chuangye Road, Pudong district
201201 Shanghai
T +86 21 3813 9500
csschina@schaffner.com
www.schaffner.com.cn

Finland
Schaffner Oy
Sauvonrinne 19 H
08500 Lohja
T +358 50 468 7284
finlandsales@schaffner.com

France
Schaffner EMC S.A.S.
16-20 Rue Louis Rameau
95875 Bezons
T +33 1 34 34 30 60
francesales@schaffner.com

Germany
Schaffner Deutschland GmbH
Schoemperlenstrasse 128
76185 Karlsruhe
T +49 721 56910
F +49 721 569110
germanysales@schaffner.com

India
Schaffner India Pvt. Ltd
REGUS WORLD TRADE CENTRE
WTC, 22nd Floor Unit No 2238, Brigade Gateway Campus, 26/1, Dr. Rajkumar Road
Malleswaram (W)
560055 Bangalore
T +91 80 67935355
indiasales@schaffner.com

Italy
Schaffner EMC S.r.l.
Via Ticino, 30
20900 Monza (MB)
T +39 039 21 41 070
italysales@schaffner.com

Japan
Schaffner EMC K.K.
1-32-12, Kamiuwa, Setagaya-ku
7F Mitus-seimei Sangenjaya Bldg.
154-0011 Tokyo
T +81 3 5712 3650
F +81 3 5712 3651
japanSales@schaffner.com
www.schaffner.jp

Singapore
Schaffner EMC Pte Ltd.
#05-09, Kg Ubi Ind. Estate
408705 Singapore
T +65 6377 3283
F +65 6377 3281
singaporesales@schaffner.com

Spain
Schaffner EMC España
Calle Calendula 93, Miniparc III, Edificio E
El Soto de Moraleja, Alcobendas
28109 Madrid
T +34 917 912 900
F +34 917 912 901
spanisales@schaffner.com

Sweden
Schaffner EMC AB
Tegeluddsvägen 76, 2tr
115 28 Stockholm
T +46 8 5050 2425
swedensales@schaffner.com
www.schaffner.com

Switzerland
Schaffner EMV AG
Nordstrasse 11
4542 Luterbach
T +41 32 681 66 26
switzerlandsales@schaffner.com

Taiwan R.O.C.
Schaffner EMV Ltd.
20 Floor-2, No 97, Section 1, XinTai 5th Road
22175 Xizhi District New Taipei City 22175
T +886 2 2697 5500
F +886 2 2697 5533
taiwansales@schaffner.com
www.schaffner.com.tw

Thailand
Schaffner EMC Co. Ltd.
Northern Region Industrial Estate
76 Moo 4 Tambon Ban Klang
Amphur Muang PO Box 14
51000 Lampun
T +66 53 58 11 04
F +66 53 58 10 19
thailandsales@schaffner.com

United Kingdom
Schaffner Ltd.
5 Ashville Way, Molly Millsars Lane
Wokingham
RG41 2PL Berkshire
T +44 118 9770070
F +44 118 9792969
tksales@schaffner.com

USA
Schaffner EMC Inc.
52 Mayfield Avenue
08837 Edison, New Jersey
T +1 800 367 5566
T +1 732 225 9533
F +1 732 225 4789
usasales@schaffner.com
www.schaffnerusa.com

Schaffner North America
6722 Thirlane Road
24019 Roanoke, Virginia
T +1 276 228 7943
F +1 276 228 7953

Schaffner North America
823 Fairview Road
24382 Wytheville, Virginia
T +1 276 228 7943
F +1 276 228 7258