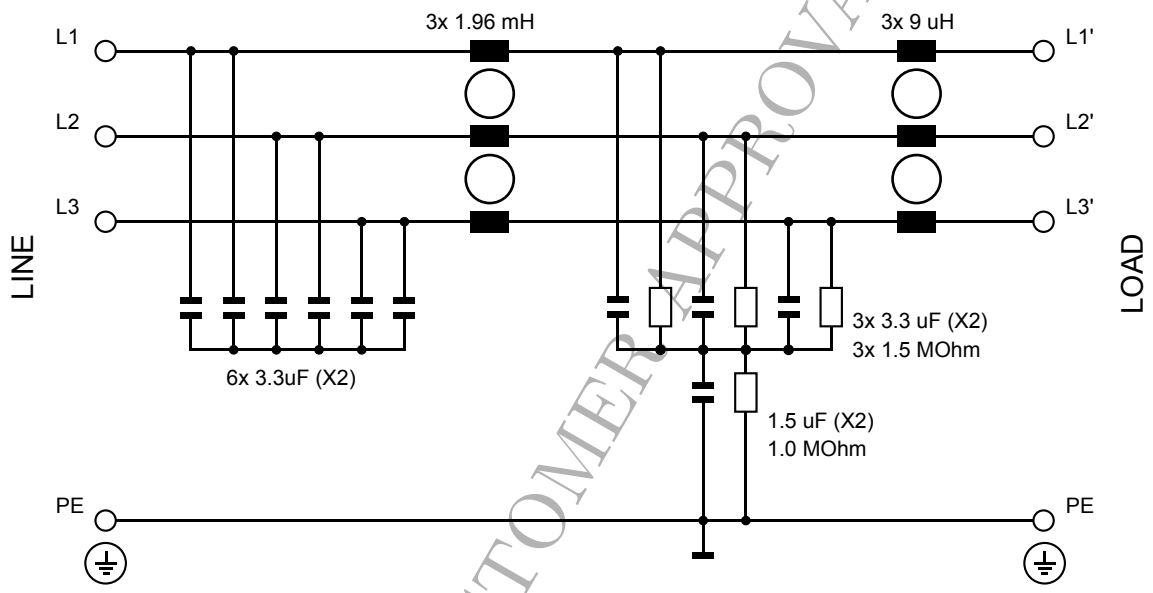
schaffner
shaping electrical power

# Low leakage EMI filter for power electronics and converters

RoHS




Tolerances L: +50 % -30 % C: +20 % -20 % R: +10 % -10 %

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| | |
|---|---|
| Designation: | FS42753-16-44 |
| Part Number: | 822098 |
| Customer's Part No.: | 10108123 |

| | | |
|---|---|---|
| Document Number: | 1041954 | A1 |
| Created: | LUTSNO | 2020-08-11 |
| Checked: | LUTLUR | 2020-08-31 |
| Released: | | |

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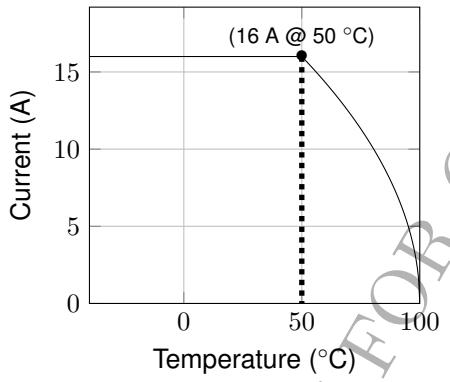
**Revision History**

| | | | |
|---|---|---|---|
| A1 | 2020-08-31 | LUTLUR | |
| A0 | 2020-08-07 | LUTLUR | Initial version |

## Electrical

| | | |
|---|---|---|
| Rated Current ($I_{th}$): | 16 A | @ 50 °C amb. Temperature |
| Nominal Operating Voltage: | 3x 480/277 +/- 10% VAC | |
| Rated Operating Voltage: | 3x 530/305 VAC | |
| Max. Operating Frequency: | 60 Hz | |
| Leakage Current (IEC60939-3): | 2.5 mA | @ Rated Voltage and 50 Hz |
| Production Line Test Voltage: | 2.28 kVDC* | for 2 s (L to L) |
| | 2.26 kVDC* | for 2 s (L/L to PE) |
| | (* Repetition with max. 80 % of the specified values) | |
| Overvoltage Category (IEC60664-1): | II | |
| Typ. Power Dissipation: | 10.5 W | |
| Max. DC Resistance @ 25 °C: | 13.7 mOhm | L - L' |

## Current Derating




$$I = I_N \cdot \sqrt{\frac{\Theta_{max} - \Theta_{act}}{\Theta_{max} - \Theta_N}}$$

for $\Theta_{act} > \Theta_N$ and $\Theta_{act} < \Theta_{max}$

| | |
|---|---|
| $I_N$ | rated current at $\Theta_N$ |
| $\Theta_{act}$ | actual ambient temperature |
| $\Theta_N$ | temperature at which the rated current is defined |
| $\Theta_{max}$ | rated maximum temperature of the component |

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## Environmental & Reliability

| | |
|---|---|
| Operating Ambient Temp. Range: | -40 °C to 100 °C |
| Storage Temp. Range: | -40 °C to 100 °C |
| Cooling: | AN |
| Pollution Degree (IEC60664-1): | 2 |
| Climatic Class (IEC60068-1): | 40/100/21 |

## Standards, Certifications and Compliances

| Design Standard | Certification |
|---|---|
| UL 60939-3 | |
| IEC 60939-3 | |

| Material Compliances |
|---|
| ROHS 2011/65/EU, 2015/863/EU |

## Mechanical

| | | | |
|---|---|---|---|
| Line: | (-44) STB 6 | Type: | Safety terminal block |
| | | Torque (Nm): | 1.0-1.2 |
| | | Flex Wire (AWG): | 20-8 |
| | | Solid Wire (mm2): | 0.5-10 |
| | | Flex Wire (mm2): | 0.5-6 |
| Load: | (-44) STB 6 | Type: | Safety terminal block |
| | | Torque (Nm): | 1.0-1.2 |
| | | Flex Wire (AWG): | 20-8 |
| | | Solid Wire (mm2): | 0.5-10 |
| | | Flex Wire (mm2): | 0.5-6 |
| PE: | Thread M5 | Torque (Nm): | 2.0-2.2 |
| Net Weight: | 1.0 kg | | |
| IP Class (IEC60529-1): | 20 | | |

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### Annex 1

| | |
|---|---|
| Description: | Mechanical Drawing |
| Document Number: | 1004984 |

### Annex 2

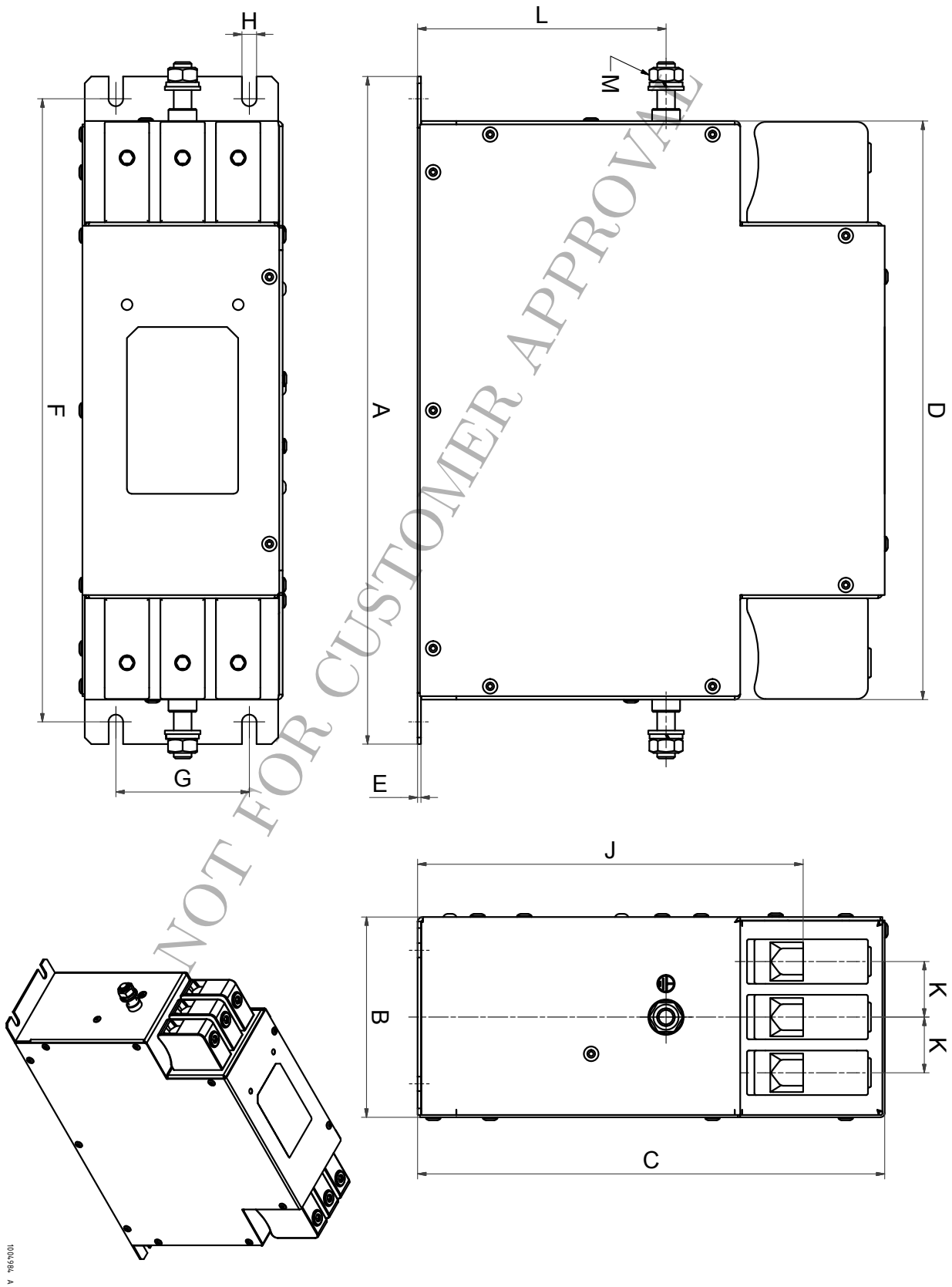
| | |
|---|---|
| Description: | Cross Reference Dimensions FS42753 series |

## Marking

### Annex 3

| | |
|---|---|
| Description: | Product Label |
| Document Number: | 1040970 |

## Annex 1

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## Annex 2

Dimensions FS42753 series

FS42753-10-44

| A | B | C | D | E | F | G | H | J±2 | K | L±1 | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **185** | 40 | 120 | 157 | 0.8 | 175 | 20 | 4.5 | 102 | 11 | 76 | M5 |

FS42753-16-44

| A | B | C | D | E | F | G | H | J±2 | K | L±1 | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **195** | 45 | 140 | 164 | 0.8 | 180 | 25 | 5.4 | 122 | 11 | 93 | M5 |

FS42753-20-33
FS42753-25-33

| A | B | C | D | E | F | G | H | J±2 | K | L±1 | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **210** | 45 | 145 | 174 | 0.8 | 195 | 25 | 5.4 | 126 | 13 | 96 | M5 |

FS42753-40-33

| A | B | C | D | E | F | G | H | J±2 | K | L±1 | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **235** | 50 | 168 | 207 | 1 | 220 | 30 | 5.4 | 149 | 13 | 115 | M6 |

FS42753-50-53
FS42753-63-53

| A | B | C | D | E | F | G | H | J±2 | K | L±1 | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **255** | 65 | 180 | 226 | 1 | 240 | 45 | 5.4 | 156 | 16 | 120 | M6 |

FS42753-80-34

| A | B | C | D | E | F | G | H | J±2 | K | L±1 | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **290** | 80 | 205 | 250 | 1.2 | 270 | 50 | 6.5 | 172 | 22 | 110 | M6 |

FS42753-83-35
FS42753-115-35

| A | B | C | D | E | F | G | H | J±2 | K | L±1 | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **300** | 90 | 210 | 260 | 1.5 | 280 | 60 | 6.5 | 173 | 25 | 112 | M8 |

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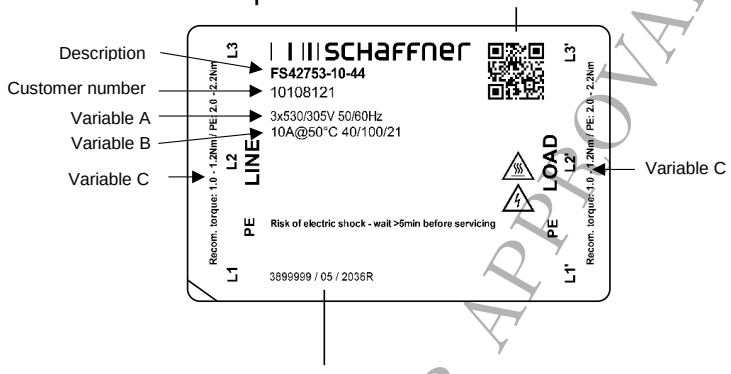
## Annex 3

QR CODE
Example: FS42753-10-44 822097 10108121




WORK ORDER / PRODUCTION PLACE / DATA CODE YYWW ROHS

| Material | Description | Customer number | Variable A | Variable B | Variable C |
|---|---|---|---|---|---|
| 822097 | FS42753-10-44 | 10108121 | 3x530/305V 50/60Hz | 10A@50°C 40/100/21 | 1.0 - 1.2Nm / PE: 2.0 - 2.2Nm |
| 822098 | FS42753-16-44 | 10108123 | 3x530/305V 50/60Hz | 16A@50°C 40/100/21 | 1.0 - 1.2Nm / PE: 2.0 - 2.2Nm |
| 822099 | FS42753-20-33 | 10108124 | 3x530/305V 50/60Hz | 20A@50°C 40/100/21 | 1.5 - 1.8Nm / PE: 2.0 - 2.2Nm |
| 822100 | FS42753-25-33 | 10108125 | 3x530/305V 50/60Hz | 25A@50°C 40/100/21 | 1.5 - 1.8Nm / PE: 2.0 - 2.2Nm |
| 822101 | FS42753-40-33 | 10108126 | 3x530/305V 50/60Hz | 40A@50°C 40/100/21 | 1.5 - 1.8Nm / PE: 3.5 - 4.0Nm |

**Label printout directly from ZO11N based on the settings from Classification in SAP!**

**Packing labels are also printed directly from ZO11N!**

Note: Production place
05 for Thailand
06 for Hungary
88 for China

LABEL: 251333
SIZE: 46x30mm
FILE: 1040970A

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | no scale | A4 | created | 31.08.2020 | LUTLNI |
| | | | | | checked | 31.08.2020 | LUTLUR |
| | | | | | released | | |
| A2 | Add new product | 31.08.2020 | scale | format | status | date | user |
| A1 | Change size line load | 11.08.2020 | LABEL | | | | |
| A0 | | 16.07.2020 | doc. description | | | | |
| rev. | change no. / change description | date | several | FS42753-SERIES | | | |
| | | | mat. number | project | | | |

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| LAB | 1040970 | A2 | 1 / 1 |
|---|---|---|---|
| doc. type | doc. number | doc. rev. | page |

Template: SPC 159332 / A **www.schaffner.com**

**Disclaimer**

1. Product suitability for a given application must ultimately be determined by the user (the party that is putting the product into operation) on a case by case basis. Product functionality and suitability must be determined with proper verification within the final application. Neither Schaffner nor its subsidiaries will assume liability for any consequential downtimes or damages resulting from use of products outside their specifications or due to incomplete verification in application.

2. Do not attempt to install, operate, maintain or inspect any product until you have read and understood the related safety notes and installation guidelines delivered with the product. If not available, general safety and installation notes are available on Schaffner Website: www.schaffner.com.
Non-qualified persons are not allowed to install or maintain Schaffner products!

3. The user is responsible to observe compliance with all local installation and electrical regulations.

4. All products must have their safety earth connected using properly dimensioned connectors. It is recommended to avoid chaining safety earth of multiple equipment together.

5. Warnings, cautions and notes as displayed on the product label must be observed at all times.

6. Overcurrent or overvoltage applied to products or resulting from an improper setup (i.e. resonances) may cause substantial damages, represent a fire hazards and lead to body injury or death.

7. Unless specifically indicated in datasheet, products do not contain any protection components. Suitable overcurrent and overvoltage protection circuits must be placed upstream of the product to avoid any consequential damage in case of any system malfunction.

8. Products with capacitive elements can have significant amount of stored energy. If misused or mishandled it could lead to body harm, damage and eventually fire hazard.

9. Products have limited lifetime and are subject to ageing effects heavily depending on operating conditions and environment. Schaffner recommends to regularly check any inbuilt capacitance to ensure constant performance and considering replacement after 12 years from initial commissioning unless otherwise indicated. Even when properly operated as in specifications, it is not possible to rule out single malfunctioning or failures of components happening before the usual lifetime.
User is responsible to evaluate the environment in the application and eventually perform preventive maintenance before the above recommendation. User shall also evaluate risk of possible failures and implement proper containment actions to avoid damage or injury.

10. Schaffner reserves the right to change raw materials used in this product during its life cycle on the companys own discretion, mainly for the purpose of managing and maintaining a capable international supplier base and for ensuring prompt product availability at all times. All changes having no impact on form, fit, function and technical specifications according to company internal evaluation will be carried out without notification.
Stricter change management process can be implemented on request.

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