

EMC Filters

Series/Type: **B84115E**

The following products presented in this data sheet are being withdrawn.

| Ordering Code | Substitute Product | Date of Withdrawal | Deadline Last Orders | Last Shipments |
|-----------------|--------------------|--------------------|----------------------|----------------|
| B84115E0000K060 | | 2013-04-12 | 2013-07-31 | 2013-10-31 |
| B84115E0000K030 | | 2013-04-12 | 2013-07-31 | 2013-10-31 |

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.epcos.com/sales.

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Power line filters for 1-phase systems
Rated voltage 250 V DC/AC, 50/60 Hz
Rated current 3 to 10 A

Construction

- 2-line filters
- Metal case
- Polyurethane potting (UL 94 V-0)



Features

- Compact design
- High insertion loss, even in the range below 100 kHz
- Optimized leakage current
- Cost-optimized construction
- Also for assembly on top-hat rails
- ENEC10, UL and CSA approval

Applications

- Switch-mode power supplies in
 - industrial electronics
 - telecommunications
 - data systems
 - medical equipment
- DC applications

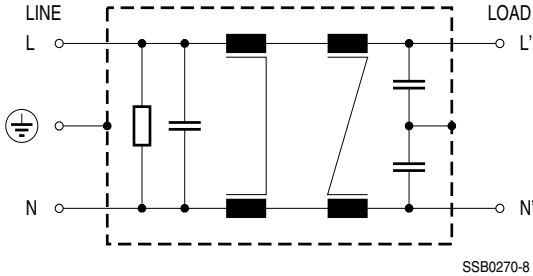
Case styles and terminal styles

- Case style A Tab connectors on face ends, lateral fixing lugs.
 Particularly suitable for mounting on a shielding wall.
- Case style B Tab connectors on face ends, fixing lugs on face ends.
- Case style K IEC connector as per IEC 60320 C 14 on line side,
 tab connectors on load side, mounting holes with metric thread.

Marking

Marking on component:
 Manufacturer's logo, ordering code,
 rated voltage, rated current, rated temperature,
 climatic category, date code

Minimum marking on packaging:
 Manufacturer's logo, ordering code

Circuit diagram

Technical data and measuring conditions

| | |
|---------------------------------|---|
| Rated voltage V_R | 250 V DC/AC, 50/60 Hz |
| Rated current I_R | Referred to 40 °C ambient temperature |
| Test voltage V_{test} | 1414 V DC, 2 s (line/line) 2700 V DC, 2 s (lines/case) |
| Leakage current I_{leak} | At 230 V AC, 50 Hz |
| Climatic category (IEC 60068-1) | 25/085/21 (-25 °C/+85 °C/21 days damp heat test) |
| Approvals | EN 133200, UL 1283, CSA C22.2 No.8 |

Characteristics and ordering codes

| I_R A | C_R | L_R mH | I_{leak} mA | Case style | Appr. weight g | Ordering code | Mounting plate for top-hat rail (ordering code) |
|------------|-------|-------------|------------------|---------------|----------------------|---------------|---|
|------------|-------|-------------|------------------|---------------|----------------------|---------------|---|

 $V_R = 250 \text{ V DC/AC, 50/60 Hz}$

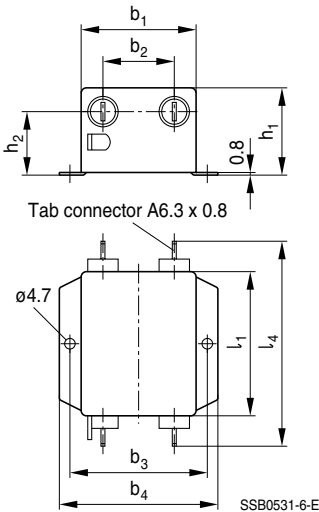
| | | | | | | | |
|----|--------------------------------|------------------|-------|---|-----|-----------------|-----------------|
| 3 | 0.47 μF (X2) | 2×0.27 | < 0.5 | A | 210 | B84115E0000A030 | — |
| | + | + | | B | 210 | B84115E0000B030 | C62122A0132B092 |
| | $2 \times 4.7 \text{ nF}$ (Y2) | 2×16 | | K | 270 | B84115E0000K030 | — |
| 6 | 0.47 μF (X2) | 2×0.10 | < 3.5 | A | 510 | B84115E0000A060 | — |
| | + | + | | B | 510 | B84115E0000B060 | C62122A0132B095 |
| | $2 \times 22 \text{ nF}$ (Y2) | 2×4.7 | | K | 510 | B84115E0000K060 | — |
| 10 | 0.47 μF (X2) | 2×0.047 | < 3.5 | A | 690 | B84115E0000A110 | — |
| | + | + | | B | 690 | B84115E0000B110 | C62122A0132B095 |
| | $2 \times 22 \text{ nF}$ (Y2) | 2×3.6 | | | | | |

Case styles and dimensions

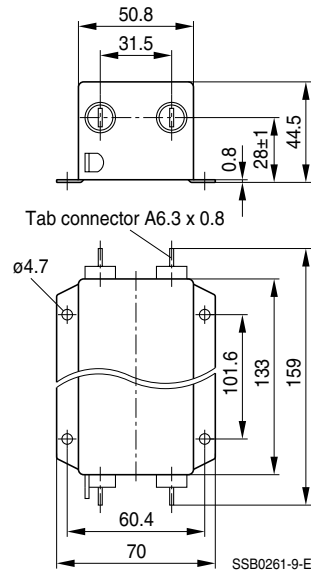
| Case style | I_R A | Dimensions (mm) | | | | | | | | | |
|------------|------------|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | b_1 | b_2 | b_3 | b_4 | l_1 | l_2 | l_3 | l_4 | h_1 | h_2 |
| A | 3 | 50.8 | 31.5 | 60.4 | 70 | 63.5 | — | — | 89.5 | 38.1 | 28 |
| B | 3 | 50.8 | 31.5 | — | — | 63.5 | 74.7 | 84.5 | 89.5 | 38.1 | 28 |
| K | 3 | 50.8 | — | — | — | 79.5 | — | — | — | 38 | — |
| A | 6 | See dimensional drawing | | | | | | | | | |
| B | 6 | See dimensional drawing | | | | | | | | | |
| K | 6 | See dimensional drawing | | | | | | | | | |
| A | 10 | See dimensional drawing | | | | | | | | | |
| B | 10 | See dimensional drawing | | | | | | | | | |

Case style A

3 A (B84115E0000A030)

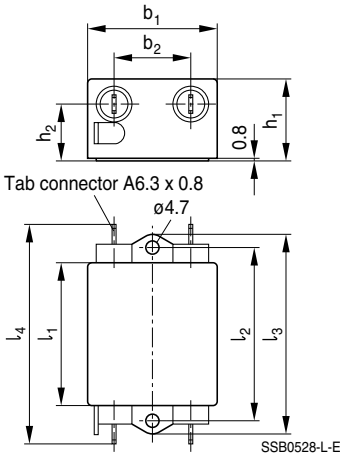

Case style A

6 and 10 A (B84115E0000A060, A110)



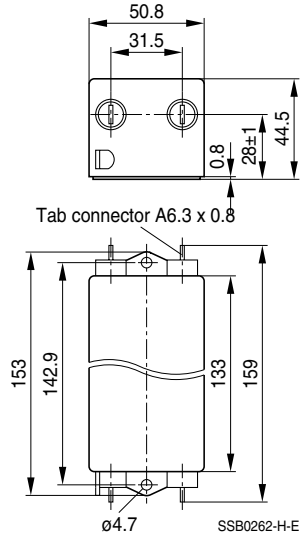
Case style B

3 A (B84115E0000B030)



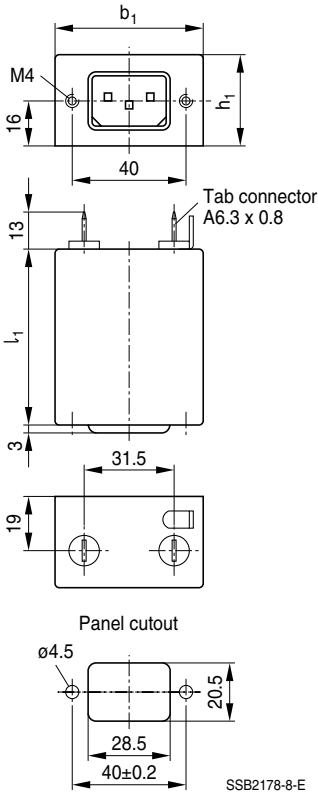
Case style B

6 and 10 A (B84115E0000B060, B110)

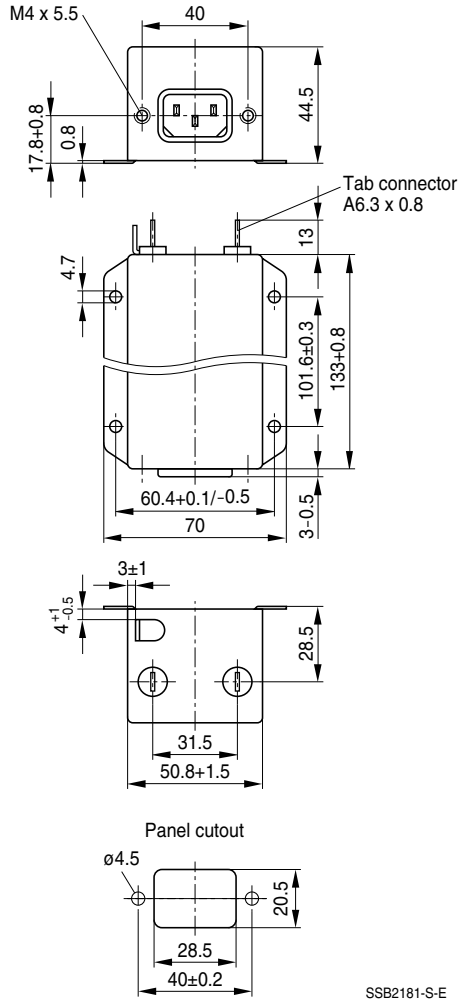


Case style K

3 A (B84115E0000K030)



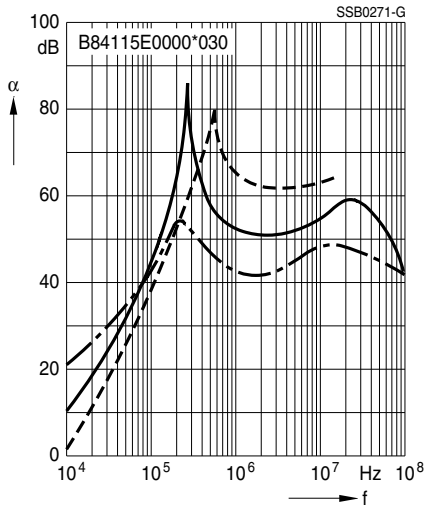
6 A (B84115E0000K060)



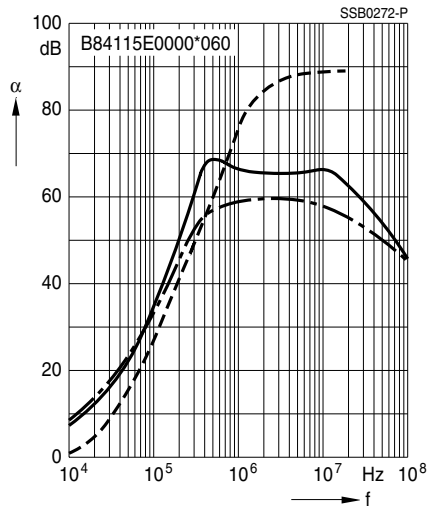
Insertion loss (typical values at $Z = 50 \Omega$)

- unsymmetrical, adjacent branches terminated
- - - - - common mode, all branches in parallel (asymmetrical)
- - - - - differential mode (symmetrical)

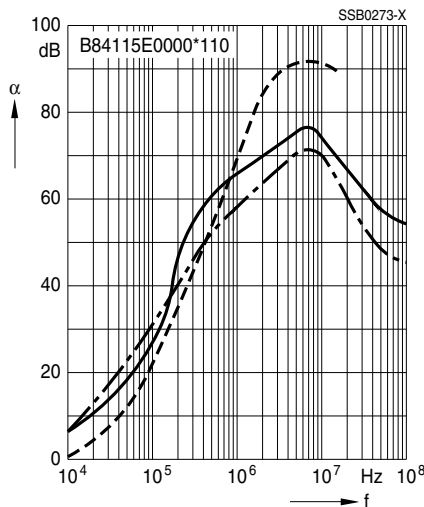
Filters for 3 A




Filters for 6 A



Filters for 10 A



Important information

Please read all safety and warning notes carefully before installing the EMC filter and putting it into operation (see ). The same applies to the warning signs on the filter. Please ensure that the signs are not removed nor their legibility impaired by external influences.

Death, serious bodily injury and substantial material damage to equipment may occur if the appropriate safety measures are not carried out or the warnings in the text are not observed.

Using according to the terms

The EMC filters may be used only for their intended application within the specified values in low-voltage networks in compliance with the instructions given in the data sheets and the data book. The conditions at the place of application must comply with all specifications for the filter used.

Warnings

- It shall be ensured that only qualified persons (electricity specialists) are engaged on work such as planning, assembly, installation, operation, repair and maintenance. They must be provided with the corresponding documentation.
- Danger of electric shock. EMC filters contain components that store an electric charge. Dangerous voltages can continue to exist at the filter terminals for longer than five minutes even after the power has been switched off.
- The protective earth connections shall be the first to be made when the EMC filter is installed and the last to be disconnected. Depending on the magnitude of the leakage currents, the particular specifications for making the protective-earth connection must be observed.
- Impermissible overloading of the EMC filter, such as impermissible voltages at higher frequencies that may cause resonances etc. can lead to destruction of the filter housing.
- EMC filters must be protected in the application against impermissible exceeding of the rated currents by suitable overcurrent protective.

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