

# **EMC Filters**

Series/Type: B84112B

The following products presented in this data sheet are being withdrawn.

Ordering Code	Date of Withdrawal	Deadline Last Orders	Last Shipments
B84112B0000P030	2013-04-12	2013-07-31	2013-10-31
B84112B0000L110	2013-04-12	2013-07-31	2013-10-31
B84112B0000L060	2013-04-12	2013-07-31	2013-10-31

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Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B84112B0000L030		2013-04-12	2013-07-31	2013-10-31
B84112B0000L020		2013-04-12	2013-07-31	2013-10-31
B84112B0000L010		2013-04-12	2013-07-31	2013-10-31
B84112B0000K060		2013-04-12	2013-07-31	2013-10-31
B84112B0000K030		2013-04-12	2013-07-31	2013-10-31
B84112B0000K010		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.



### SIFI-B for enhanced insertion loss

Power line filters for 1-phase systems Rated voltage 250 V DC/AC, 50/60 Hz Rated current 1 to 20 A

#### Alternative version

 Series B84112G (SIFI-G) offers a low-cost solution

#### Construction

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

#### **Features**

- Compact design
- 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.

Case style L Litz wires on face ends, fixing lugs on face ends

Case style P Pins fitting PCB standard grid

#### Marking

Marking on component:

Manufacturer's logo, ordering code, rated voltage, rated current, rated temperature, climatic category, date code

ciirialic calegory, dale code

Minimum marking on packaging:

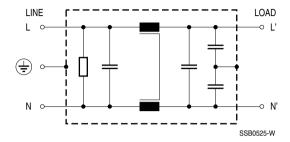
Manufacturer's logo, ordering code





# SIFI-B for enhanced insertion loss

## Circuit diagram



### Technical data and measuring conditions

Rated voltage V <sub>R</sub>	250 V DC/AC, 50/60 Hz
Rated current I <sub>R</sub>	Referred to 40 °C ambient temperature
Test voltage V <sub>test</sub>	1414 V DC, 2 s (line/line) 2700 V DC, 2 s (lines/case)
Leakage current I <sub>leak</sub>	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



# SIFI-B for enhanced insertion loss

# Characteristics and ordering codes

I <sub>R</sub>	C <sub>R</sub>	L <sub>R</sub>	I <sub>leak</sub>	Case style	Approx. weight	Ordering code	Mounting plate for top-hat rail					
Α		mΗ	mA		g		(ordering code)					
V <sub>R</sub> =	V <sub>R</sub> = 250 V DC/AC, 50/60 Hz											
1	$2 \times 0.15 \ \mu F$ (X2)	2 ×	< 0.5	Α	110	B84112B0000A010	_					
	+	10		В	110	B84112B0000B010	C62122A0132B091					
	2 × 4700 pF (Y2)			K	140	B84112B0000K010	_					
				L	110	B84112B0000L010	_					
2	$2 \times 0.15 \ \mu F (X2)$	2 ×	< 0.5	Α	110	B84112B0000A020	_					
	+	10		В	110	B84112B0000B020	C62122A0132B091					
	2 × 4700 pF (Y2)			L	110	B84112B0000L020	_					
3	2 × 0.22 μF (X2)	2 ×	< 0.5	Α	140	B84112B0000A030	_					
	+	10		В	140	B84112B0000B030	C62122A0132B092					
	2 × 4700 pF (Y2)			K	210	B84112B0000K030	_					
				L	140	B84112B0000L030	_					
				Р	140	B84112B0000P030	_					
6	2 × 0.33 μF (X2)	2 ×	< 0.5	Α	150	B84112B0000A060	_					
	+	3.3		В	150	B84112B0000B060	C62122A0132B092					
	2 × 4700 pF (Y2)			K	210	B84112B0000K060	_					
				L	150	B84112B0000L060	_					
10	2 × 0.47 μF (X2)	2 ×	< 0.5	Α	200	B84112B0000A110	_					
	+	1.8		В	200	B84112B0000B110	C62122A0132B092					
	2 × 4700 pF (Y2)			L	200	B84112B0000L110	_					
20	2 × 0.68 μF (X2)	2 ×	< 0.5	Α	700	B84112B0000A120	_					
	+	1.8		В	700	B84112B0000B120	C62122A0132B092					
	2 × 4700 pF (Y2)											



# SIFI-B for enhanced insertion loss

# Case styles and dimensions

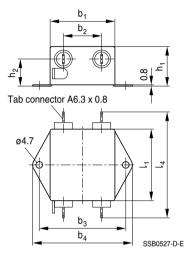
Case	I <sub>R</sub>	Dimensions (mm)											
style		b <sub>1</sub>	$b_2$	$b_3$	$b_4$	l <sub>1</sub>	$I_2$	$I_3$	l <sub>4</sub>	h <sub>1</sub>	h <sub>2</sub>	Litz	Style
	Α											mm <sup>2</sup>	1015
Α	1	45	26.5	60.4	70	50	_	_	76.5	28.6	20	_	_
В	1	45	26.5	_	—	50	60.4	70	76.5	28.6	20	—	_
K	1	51	_	_	_	63.5	_	_	_	32	_	_	_
L	1	45	_	_	_	50	60.4	70	—	28.6	_	0.82	AWG18
Α	2	45	26.5	60.4	70	50	_	_	76.5	28.6	20	_	_
В	2	45	26.5	_	_	50	60.4	70	76.5	28.6	20	—	_
L	2	45	—	_	—	50	60.4	70	_	28.6	—	0.82	AWG18
A	3	50.8	31.5	60.4	70	63.5	_	_	89.5	28.6	20	_	_
В	3	50.8	31.5	_	_	63.5	74.7	84.5	89.5	28.6	20	—	_
K	3	50.8	_	_	_	79.5	_	_	_	32	_	—	_
L	3	50.8	_	_	—	63.5	74.7	84.5	—	28.6	—	0.82	AWG18
Р	3					See	dimer	sional	drawi	ng			
A	6	50.8	31.5	60.4	70	63.5	_	_	89.5	28.6	20	_	_
В	6	50.8	31.5	_	_	63.5	74.7	84.5	89.5	28.6	20	—	_
K	6	50.8	_	_	_	79.5	_	_	_	32	_	—	_
L	6	50.8	_	_	_	63.5	74.7	84.5	_	28.6	_	0.82	AWG18
A	10	50.8	31.5	60.4	70	63.5	_	_	89.5	38.1	28	_	_
В	10	50.8	31.5	_	_	63.5	74.7	84.5	89.5	38.1	28	_	_
L	10	50.8	_		_	63.5	74.7	84.5	_	38.1	_	1.35	AWG16
A	20	Con disconsissed descripe											
В	20	See dimensional drawing											



#### SIFI-B for enhanced insertion loss

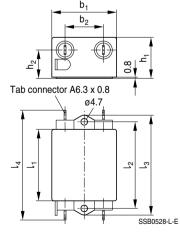
### Case style A

1 ... 10 A (B84112B0000A010 ... A110)



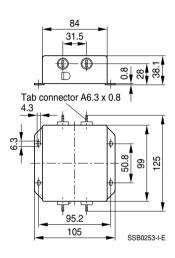
### Case style B

1 ... 10 A (B84112B0000B010 ... B110)



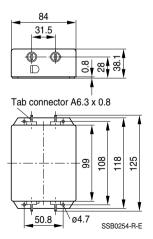
#### Case style A

20 A (B84112B0000A120)



#### Case style B

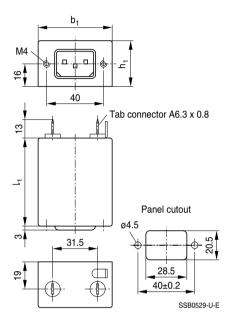
20 A (B84112B0000B120)



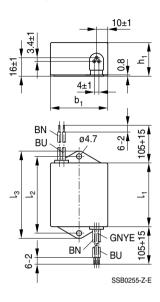


#### SIFI-B for enhanced insertion loss

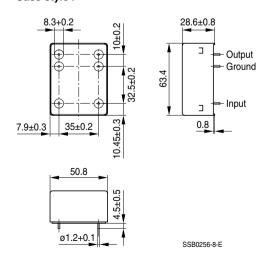
### Case style K



### Case style L



### Case style P





#### SIFI-B for enhanced insertion loss

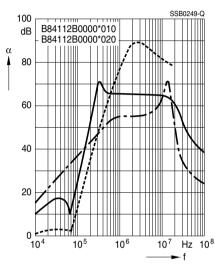
### **Insertion loss** (typical values at $Z = 50 \Omega$ )

unsymmetrical, adjacent branches terminated

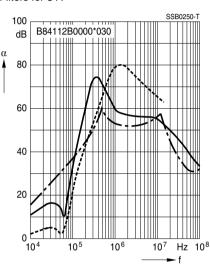
- - - - common mode, all branches in parallel (asymmetrical)

---- differential mode (symmetrical)

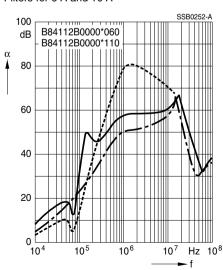
#### Filters for 1 A and 2 A



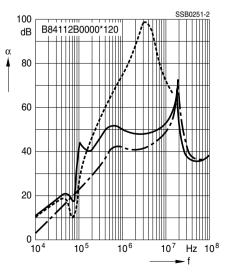
#### Filters for 3 A



Filters for 6 A and 10 A



Filters for 20 A





#### **EMC filters**

#### Cautions and warnings

#### Important information

Please read all safety and warning notes carefully before installing the EMC filter and putting it into operation (see  $\triangle$ ). 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.

# Marnings

- 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.



#### **EMC filters**

#### Important notes

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