3 to 40 Amp High Performance K Series RFI Power Line Filters for SMPS Emission Control

SK Series

UL Recognized
CSA Certified
VDE Approved

SK Series

This series of RFI filters was designed to reduce conducted noise to acceptable limits for equipment that must comply with the FCC specifications in the USA and CISPR specifications in Europe.

The SK (Super K) series filters use significantly higher element values than the general purpose K series, which makes them better suited for equipment with line-to-ground and line-to-line conducted emissions, including switch mode power supplies.

The ESK models meet the very low leakage current requirements of VDE portable equipment and (120 Volt) UL 544 non-patient medical equipment.

Models ESK6C and VSK6C additionally incorporate a separate ground-circuit inductor to isolate the equipment chassis from power line ground at RF frequencies.

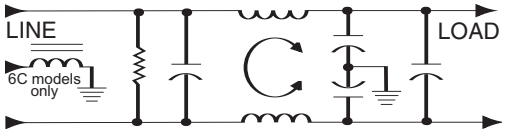
Specifications

Maximum leakage current, each line-to-ground

	VSK Models	ESK Models
3, 6 & 10 Amps		
@ 120 VAC 60 Hz:	.4 mA	.21 mA
@ 250 VAC 50 Hz:	.7 mA	.36 mA
20, 30 & 40 Amps		
@120 VAC 60 Hz:	.75 mA	.3 mA
@250 VAC 50 Hz:	1.25 mA	.5 mA

Hipot rating (one minute):	
line-to-ground	2250 VDC
line-to-line	1450 VDC
Operating frequency:	50/60 Hz
Rated voltage (max.):	250 VAC
Rated current:	
3VSK/3ESK	3A
6VSK/6ESK	6A
10VSK/10ESK	10A
20VSK/20ESK	20A
30VSK/30ESK	30A
40VSK	40A

Electrical Schematic



Resistor location for reference only.

Catalog 1654001
Revised 05-07

Dimensions are in inches and millimeters unless otherwise specified. Values in italics are metric equivalents.

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USA Cust. Svc.: 1-800-468-2023
CORCOM Prods: 1-847-680-7400
Germany: 49-89-6089-0

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SK Series

Specifications (continued)

Minimum insertion loss in dB:

Line-to-ground in 50 ohm circuit

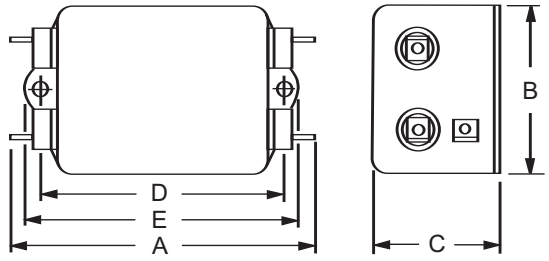
Current Rating	Frequency - MHz .01	.08	.1	.15	.5	1	5	10	30
VSK Models									
3A, 6A, 10A	4	23	25	29	43	44	42	42	30
20A	7	23	25	29	43	44	48	48	48
30A	2	13	14	15	27	31	46	51	39
40A	2	15	18	22	40	43	45	50	30
ESK Models									
3A, 6A, 10A	4	22	24	28	42	40	36	36	27
20A	7	22	24	28	35	38	45	45	45
30A	2	13	15	15	27	31	40	41	36

Line-to-line in 50 ohm circuit

Current Rating	Frequency - MHz .01	.08	.1	.15	.5	1	5	10	30
VSK Models									
3A, 6A	1	3	10	25	59	65	62	40	40
10A	1	3	3	10	55	65	65	50	50
20A	1	10	8	8	45	60	65	60	60
30A	5	13	13	13	60	60	51	43	43
40A	7	14	16	30	65	65	65	57	50
ESK Models									
3A, 6A	1	3	10	25	59	65	62	40	40
10A	1	3	3	10	55	65	65	65	45
20A	1	10	8	8	45	60	65	60	60
30A	5	12	12	13	60	60	51	43	43

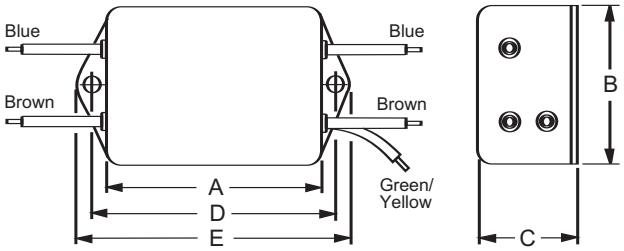
Case Styles

SK1



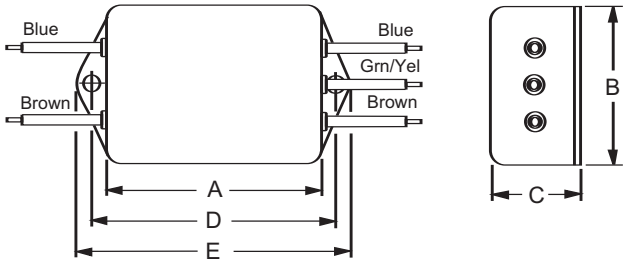
Typical dimensions:
Terminals: .250 [*6.35*] (5)
Slot: .07 x .16 [*1.8 x 4.1*]
Holes: .07 [*1.8*] Dia.(4)
Mounting holes: .188 [*4.78*] Dia. (2)

3A-SK3



Typical dimensions:
Wire leads: 4.0 [*101.6*] Min.
Mounting holes: .188 [*4.78*] Dia. (2)

6A & 10A-SK3



Typical dimensions:
Wire leads: 4.0 [*101.6*] Min.
Mounting holes: .188 [*4.78*] Dia. (2)

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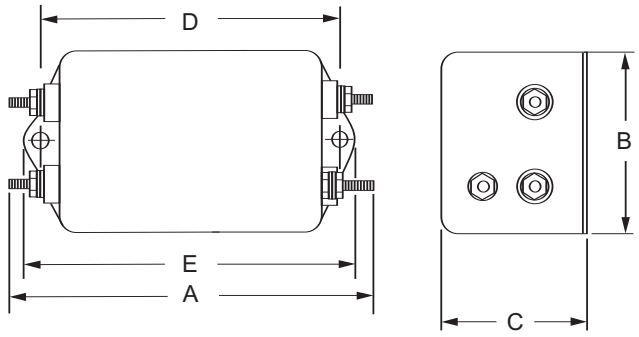
SK Series

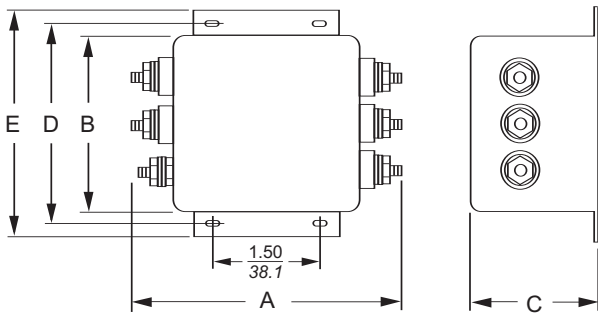
Case Styles

20ESK6 & 20VSK6



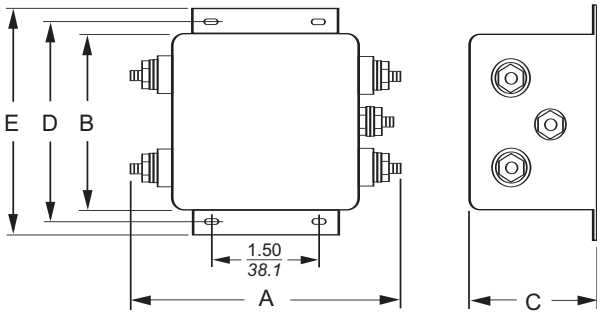
Typical dimensions:
Holes: .188 [*4.78*] Terminals No. 8-32 Torque: 18 ± 2 in.lb

30ESK6C & 30VSK6C

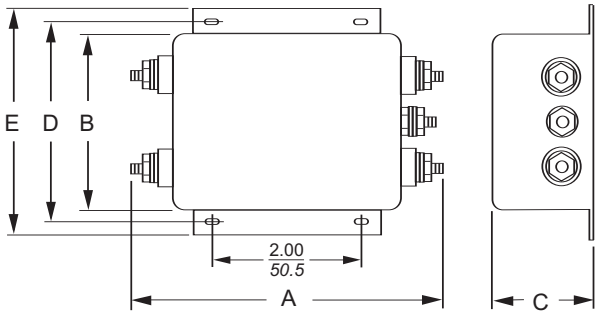


Typical dimensions:
Mounting slots: .250 x .156 [*6.35 x 3.96*] Terminals No. 10-32
Torque: 27 ± 3 in.lb

30ESK6 & 30VSK6



40VSK6



Typical dimensions:
Mounting slots: .203 x .156 *[5.16x 3.96]* Torque: 27 ± 3 in.lb
Terminals (5): 10-32

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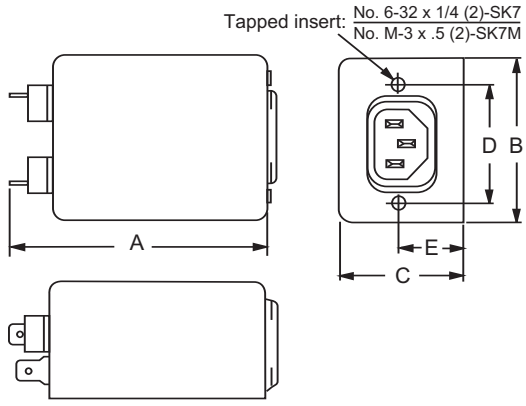
SK Series

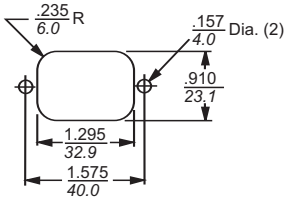
ESK6/VSK6

SK7 & SK7M (with metric insert)



Typical dimensions:
Terminals: .250 [*6.35*] (3)
Slot: .07 x .16 [*1.8 x 4.1*]
Holes: .07 [*1.8*] Dia.(2)

Recommended Panel Cutout



Panel Cutout (back mount)

Tolerance ±.005 [*0.13*]

Case Dimensions

Part No.	A (max)	B (max)	C (max)	D ± .015 / ± .38	E (max)	
3VSK1, 3ESK1	**3.85** *97.8*	**2.07** *52.6*	**1.16** *29.5*	**2.938** *74.63*	**3.35** *85.1*	
3VSK3, 3ESK3	**2.56** *65.0*	**2.07** *52.6*	**1.16** *29.5*	**2.938** *74.63*	**3.35** *85.1*	
3VSK7, 3VSK7M, 3ESK7, 3ESK7M	**3.21** *81.5*	**2.25** *57.2*	**1.53** *38.9*	**1.575** *40.01*	**0.63** *16.0*	†
6VSK1, 6ESK1	**4.34** *110.2*	**2.25** *57.2*	**1.28** *32.5*	**3.427** *87.05*	**3.83** *97.3*	
6VSK3, 6ESK3	**3.05** *77.5*	**2.25** *57.2*	**1.28** *32.5*	**3.427** *87.05*	**3.83** *97.3*	
6VSK7, 6VSK7M, 6ESK7, 6ESK7M	**3.21** *81.5*	**2.25** *57.2*	**1.78** *45.2*	**1.575** *40.01*	**0.63** *16.0*	†
10VSK1, 10ESK1	**4.97** *126.2*	**2.25** *57.2*	**1.78** *45.2*	**4.063** *103.2*	**4.46** *113.3*	
10VSK3, 10ESK3	**3.69** *93.7*	**2.25** *57.2*	**1.78** *45.2*	**4.063** *103.2*	**4.46** *113.3*	
10VSK7, 10VSK7M, 10ESK7, 10ESK7M	**4.34** *110.0*	**2.25** *57.2*	**1.78** *45.2*	**1.575** *40.01*	**0.63** *16.0*	†
20ESK6, 20VSK6	**5.09** *127.3*	**2.25** *57.2*	**1.78** *45.2*	**4.063** *103.2*	**4.46** *129.3*	

Part No.	A (max)	B (max)	C (max)	D ± .020 / ± .51	E (max)
30ESK6, 30ESK6C 30VSK6, 30VSK6C	**4.92** *125.0*	**3.12** *79.25*	**2.75** *69.85*	**3.437** *87.3*	**4.00** *101.6*
40VSK6	**6.00** *152.4*	**3.12** *79.25*	**2.18** *55.4*	**3.50** *88.9*	**3.96** *100.6*

† ±.02 [*±.5*]

Part Numbers

3VSK1	3ESK1
3VSK3	3ESK3
3VSK7	3ESK7
3VSK7M	3ESK7M
6VSK1	6ESK1
6VSK3	6ESK3
6VSK7	6ESK7
6VSK7M	6ESK7M
10VSK1	10ESK1
10VSK3	10ESK3
10VSK7	10ESK7
10VSK7M	10ESK7M
20ESK6	30VSK6
20VSK6	30VSK6C
30ESK6	40VSK6
30ESK6C	
Line Cord No. (K7/K7M)	GA400

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