

## Multipurpose Power Line RFI Filter for Emission Control

# S Series



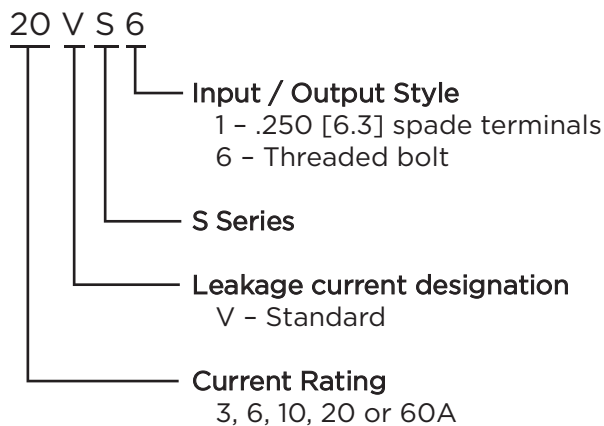
UL Recognized  
CSA Certified  
VDE Approved



## S Series

- Combines Line to Ground interference rejection filters with additional circuitry to reduce Line to Line noise and transients
- Designed for use when equipment impedance at RF frequencies is high
- Effective for use with switch-mode power supplies
- Effective when used to control emissions in equipment using SCR and T2L circuits for compliance with FCC Part 15, Subpart J and EN55022, Level A, down to 150kHz

## Ordering Information



## Available Part Numbers

3VS1	20VS1
6VS1	20VS6
10VS1	60VS6

## Specifications

### Maximum leakage current each Line to Ground:

	3 & 20A	60A
@120 VAC 60 Hz:	.4 mA	.75 mA
@250 VAC 50 Hz:	.7 mA	1.25 mA

### Hipot rating (one minute):

Line to Ground:	2250 VDC
Line to Line:	1450 VDC

### Rated Voltage (max):

250 VAC

### Operating Frequency:

50/60 Hz

### Rated Current:

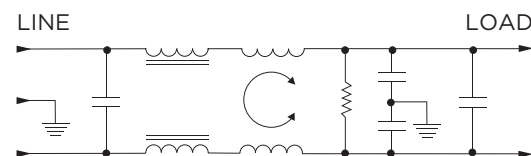
3 to 60A

### Operating Ambient Temperature Range

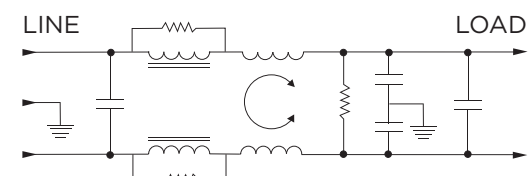
(at rated current  $I_r$ ): -10°C to +40°C  
In an ambient temperature ( $T_a$ ) higher than +40°C the maximum operating current ( $I_o$ ) is calculated as follows:  $I_o = I_r \sqrt{(85-T_a)/45}$

## Electrical Schematics

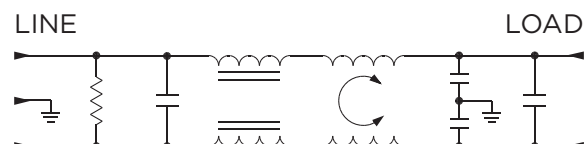
### 3, 6, 10VS



### 20VS



### 60VS

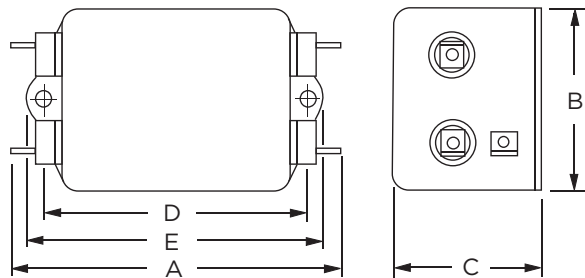


**Multipurpose Power Line RFI Filter for Emission Control** *(continued)*

# S Series

## Case Styles

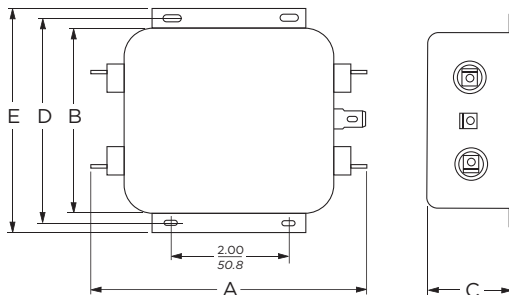
### S1 (3, 6, 10A)



Typical Dimensions:

Line/Load Terminals (4): .250 [6.3] with .07 [1.8] Dia. hole  
Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot  
Mounting Holes (2): .188 [4.78] Dia.

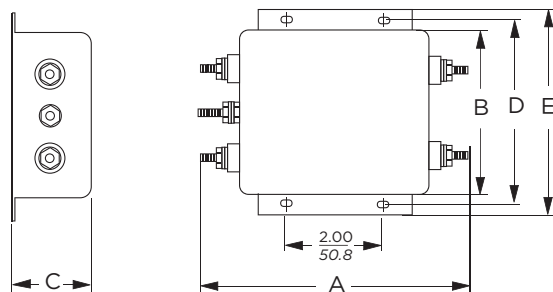
### 20VS1



Typical Dimensions:

Line/Load Terminals (4): .250 [6.3] with .07 [1.8] Dia. hole  
Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot  
Mounting Slots (4): .250 x .156 [6.35 x 3.96] Dia.

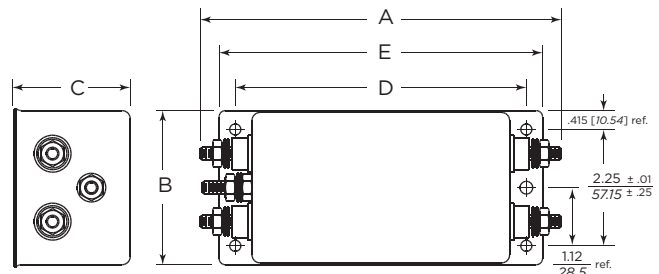
### 20VS6



Typical Dimensions:

Terminals (5): 8-32, Torque 18 lbf-in. [2.03 N-m] max.  $\pm 2$  [.22]  
Mounting Slots (4): .250 x .156 [6.35 x 3.96] Dia.

### 60VS6



Typical Dimensions:

Terminals (5): 1/4-20, Torque 56 lbf-in. [6.32 N-m] max.  $\pm 2$  [.22]  
Mounting Holes (5): .218 [5.53] Dia.  $\pm .006$  [.152]

## Case Dimensions

Part No.	A (max)	B (max)	C (max)	D $\pm .015$ $\pm .38$	E (max)
3VS1	3.36 85.3	1.82 46.2	1.16 29.5	2.375 60.33	2.78 70.6
6VS1	3.86 98.0	2.08 52.8	1.53 38.9	2.938 74.63	3.34 84.8
10VS1	3.86 98.0	2.08 52.8	1.53 38.9	2.938 74.63	3.34 84.8
20VS1	5.23 132.8	3.38 85.9	1.53 38.9	3.75 95.25	4.20 106.7
20VS6	5.34 135.6	3.38 85.9	1.53 38.9	3.75 95.25	4.20 106.7
60VS6	7.2 182.88	3.08 78.23	2.28 57.91	5.625 142.87	6.25 158.75

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RFI Power Line Filters

## Multipurpose Power Line RFI Filter for Emission Control *(continued)*

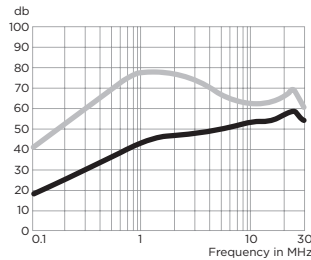
# S Series

## Performance Data

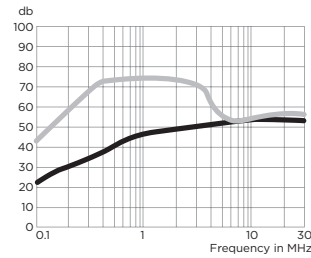
### Typical Insertion Loss

Measured in closed 50 Ohm system

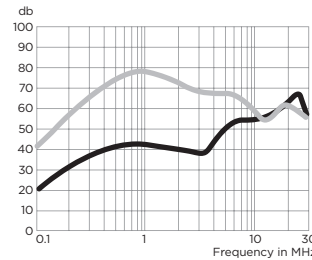
#### 3VS



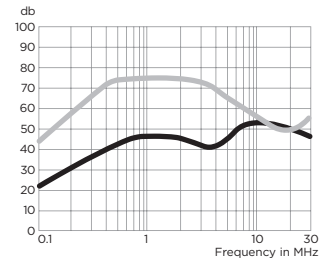
#### 6VS



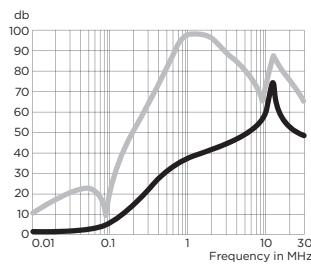
#### 10VS



#### 20VS



#### 60VS



— Common Mode / Asymmetrical (L-G)  
— Differential Mode / Symmetrical (L-L)

### Minimum Insertion Loss

Measured in closed 50 Ohm system

#### Common Mode / Asymmetrical (Line to Ground)

Current Rating	Frequency – MHz							
	.15	.5	1	2	5	10	20	30
3A	15	27	35	40	32	44	47	47
6A	15	27	35	40	32	44	47	47
10A	15	27	35	40	32	44	47	47
20A	15	30	38	38	32	43	42	40
60A	7	27	34	38	45	54	44	40

#### Differential Mode / Symmetrical (Line to Line)

Current Rating	Frequency – MHz								
	.15	.3	.5	1	2	5	10	20	30
3A	35	50	65	65	65	60	50	40	45
6A	35	50	65	65	65	60	45	48	48
10A	35	50	65	65	65	60	50	40	45
20A	35	50	65	65	65	60	45	48	48
60A	37	-	77	93	86	70	54	64	54

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