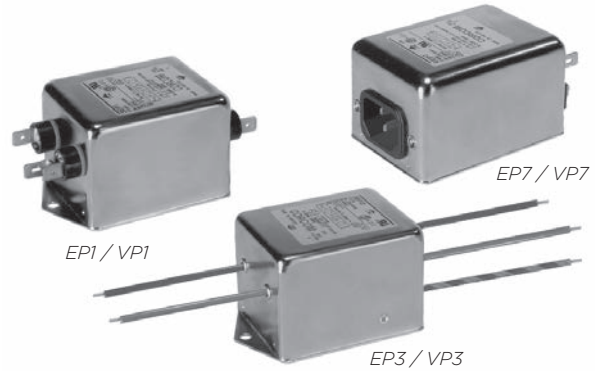


Dual Stage RFI Power Line Filters for Switching Mode Power Supplies

# EP / VP Series



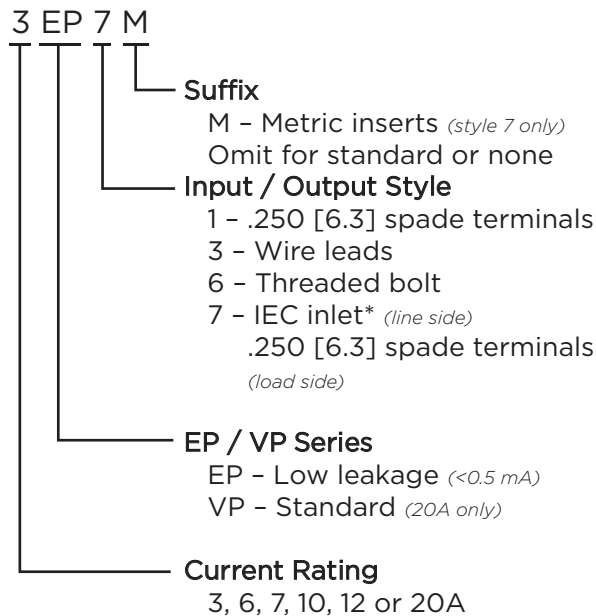
UL Recognized  
CSA Certified  
VDE Approved



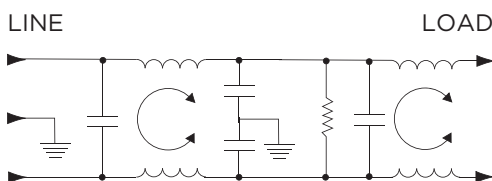
## EP & VP Series

- Dual stage filter offers high insertion loss
- Well suited for meeting CISPR 22 A and FCC Part 15J, Class B
- EP model meets very low leakage current requirements
- 7A and 12A versions offer optimum package size

## Ordering Information



## Electrical Schematic



\*IEC 60320-1 C14 inlet mates with C13 connector

## Specifications

### Maximum leakage current each Line to Ground:

	VP Models	EP Models
@ 120 VAC 60 Hz:	.73 mA	.21 mA
@ 250 VAC 50 Hz:	1.27 mA	.36 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 20A

### Operating Ambient Temperature Range

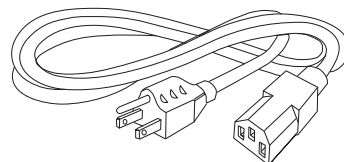
(at rated current  $I_r$ ): -10°C to +40°C  
In an ambient temperature ( $T_a$ ) higher than +40°C the maximum operating current ( $I_o$ ) is calculated as follows:  $I_o = I_r \sqrt{(85-T_a)/45}$

## Available Part Numbers

3EP1	10EP1
3EP3	10EP3
3EP7	12EP1
3EP7M	12EP3
6EP1	20EP1
6EP3	20EP6
7EP1	20VP1
7EP3	20VP6

## Accessories

GA400: NEMA 5-15P to IEC 60320-1 C-13 line cord

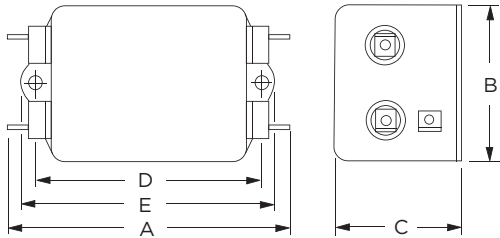


Dual Stage RFI Filters for Switching Power Supplies *(continued)*

# EP / VP Series

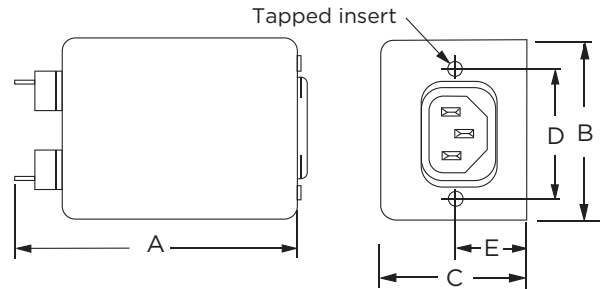
## Case Styles

### EP1 / VP1 (1-15A)



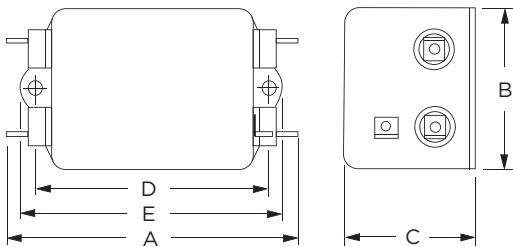
Typical Dimensions:  
 Line/Load Terminals (4): .250 [6.3] with .07 [1.8] Dia. hole  
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot  
 Mounting Holes (2): .188 [4.78] Dia.

### EP7 & EP7M



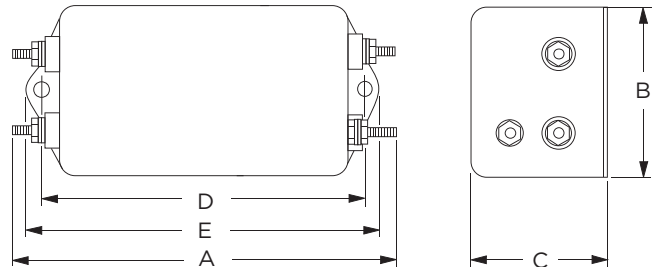
Typical Dimensions:  
 Load Terminals (2): .250 [6.3] with .07 [1.8] Dia. hole  
 Line Inlet (1): IEC 60320-1 C14  
 EP7 Tapped Inserts (2): 6-32 x 1/4  
 EP7M Tapped Inserts (2): M3 x .5

### 20EP1 / VP1



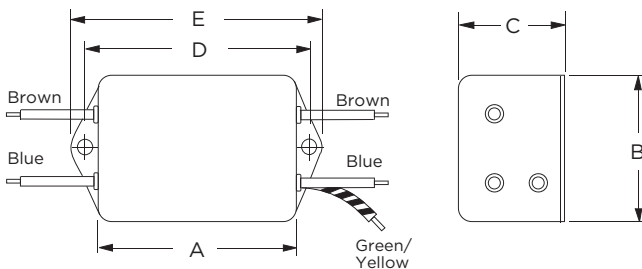
Typical Dimensions:  
 Line/Load Terminals (4): .250 [6.3] with .07 [1.8] Dia. hole  
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot  
 Mounting Holes (2): .188 [4.78] Dia.

### 20EP6 / VP6



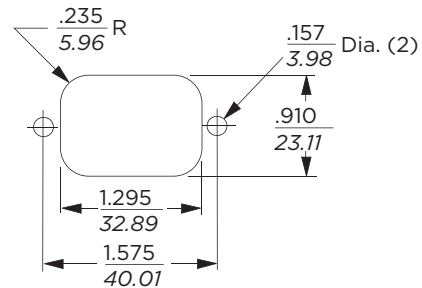
Typical Dimensions:  
 Terminals (5): 8-32, Torque 18 lbf-in. [2.03 N-m] max. ± 2 [22]  
 Mounting Holes (2): .188 [4.78] Dia.

### EP3



Typical Dimensions:  
 Wire leads (5): 4.0 [101.6] Min, AWG18  
 Mounting Holes (2): .188 [4.78] Dia.

## Recommended Panel Cutout



Tolerance ± .005 [0.13]

Dual Stage RFI Filters for Switching Power Supplies *(continued)*

# EP / VP Series

## Case Dimensions

Part No.	A (max)	B (max)	C (max)	D $\pm .015$ $\pm .38$	E (max)
3EP1	3.85	2.07	1.78	2.938	3.35
3EP3	2.56	2.07	1.78	2.938	3.35
3EP7/7M	3.21	2.25	1.78	1.575	0.63*
6EP1	6.62	2.07	2.28	5.625	6.03
6EP3	5.33	2.07	2.28	5.625	6.03
7EP1	4.79	2.07	1.53	3.947	4.33
7EP3	3.50	2.07	1.53	3.947	4.33
10EP1	6.62	2.07	2.78	5.625	6.03
10EP3	5.35	2.03	2.78	5.625	6.03
12EP1	4.97	1.78	1.78	4.063	4.46
12EP3	3.624	1.78	1.78	4.063	4.46
20EP1/VP1	4.95	1.8	1.8	4.063	4.47
20EP6/VP6	5.09	1.78	1.78	4.063	4.46

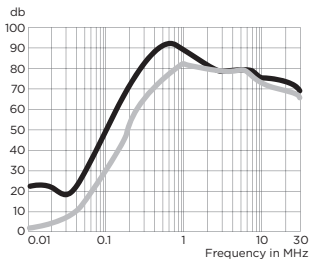
\*±0.02 [0.5]

## Performance Data

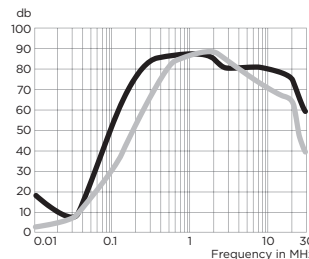
### Typical Insertion Loss

Measured in closed 50 Ohm system

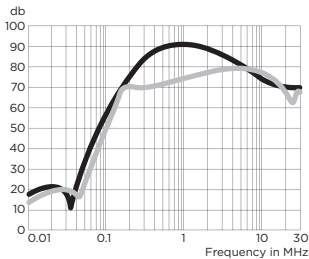
#### 3EP



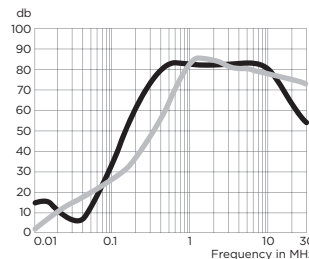
#### 6EP



#### 7EP

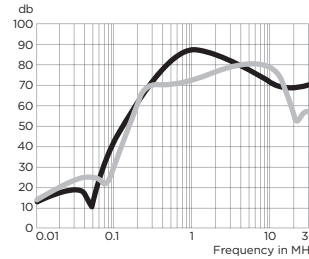


#### 10EP

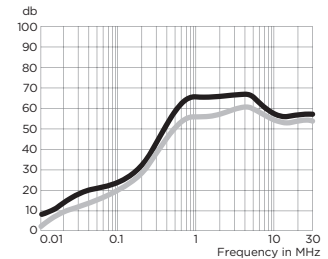


## Typical Insertion Loss *(continued)*

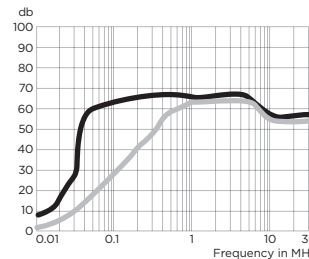
#### 12EP



#### 20EP



#### 20VP



— 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							
	.01	.05	.15	.5	1	5	10	30
<b>EP Models</b>								
3A	12	10	58	65	65	66	62	30
6, 10A	10	15	60	65	65	65	60	35
7A	15	28	63	75	78	75	75	55
12A	12	7	52	68	70	70	70	45
20A	3	6	28	50	55	60	55	55

#### VP Models

20A	3	2	42	60	65	65	55	55
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Differential Mode / Symmetrical (Line to Line)

Current Rating	Frequency – MHz							
	.01	.05	.15	.5	1	5	10	30
<b>EP Models</b>								
3A	1	3	36	65	65	65	58	58
6, 10A	1	3	30	65	65	65	65	35
7A	10	13	55	65	68	70	65	50
12A	11	7	43	70	70	70	65	45
20A	8	25	60	65	65	58	58	58

#### VP Models

20A	8	-	25	60	65	65	58	58
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RFI Power Line Filters

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