

C. Weathers 5-26-92
 APPROVED BY/DATE
 6
 REV

SAFETY ORGANIZATION(S)

THIS FILTER HAS BEEN FORMALLY RECOGNIZED, CERTIFIED OR APPROVED BY THE LISTED AGENCY. THEREFORE, ALL TEST/REQUIREMENTS SPECIFIED IN THE LATEST REVISION OF THE FOLLOWING AGENCY STANDARDS HAVE BEEN MET.

UL RECOGNIZED
 CSA CERTIFIED
 VDE APPROVED
 SEV APPROVED

UL 1283
 CSA 22.2, NO. 0, 0, 4, 8
 VDE 565-3
 SEV 1055/TP1977/5.1.1

OPERATING SPECIFICATIONS:

LINE VOLTAGE/CURRENT:
 10 AMP., 120/250 VAC
 8 AMP./40°C, 250 VAC
 50-60Hz
 40°C
 .25mA at 120V 60 Hz
 .40 mA at 250V 50 Hz
 -10°C TO +40°C RATED CURRENT, I_r
 IN AN AMBIENT, T_a, HIGHER THAN 40°C, THE MAXIMUM OPERATING CURRENT, I_o, IS AS FOLLOWS:

$$I_o = I_r \sqrt{\frac{85 - T_a}{45}}$$

RELIABILITY SPECIFICATIONS:

STORAGE TEMPERATURE:
 HUMIDITY:
 CURRENT OVERLOAD TEST:
 INDUCTANCE:
 CAPACITANCE, (MEASURED @ 1 KHZ, 0.25 VAC MAX., 25°C ±1°C)
 LINE TO GROUND,
 LINE TO LINE,
 DISCHARGE RESISTOR,
 LINE/GROUND AND LINE/LINE
 INSULATION RESISTANCE
 (W/O DISCHARGE RESISTOR)

14.26 mH NOMINAL
 .0056µF ±20%
 .81µF ±20%
 330 KΩ
 6000 MΩ (MIN) AT 100 VDC
 20°C AND 50% RH

RECOMMENDED RECEIVING INSPECTION HIPOTL

LINES TO GROUND,
 LINE TO LINE,
 FILTER APPROVAL,
 THE BEST WAY TO SELECT AND QUALIFY A FILTER IS FOR YOUR ENGINEERING TO TEST THE UNIT IN YOUR EQUIPMENT.

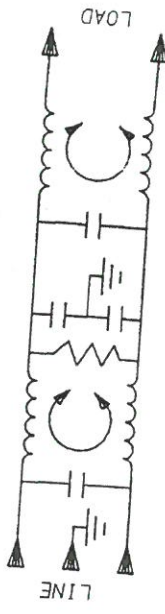
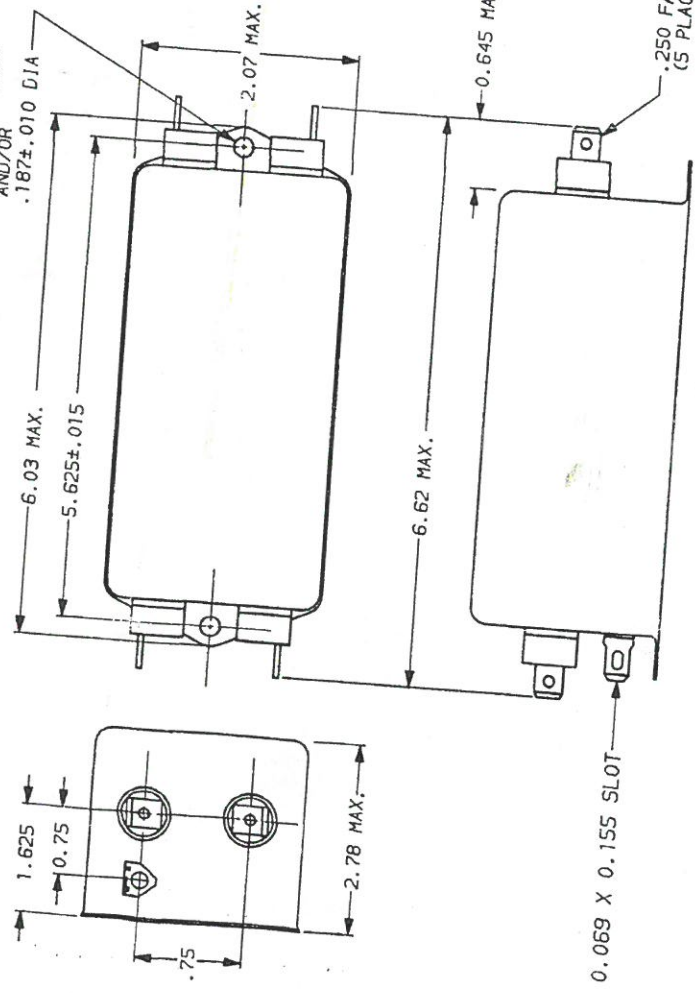
2250 VDC FOR 1 MINUTE
 1450 VDC FOR 1 MINUTE

TOLERANCE EXCEPT AS NOTED
 DECIMAL, .XXX .XX .X ANGLES
 ENGLISH, ±.025
 METRIC, ±1

MATERIAL:
 AS SUPPLIED

FINISH:
 AS SUPPLIED

.25 X .187 SLOT
 EITHER OR BOTH ENDS
 AND/OR
 .187±.010 DIA



50Ω - 50p (MINIMUM) INSERTION LOSS										
FREQUENCY MHz	.01	.04	.05	.06	.15	.5	10	20	30	
COMMON	12	2	10	18	58	65	65	65	40	25
DIFF.	1	2	3	3	30	65	65	65	60	40

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POWER LINE FILTER
 LIBERTYVILLE, IL 60048

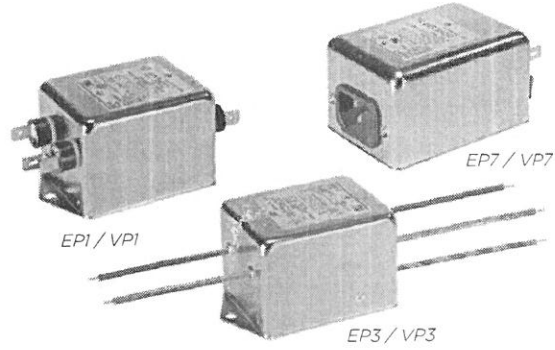
SCALE: NTS 9-12-89
 DATE: 9-12-89
 REV. NO.: 10EP1.06
 DRAWN BY: TDL
 CHECKED BY: CW

Dual Stage RFI Power Line Filters for Switching Mode Power Supplies

EP / VP Series



UL Recognized
CSA Certified
VDE Approved

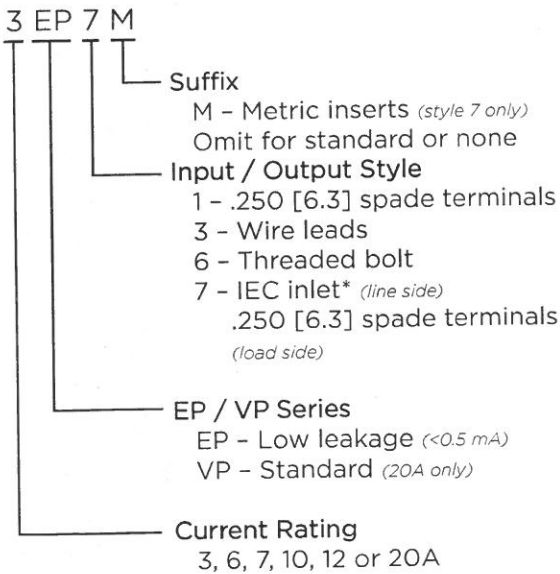


RFI Power Line Filters

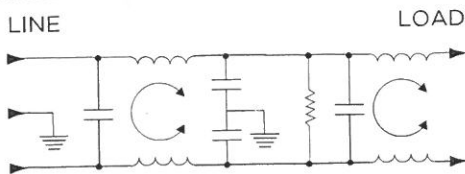
EP & VP Series

- 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

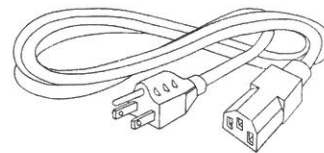
(at rated current I_r): -10°C to +40°C
In an ambient temperature (T_a) higher than +40°C the maximum operating current (I_o) is calculated as follows: $I_o = I_r \sqrt{(85-T_a)/45}$

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

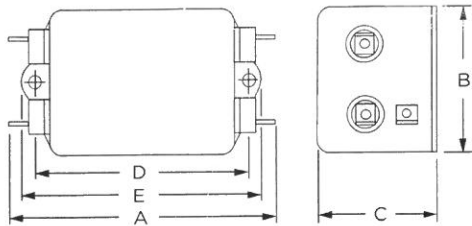


Dual Stage RFI Filters for Switching Power Supplies (continued)

EP / VP Series

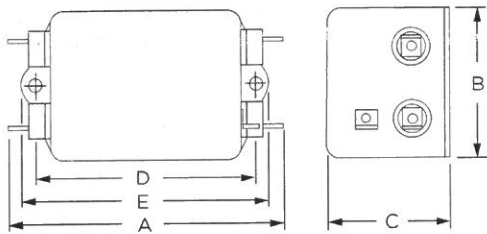
Case Styles

EP1 / VP1 (1-15A)



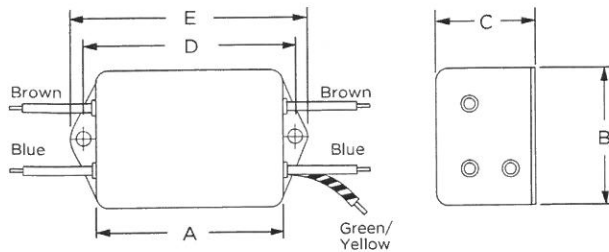
Typical Dimensions:
 Line/Load Terminals (4): .250 [6.3] with .07 [1.8] Dia. hole
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot
 Mounting Holes (2): .188 [4.78] Dia.

20EP1 / VP1



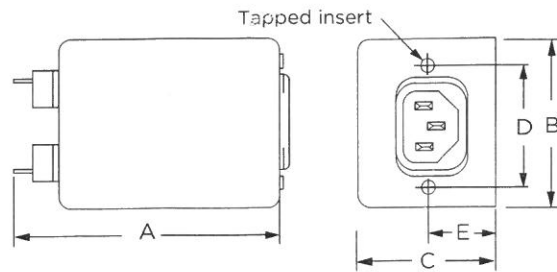
Typical Dimensions:
 Line/Load Terminals (4): .250 [6.3] with .07 [1.8] Dia. hole
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot
 Mounting Holes (2): .188 [4.78] Dia.

EP3



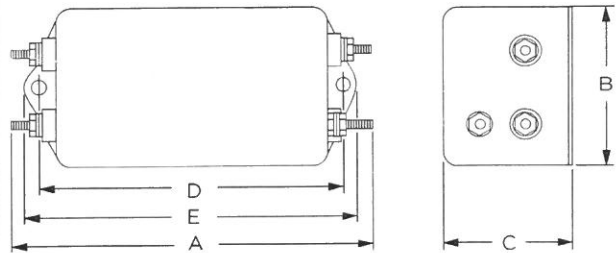
Typical Dimensions:
 Wire leads (5): 4.0 [101.6] Min, AWG18
 Mounting Holes (2): .188 [4.78] Dia.

EP7 & EP7M



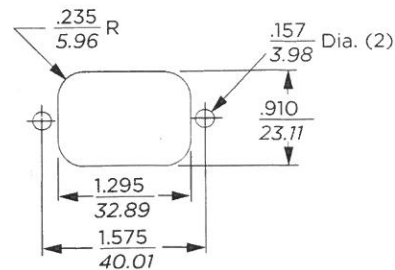
Typical Dimensions:
 Load Terminals (2): .250 [6.3] with .07 [1.8] Dia. hole
 Line Inlet (1): IEC 60320-1 C14
 EP7 Tapped Inserts (2): 6-32 x 1/4
 EP7M Tapped Inserts (2): M3 x .5

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.

Recommended Panel Cutout



Tolerance ± .005 [0.13]

Dual Stage RFI Filters for Switching Power Supplies (continued)

EP / VP Series

Case Dimensions

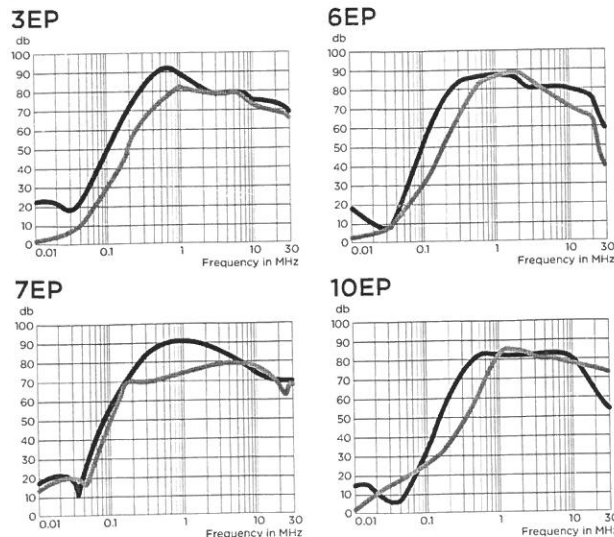
Part No.	A (max)	B (max)	C (max)	D $\pm .015$ $\pm .38$	E (max)
3EP1	3.85 <i>97.8</i>	2.07 <i>52.6</i>	1.78 <i>45.2</i>	2.938 <i>74.63</i>	3.35 <i>85.1</i>
3EP3	2.56 <i>65.0</i>	2.07 <i>52.6</i>	1.78 <i>45.2</i>	2.938 <i>74.63</i>	3.35 <i>85.1</i>
3EP7/7M	3.21 <i>81.5</i>	2.25 <i>57.2</i>	1.78 <i>45.2</i>	1.575 <i>40.01</i>	0.63 <i>12.1</i>
6EP1	6.62 <i>168.1</i>	2.07 <i>52.6</i>	2.28 <i>57.9</i>	5.625 <i>142.88</i>	6.03 <i>153.2</i>
6EP3	5.33 <i>135.4</i>	2.07 <i>52.6</i>	2.28 <i>57.9</i>	5.625 <i>142.88</i>	6.03 <i>153.2</i>
7EP1	4.79 <i>121.7</i>	2.07 <i>52.6</i>	1.53 <i>38.9</i>	3.947 <i>10.25</i>	4.33 <i>109.98</i>
7EP3	3.50 <i>88.9</i>	2.07 <i>52.6</i>	1.53 <i>38.9</i>	3.947 <i>100.25</i>	4.33 <i>109.98</i>
10EP1	6.62 <i>168.1</i>	2.07 <i>52.6</i>	2.78 <i>70.6</i>	5.625 <i>142.88</i>	6.03 <i>153.2</i>
10EP3	5.35 <i>135.9</i>	2.03 <i>52.6</i>	2.78 <i>70.6</i>	5.625 <i>142.88</i>	6.03 <i>153.2</i>
12EP1	4.97 <i>126.2</i>	1.78 <i>45.2</i>	1.78 <i>45.2</i>	4.063 <i>103.20</i>	4.46 <i>113.28</i>
12EP3	3.624 <i>92.05</i>	1.78 <i>45.2</i>	1.78 <i>45.2</i>	4.063 <i>103.20</i>	4.46 <i>113.28</i>
20EP1/VP1	4.95 <i>125.7</i>	1.8 <i>45.7</i>	1.8 <i>45.7</i>	4.063 <i>103.20</i>	4.47 <i>113.5</i>
20EP6/VP6	5.09 <i>127.3</i>	1.78 <i>45.2</i>	1.78 <i>45.2</i>	4.063 <i>103.20</i>	4.46 <i>113.3</i>

*±0.02 [0.5]

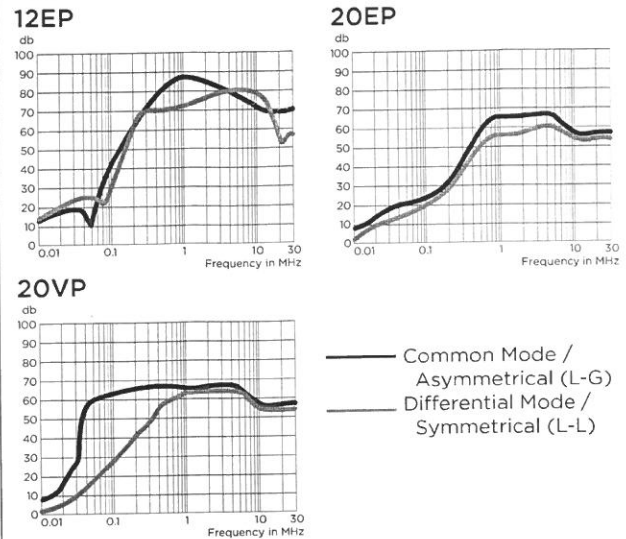
Performance Data

Typical Insertion Loss

Measured in closed 50 Ohm system



Typical Insertion Loss (continued)



— 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
EP Models								
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
EP Models								
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

Dimensions are in inches and millimeters unless otherwise specified. Values in italics are metric equivalents. Dimensions are shown for reference purposes only. Specifications subject to change.

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