

General Purpose RFI Filters for High Impedance Loads at Low Current

B Series



UL Recognized
CSA Certified
VDE Approved



B Series

- Small size & low cost
- General purpose
- Wide variety of termination options
- Meets low leakage current requirements of VDE portable equipment and non-patient medical equipment

Ordering Information



Electrical Schematic



Specifications

Maximum leakage current each Line to Ground:

| | VB Models | EB Models |
|------------------|-----------|-----------|
| @ 120 VAC 60 Hz: | .4 mA | .21 mA |
| @ 250 VAC 50 Hz: | .7 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:

1 to 30A

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

| | |
|-------|-------|
| 1VB1 | 1EB1 |
| 1VB3 | 1EB3 |
| 2VB1 | 2EB1 |
| 2VB3 | 2EB3 |
| 3VB1 | 3EB1 |
| 3VB3 | 3EB3 |
| 5VB1 | 5EB1 |
| 5VB3 | 5EB3 |
| 10VB1 | 10EB1 |
| 10VB3 | 10EB3 |
| 10VB6 | 20EB1 |
| 20VB1 | |
| 20VB6 | |
| 30VB6 | |

General Purpose RFI Filters for High Impedance/ Low Current *(continued)*

B Series

Case Styles

B1



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 [4.75] Dia.

30VB6



Typical Dimensions:
 Terminals (5): 8-32, Torque 18 lbf-in. [2.03 N-m] max. ± 2 [2.2]
 Mounting Slots (4): .250 x .156 [6.35 x 3.96]

B3



Typical Dimensions:
 Wire leads (5): 4.0 [101.6] Min. AWG18, (AWG16 for 10A)
 Mounting Holes (2): .188 [4.75] Dia.

10VB6 & 20VB6



Typical Dimensions:
 Terminals (5): 8-32, Torque 18 lbf-in. [2.03 N-m] max. ± 2 [2.2]
 Mounting Holes (4): .188 [4.75] Dia.

Case Dimensions

| Part No. | A (max) | B (max) | C (max) | D $\pm .015$ $\pm .38$ | E (max) |
|--------------|-------------|-------------|-------------|------------------------------|-------------|
| 1VB1, 1EB1, | 2.25 | 1.82 | 0.66 | 2.125 | 2.53 |
| 2VB1, 2EB1 | 57.2 | 46.2 | 16.8 | 53.98 | 64.3 |
| 1VB3, 1EB3, | 0.96 | 1.82 | 0.66 | 2.125 | 2.53 |
| 2VB3, 2EB3 | 24.4 | 46.2 | 16.8 | 53.98 | 64.3 |
| 3VB1, 3EB1, | 2.61 | 1.82 | 0.78 | 2.125 | 2.53 |
| 5VB1, 5EB1 | 66.3 | 46.2 | 193.8 | 53.98 | 64.3 |
| 3VB3, 3EB3, | 1.32 | 1.82 | 0.78 | 2.125 | 2.53 |
| 5VB3, 5EB3 | 33.5 | 46.2 | 19.8 | 53.98 | 64.3 |
| 10VB1, 10EB1 | 2.61 | 1.82 | 1.16 | 2.125 | 2.53 |
| | 66.3 | 46.2 | 29.5 | 53.98 | 6.3 |
| 10VB3, 10EB3 | 1.32 | 1.82 | 1.16 | 2.125 | 2.53 |
| | 33.5 | 46.2 | 29.5 | 53.98 | 64.3 |
| 10VB6 | 2.72 | 1.82 | 1.16 | 2.125 | 2.53 |
| | 69.1 | 46.2 | 29.5 | 53.98 | 64.3 |
| 20VB1, 20EB1 | 3.36 | 2.07 | 1.16 | 2.375 | 2.81 |
| | 85.3 | 52.6 | 29.5 | 60.33 | 71.4 |
| 20VB6 | 3.46 | 2.07 | 1.16 | 2.375 | 2.81 |
| | 87.9 | 52.6 | 29.5 | 60.33 | 71.4 |
| 30VB6 | 5.34 | 3.38 | 1.53 | 3.75 | 4.20 |
| | 135.6 | 85.9 | 38.9 | 95.3 | 106.7 |

General Purpose RFI Filters for High Impedance/ Low Current *(continued)*

B Series

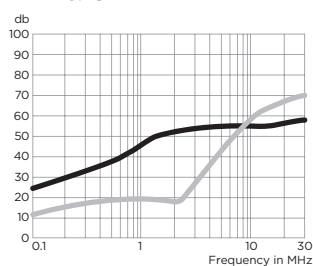
Performance Data

Typical Insertion Loss

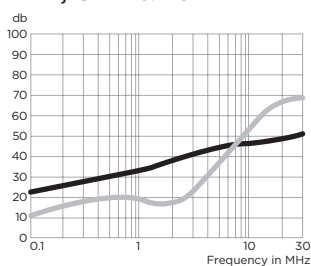
Measured in closed 50 Ohm system

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

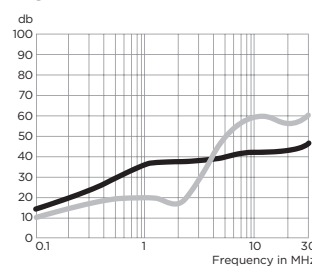
1EB & 3EB



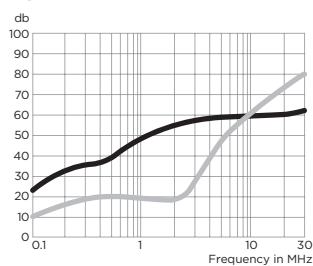
2EB, 5EB & 10EB



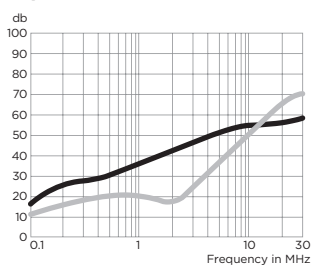
20EB



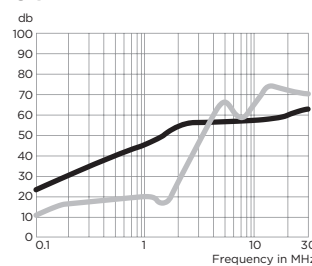
1VB



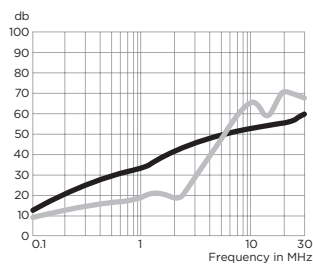
2VB



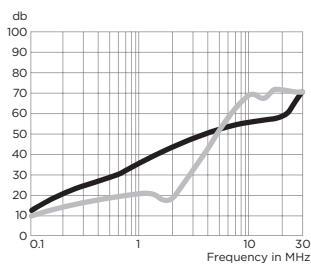
3VB



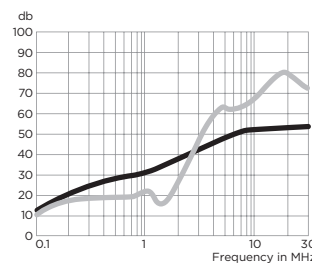
10VB



20VB



30VB



Minimum Insertion Loss

Measured in closed 50 Ohm system

Common Mode / Asymmetrical (Line to Ground)

| Current Rating | Frequency – MHz | | | | | |
|-----------------------|-----------------|----|----|----|----|----|
| | .15 | .5 | 1 | 5 | 10 | 30 |
| VB Models | | | | | | |
| 1A, 3A | 15 | 30 | 38 | 50 | 50 | 50 |
| 2A, 5A, 10A, 20A, 30A | 7 | 20 | 25 | 40 | 45 | 48 |
| EB Models | | | | | | |
| 1A, 3A | 15 | 29 | 35 | 45 | 45 | 48 |
| 2A, 5A, 10A, 20A | 7 | 19 | 23 | 34 | 37 | 42 |

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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