

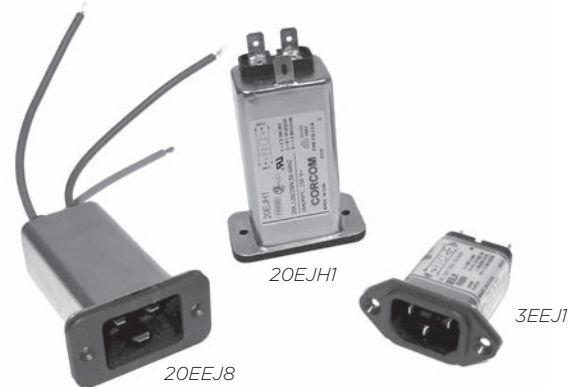
## Cost-effective Medium Performance Power Inlet Filter

# EEJ Series

Including the EJH/EJHS, EJM/EJMS and EJS Models



UL Recognized  
CSA Certified  
VDE Approved\*



## EEJ Series

- Compact EMI filter with IEC 60320-1 C14 Inlet
- Enhanced two element circuit provides medium attenuation to 30MHz
- Compact and cost-effective design
- Supersedes most ED Series versions
- Includes 20A version with standard IEC 60320-1 C20 inlet
- Several termination styles
- Flanged mounting

## EJS Models

- Same performance as the EEJ Series
- Snap-in mounting
- Several termination styles
- Includes 20A version with standard IEC 60320-1 C20 inlet

## EJH & EJHS Models

- Minimal leakage current suitable for patient-contact medical applications
- Flanged mounting the same as the EEJ Series
- Also available in snap-in versions (EJHS)
- Two element circuit provides modest EMI attenuation above 1MHz
- Capacitive input (refer to the H Series for capacitive output)
- EJHS models feature snap-in mounting

## EJM & EJMS Models

- Low leakage current, suitable for most medical applications
- Improved EMI attenuation up to 200MHz
- Mechanically the same as the EEJ Series with flange or snap-in mounting
- EJMS models feature snap-in mounting

## Specifications

Maximum leakage current each Line to Ground:

|                  | EEJ/EJS | EJH       | EJM     |
|------------------|---------|-----------|---------|
| @ 120 VAC 60 Hz: | .22 mA  | 2 $\mu$ A | .01 mA  |
| @ 250 VAC 50 Hz: | .38 mA  | 5 $\mu$ A | .017 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

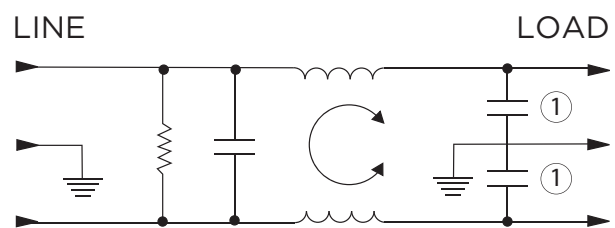
Rated Current:

1 to 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:  $I_o = I_r \sqrt{(85 - T_a)/45}$

## Electrical Schematic



Note 1: Not present in EJH versions

\*15A versions are tested by Underwriters Laboratories to US and Canadian requirements and are VDE approved at 10A, 250VAC  
20A versions are tested by Underwriters Laboratories to US and Canadian requirements and are VDE approved at 16A, 250VAC

## Cost-effective Medium Performance Power Inlet Filter *(continued)*

# EEJ Series

 Including the EJH/EJHS, EJM/EJMS and EJS Models

## Ordering Information

3 EEJ 1

### Output Styles

1 - .250 [6.3] spade terminals  
(back)

2 - .250 [6.3] spade terminals  
(bottom)

P - PC board pins

8 - Wire leads

### Series

EEJ - Enhanced EMI Inlet Filter

EJS - EEJ in Snap-in Mounting

EJH - Enhanced Medical Inlet Filter

EJHS - EJH in Snap-in Mounting

EJM - Extended Performance  
Medical Inlet Filter

EJMS - EJM in Snap-in Mounting

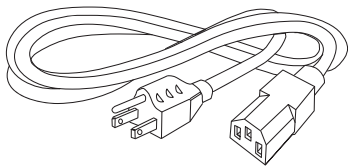
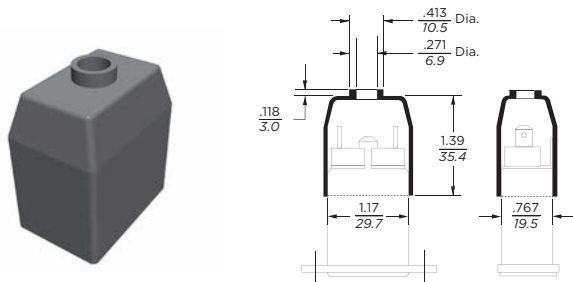
### Current Rating

1, 3, 6, 10, 15 or 20A

## Available Part Numbers

| EEJ Models | EJH Models  |
|------------|-------------|
| 1EEJ1      | 1EJH1       |
| 1EEJ2      | 1EJH2       |
| 1EEJP      | 1EJHP       |
| 1EEJ8      | 1EJH8       |
| 3EEJ1      | 3EJH1       |
| 3EEJ2      | 3EJH2       |
| 3EEJP      | 3EJHP       |
| 3EEJ8      | 3EJH8       |
| 6EEJ1      | 6EJH1       |
| 6EEJ2      | 6EJH2       |
| 6EEJP      | 6EJHP       |
| 6EEJ8      | 6EJH8       |
| 10EEJ1     | 10EJH1      |
| 10EEJ2     | 10EJH2      |
| 10EEJP     | 10EJHP      |
| 10EEJ8     | 10EJH8      |
| 15EEJ1     | 15EJH1      |
| 15EEJ2     | 15EJH2      |
| 15EEJP     | 15EJHP      |
| 15EEJ8     | 15EJH8      |
| 20EEJ1     | 20EJH1      |
| 20EEJ8     | 20EJH8      |
| EJS Models | EJHS Models |
| 1EJS1      | 1EJHS1      |
| 1EJS8      | 1EJHS8      |
| 3EJS1      | 3EJHS1      |
| 3EJS8      | 3EJHS8      |
| 6EJS1      | 6EJHS1      |
| 6EJS8      | 6EJHS8      |
| 10EJS1     | 10EJHS1     |
| 10EJS8     | 10EJHS8     |
| 15EJS1     | 15EJHS1     |
| 15EJS8     | 15EJHS8     |
| 20EJS1     |             |
| 20EJS8     |             |
| EJM Models | EJMS Models |
| 1EJM1      | 1EJMS1      |
| 1EJM8      | 1EJMS8      |
| 3EJM1      | 3EJMS1      |
| 3EJM8      | 3EJMS8      |
| 6EJM1      | 6EJMS1      |
| 6EJM8      | 6EJMS8      |
| 10EJM1     | 10EJMS1     |
| 10EJM8     | 10EJMS8     |
| 15EJM1     | 15EJMS1     |
| 15EJM8     | 15EJMS8     |

## Accessories

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

**FA601:** Insulating Shroud


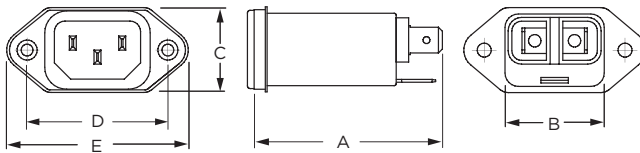
**Cost-effective Medium Performance Power Inlet Filter** *(continued)*

# EEJ Series

Including the EJH/EJHS, EJM/EJMS and EJS Models

## Case Styles

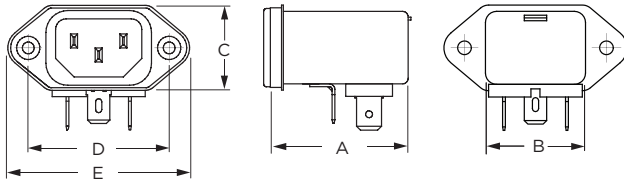
### EEJ1, EJH1 & EJM1 (1-15A)



Typical Dimensions:

Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw  
Line Inlet (1): IEC 60320-1 C14  
Load Terminals (2): .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

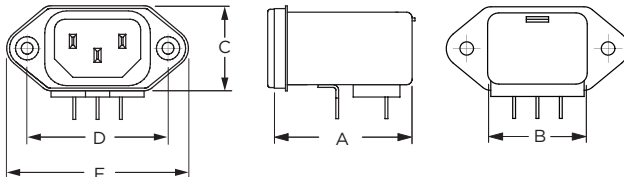
### EEJ2 & EJH2 (1-15A)



Typical Dimensions:

Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw  
Line Inlet (1): IEC 60320-1 C14  
Load Terminals (2): .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

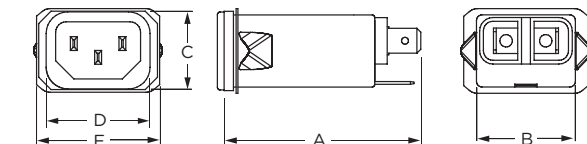
### EEJP & EJHP (1-15A)



Typical Dimensions:

Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw  
Line Inlet (1): IEC 60320-1 C14  
PC board pins (3): .031 [.07] square, ± .003 [.07]

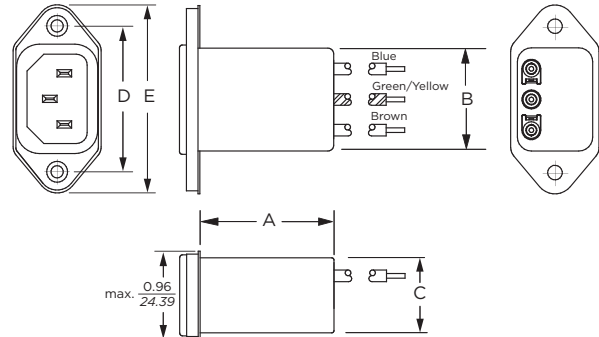
### EJS1, EJHS1 & EJMS1 (1-15A)



Typical Dimensions:

Line Inlet (1): IEC 60320-1 C14  
Load Terminals (2): .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

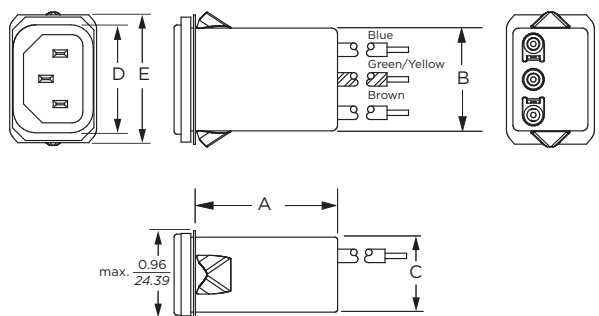
### EEJ8, EJH8 & EJM8 (1-15A)



Typical Dimensions:

Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw  
Line Inlet (1): IEC 60320-1 C14  
Wire Leads: 4.0 [101.6] Min., 18AWG, UL1015

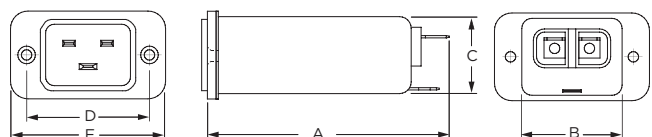
### EJS8, EJHS8 & EJMS8 (1-15A)



Typical Dimensions:

Line Inlet (1): IEC 60320-1 C14  
Wire Leads: 4.0 [101.6] Min., 18AWG, UL1015

### 20EEJ1 & 20EJH1



Typical Dimensions:

Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw  
Line Inlet (1): IEC 60320-1 C20  
Load Terminals (2): .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

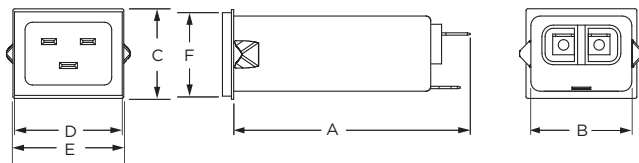
**Cost-effective Medium Performance Power Inlet Filter** *(continued)*

# EEJ Series

Including the EJH/EJHS, EJM/EJMS and EJS Models

## Case Styles *(continued)*

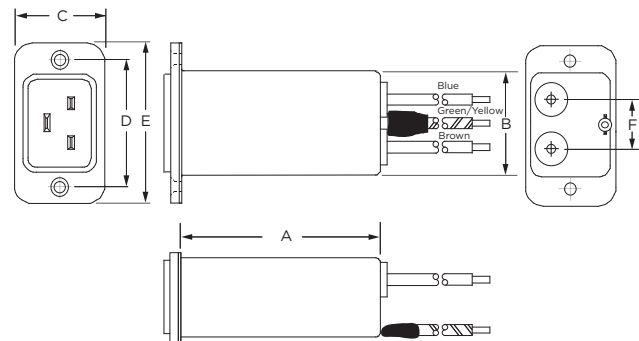
### 20EJS1



Typical Dimensions:

|                      |                                            |
|----------------------|--------------------------------------------|
| Line Inlet (1):      | IEC 60320-1 C20                            |
| Load Terminals (2):  | .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 |

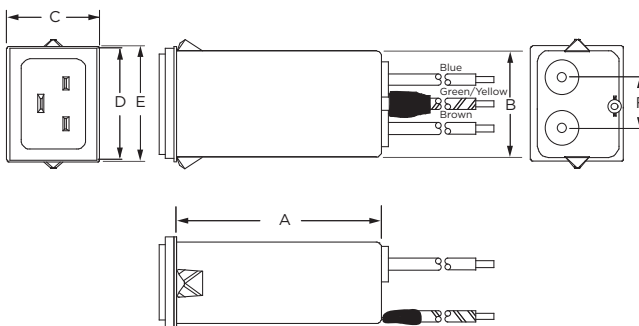
### 20EEJ8 & 20EJH8



Typical Dimensions:

|                     |                                                                                |
|---------------------|--------------------------------------------------------------------------------|
| Mounting holes (2): | .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw |
| Line Inlet (1):     | IEC 60320-1 C20                                                                |
| Wire Leads:         | 4.0 [101.6] Min., 14AWG, UL1015                                                |

### 20EJS8

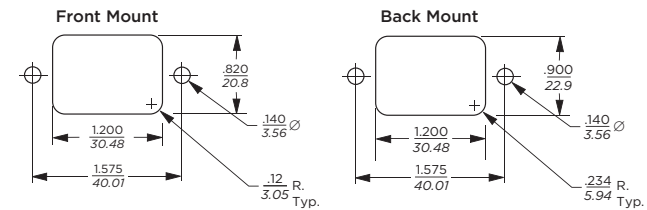


Typical Dimensions:

|                 |                                 |
|-----------------|---------------------------------|
| Line Inlet (1): | IEC 60320-1 C20                 |
| Wire Leads:     | 4.0 [101.6] Min., 14AWG, UL1015 |

## Recommended Panel Cutouts

### 1 to 15A EEJ, EJH & EJM

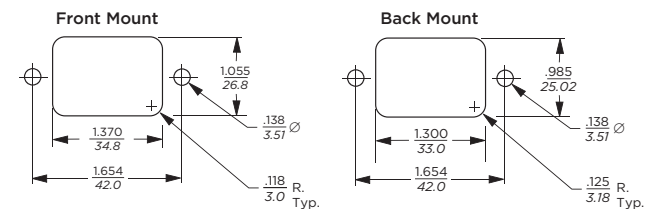


Tolerances  $\pm .005$  [0.13] unless otherwise noted

Note 1: EEJ/EJH/EJM1 and EEJ/EJH/EJM8 can be front or back mounted

Note 2: EEJ/EJH2 and EEJ/EJHP can be back mounted only

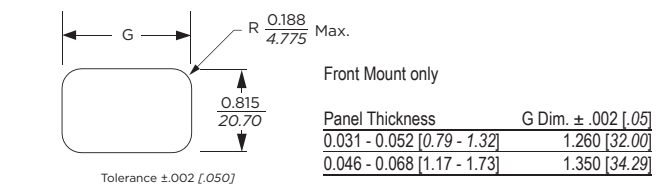
### 20A EEJ & EJH



Tolerances  $\pm .005$  [0.13] unless otherwise noted

Note 1: 20EEJ/EJH1 and 20EEJ/EJH8 can be front or back mounted

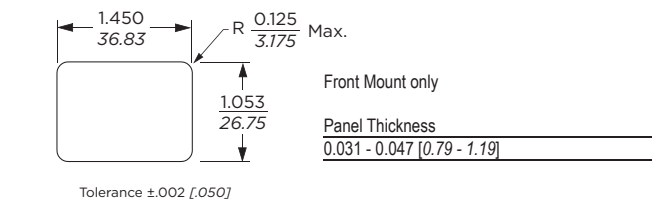
### 1 to 15A EJHS, EJMS & EJS



Tolerance  $\pm .002$  [0.050]

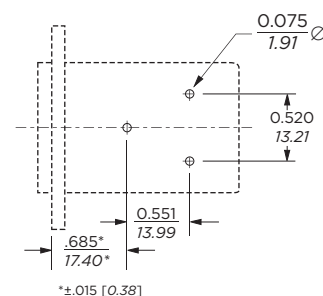
Alternate snap configurations to fit other cut-out sizes also available.  
Contact TE's Corcom product engineering group for more details.

### 20A EJS



Tolerance  $\pm .002$  [0.050]

## PC Board Layout



## Cost-effective Medium Performance Power Inlet Filter *(continued)*

# EEJ Series

 Including the EJH/EJHS, EJM/EJMS and EJS Models

### Case Dimensions

| Part No.       | A<br>(max.)   | B<br>(max.)   | C<br>(max.)   | D<br>$\pm 0.15$<br>$\pm .38$ | E<br>(max.)   | F<br>(ref.)  |
|----------------|---------------|---------------|---------------|------------------------------|---------------|--------------|
| EEJ1, EJH1     | 2.15<br>54.61 | 1.13<br>28.70 | 0.96<br>24.38 | 1.580<br>40.00               | 2.04<br>51.76 | —            |
| EJM1           | 2.02<br>51.3  | 1.13<br>28.7  | 0.96<br>24.4  | 1.58<br>40.00                | 2.04<br>51.8  | —            |
| 1-10A          | 1.54          | 1.13          | 0.96          | 1.580                        | 2.04          | —            |
| EEJ2, EJH2     | 39.12         | 28.70         | 24.38         | 40.00                        | 51.76         | —            |
| 15A            | 1.79          | 1.13          | 0.96          | 1.580                        | 2.04          | —            |
| EEJ2, EJH2     | 45.47         | 28.70         | 24.38         | 40.00                        | 51.76         | —            |
| 1-10A          | 1.54          | 1.13          | 0.96          | 1.580                        | 2.04          | —            |
| EEJP, EJHP     | 39.12         | 28.70         | 24.38         | 40.00                        | 51.76         | —            |
| 15A            | 1.79          | 1.13          | 0.96          | 1.580                        | 2.04          | —            |
| EEJP, EJHP     | 45.47         | 28.70         | 24.38         | 40.00                        | 51.76         | —            |
| EJS1, EJHS1    | 2.20<br>55.88 | 1.13<br>28.70 | 0.96<br>24.38 | 1.19<br>30.10                | 1.41<br>35.81 | —            |
| EJMS1          | 2.02<br>51.3  | 1.13<br>28.7  | 0.96<br>24.4  | —                            | 1.41<br>35.8  | —            |
| EEJ8, EJH8     | 1.54<br>39.12 | 1.13<br>28.70 | 0.81<br>20.70 | 1.58<br>40.00                | 2.04<br>51.76 | —            |
| EJM8           | 1.50<br>38.1  | 1.13<br>28.7  | 0.81<br>20.7  | 1.58<br>40.00                | 2.04<br>51.8  | —            |
| EJS8, EJHS8    | 1.54<br>39.12 | 1.13<br>28.70 | 0.81<br>20.70 | 1.19<br>30.10                | 1.41<br>35.81 | —            |
| EJMS8          | 1.50<br>38.1  | 1.13<br>28.7  | 0.96<br>24.4  | —                            | 1.41<br>35.8  | —            |
| 20EEJ1, 20EJH1 | 3.13<br>79.38 | 1.37<br>34.79 | 1.18<br>29.99 | 1.65<br>42.01                | 2.09<br>53.00 | —            |
| 20EJS1         | 3.13<br>79.38 | 1.35<br>34.29 | 1.18<br>29.99 | 1.42<br>36.07                | 1.46<br>37.08 | —            |
| 20EEJ8, 20EJH8 | 2.65<br>67.31 | 1.35<br>34.29 | 1.18<br>29.99 | 1.65<br>42.01                | 2.09<br>53.00 | .62<br>15.75 |
| 20EJS8         | 2.63<br>66.80 | 1.35<br>34.29 | 1.18<br>29.97 | 1.46<br>37.08                | 1.42<br>36.08 | .62<br>15.75 |



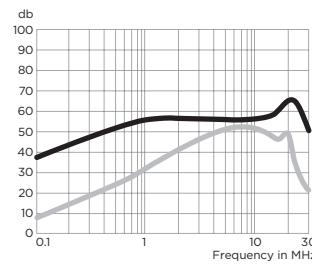
### Performance Data

#### Typical Insertion Loss

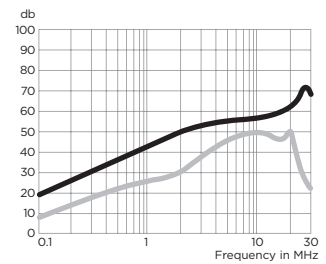
Measured in closed 50 Ohm system

### EEJ & EJS Models

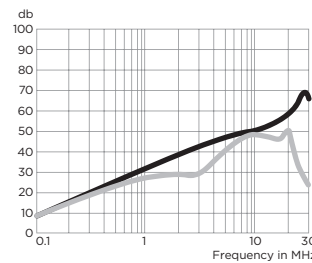
1A



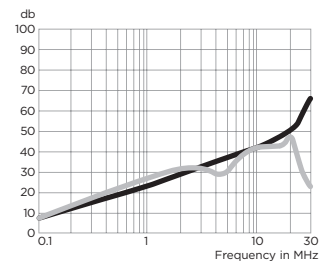
3A



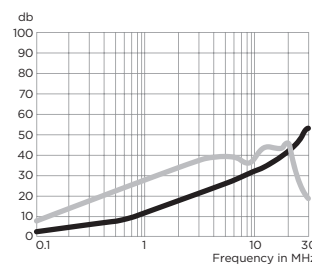
6A



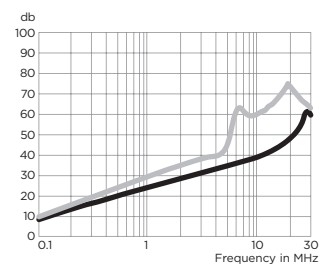
10A



15A



20A



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

**Cost-effective Medium Performance Power Inlet Filter** *(continued)*

# EEJ Series

Including the EJH/EJHS, EJM/EJMS and EJS Models

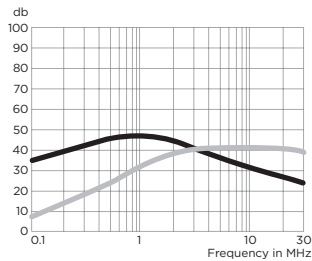
## Performance Data *(continued)*

### Typical Insertion Loss

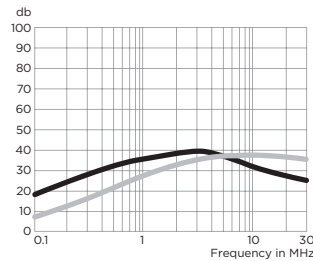
Measured in closed 50 Ohm system

#### EJH & EJHS Models

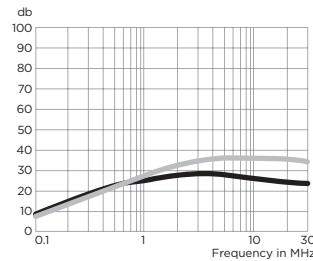
##### 1A



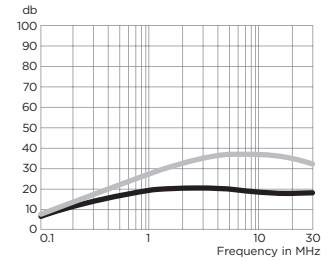
##### 3A



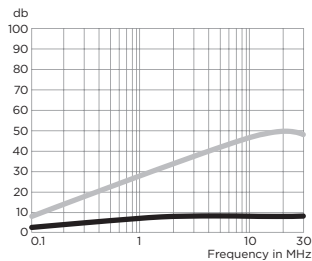
##### 6A



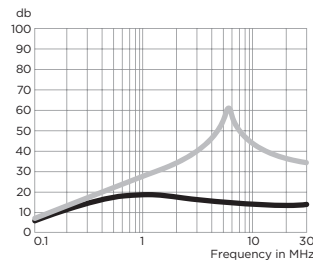
##### 10A



##### 15A

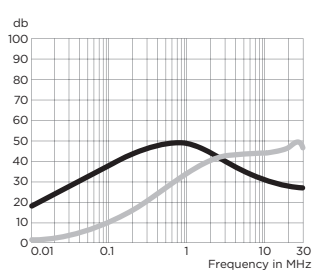


##### 20A

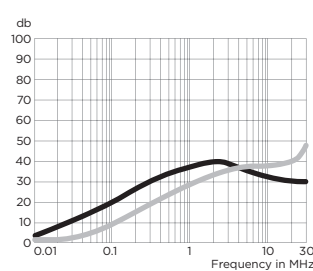


#### EJM & EJMS Models

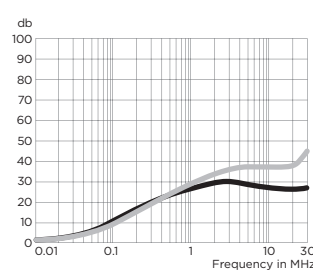
##### 1A



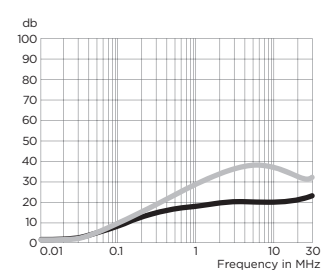
##### 3A



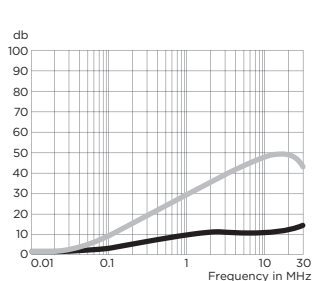
##### 6A



##### 10A



##### 15A



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

## Cost-effective Medium Performance Power Inlet Filter *(continued)*

# EEJ Series

Including the EJH/EJHS, EJM/EJMS and EJS Models

## Minimum Insertion Loss

Measured in closed 50 Ohm system

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

| Current Rating          | Frequency – MHz |     |    |     |    |    |    |    |    |
|-------------------------|-----------------|-----|----|-----|----|----|----|----|----|
|                         | .01             | .05 | .1 | .15 | .5 | 1  | 5  | 10 | 30 |
| <b>EEJ / EJS Models</b> |                 |     |    |     |    |    |    |    |    |
| 1A                      | 15              | 27  | 29 | 32  | 41 | 47 | 47 | 47 | 40 |
| 3A                      | -               | 10  | 15 | 20  | 30 | 39 | 48 | 50 | 60 |
| 6A                      | -               | 1   | 5  | 9   | 21 | 28 | 41 | 44 | 54 |
| 10A                     | -               | 1   | 4  | 7   | 14 | 18 | 31 | 36 | 51 |
| 15A                     | -               | -   | -  | 2   | 5  | 8  | 21 | 26 | 42 |
| 20A                     | -               | -   | 3  | 5   | 14 | 21 | 30 | 33 | 42 |
| <b>EJH Models</b>       |                 |     |    |     |    |    |    |    |    |
| 1A                      | 13              | 26  | 33 | 36  | 41 | 41 | 31 | 26 | 18 |
| 3A                      | -               | 9   | 15 | 19  | 27 | 31 | 30 | 26 | 20 |
| 6A                      | -               | 2   | 6  | 9   | 20 | 22 | 31 | 20 | 18 |
| 10A                     | -               | 1   | 4  | 7   | 12 | 17 | 19 | 18 | 18 |
| 15A                     | -               | -   | 1  | 2   | 3  | 3  | 4  | 2  | 2  |
| 20A                     | -               | -   | 3  | 5   | 14 | 16 | 12 | 11 | 11 |

### EJM & EJMS Models

| Current Rating | Frequency – MHz |    |    |    |    |    |    |     |     |
|----------------|-----------------|----|----|----|----|----|----|-----|-----|
|                | .05             | .5 | 1  | 10 | 20 | 30 | 80 | 150 | 200 |
| 1A             | 25              | 41 | 37 | 18 | 15 | 13 | 15 | 14  | 7   |
| 3A             | 6               | 27 | 30 | 21 | 19 | 19 | 23 | 13  | 7   |
| 6A             | 2               | 17 | 20 | 17 | 17 | 14 | 23 | 13  | 7   |
| 10A            | 1.5             | 11 | 12 | 9  | 8  | 9  | 20 | 19  | 12  |
| 15A            | 0.5             | 2  | 3  | 4  | 2  | 10 | 12 | 17  | 11  |

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

| Current Rating          | Frequency – MHz |     |    |     |    |    |    |    |    |
|-------------------------|-----------------|-----|----|-----|----|----|----|----|----|
|                         | .01             | .05 | .1 | .15 | .5 | 1  | 5  | 10 | 30 |
| <b>EEJ / EJS Models</b> |                 |     |    |     |    |    |    |    |    |
| 1A                      | -               | -   | 5  | 8   | 19 | 27 | 45 | 43 | 40 |
| 3A                      | -               | -   | 5  | 8   | 17 | 20 | 39 | 42 | 40 |
| 6A                      | -               | -   | 5  | 8   | 17 | 21 | 32 | 40 | 40 |
| 10A                     | -               | -   | 5  | 8   | 17 | 21 | 23 | 36 | 38 |
| 15A                     | -               | -   | 5  | 8   | 17 | 23 | 33 | 30 | 38 |
| 20A                     | -               | -   | 5  | 2   | 17 | 25 | 38 | 48 | 48 |
| <b>EJH Models</b>       |                 |     |    |     |    |    |    |    |    |
| 1A                      | 13              | 26  | 33 | 36  | 41 | 41 | 31 | 26 | 18 |
| 3A                      | -               | 9   | 15 | 19  | 27 | 31 | 30 | 26 | 20 |
| 6A                      | -               | 2   | 6  | 9   | 20 | 22 | 31 | 20 | 18 |
| 10A                     | -               | 1   | 4  | 7   | 12 | 17 | 19 | 18 | 18 |
| 15A                     | -               | -   | 1  | 2   | 3  | 3  | 4  | 2  | 2  |
| 20A                     | -               | -   | 3  | 5   | 14 | 16 | 12 | 11 | 11 |

