

**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 µA	.01 mA
@ 250 VAC 50 Hz:	.38 mA	5 µA	.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

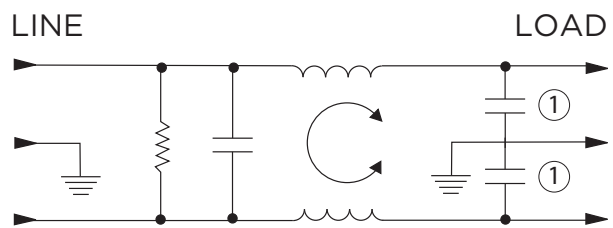
**Rated Current:**

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*

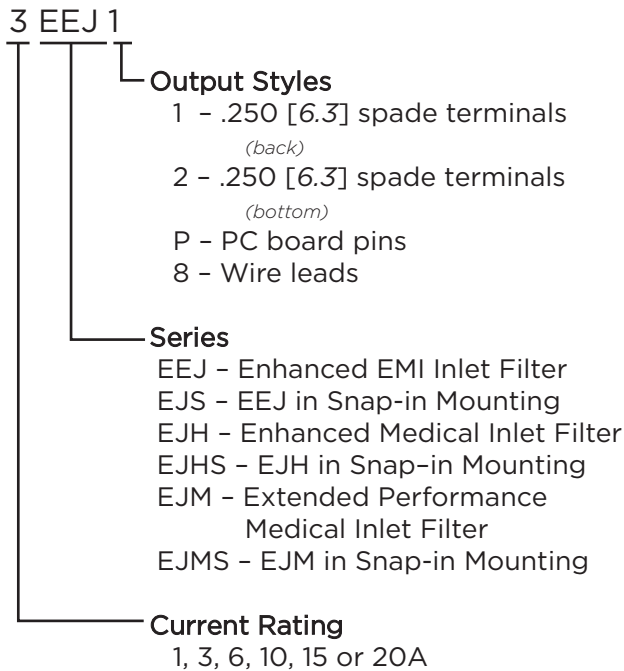
*20A versions are tested by Underwriters Laboratories to US and Canadian requirements and are VDE approved at 16A, 250VAC*

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

# EEJ Series

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

## Ordering Information

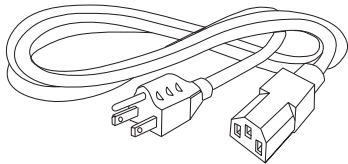


## Available Part Numbers

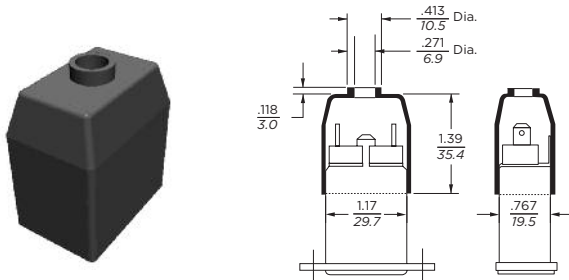
EEJ Models	EJH Models
1EEJ1	1EJH1
1EEJ2	1EJH2
1EEJP	1EJHP
1EEJ8	1EJH8
3EEJ1	3EJH1
3EEJ2	3EJH2
3EEJP	3EJHP
3EEJ8	3EJH8
6EEJ1	6EJH1
6EEJ2	6EJH2
6EEJP	6EJHP
6EEJ8	6EJH8
10EEJ1	10EJH1
10EEJ2	10EJH2
10EEJP	10EJHP
10EEJ8	10EJH8
15EEJ1	15EJH1
15EEJ2	15EJH2
15EEJP	15EJHP
15EEJ8	15EJH8
20EEJ1	20EJH1
20EEJ8	20EJH8
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

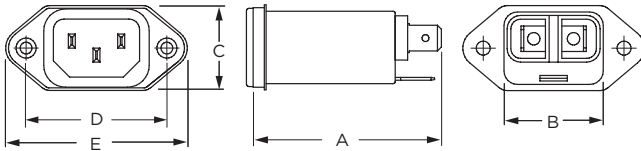


**Cost-effective Medium Performance Power Inlet Filter** *(continued)*

**EEJ Series** Including the EJH/EJHS, EJM/EJMS and EJS Models

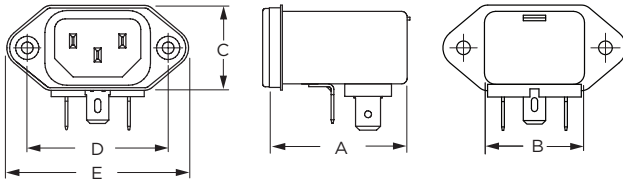
**Case Styles**

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



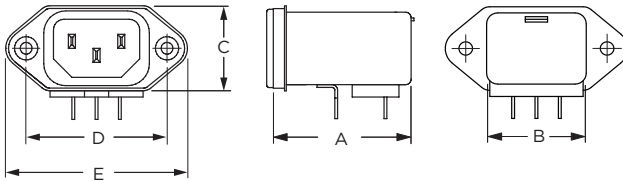
Typical Dimensions:  
 Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw  
 Line Inlet (1): IEC 60320-1 C14  
 Load Terminals (2): .250 [6.3] with .07 [1.8] Dia. hole  
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot

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



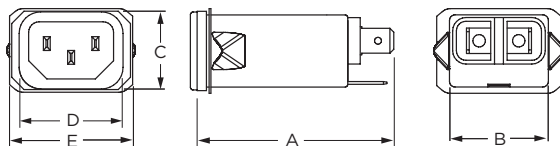
Typical Dimensions:  
 Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw  
 Line Inlet (1): IEC 60320-1 C14  
 Load Terminals (2): .250 [6.3] with .07 [1.8] Dia. hole  
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot

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



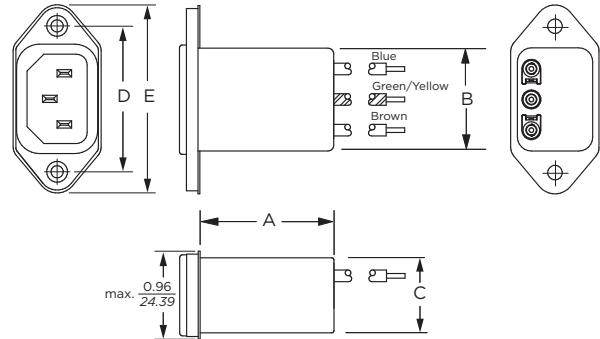
Typical Dimensions:  
 Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw  
 Line Inlet (1): IEC 60320-1 C14  
 PC board pins (3): .031 [.07] square, ± .003 [.07]

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



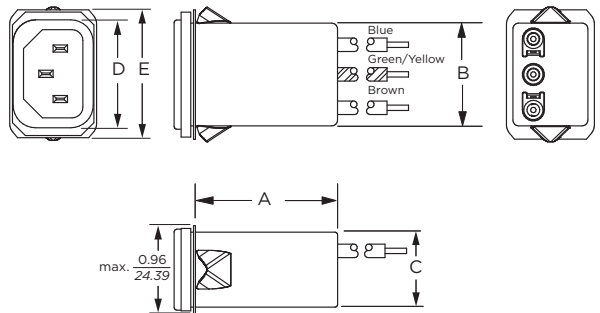
Typical Dimensions:  
 Line Inlet (1): IEC 60320-1 C14  
 Load Terminals (2): .250 [6.3] with .07 [1.8] Dia. hole  
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot

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



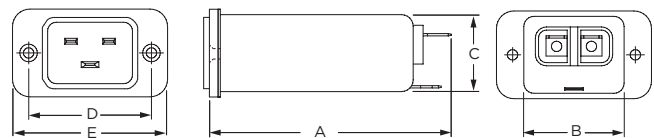
Typical Dimensions:  
 Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw  
 Line Inlet (1): IEC 60320-1 C14  
 Wire Leads: 4.0 [101.6] Min., 18AWG, UL1015

**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

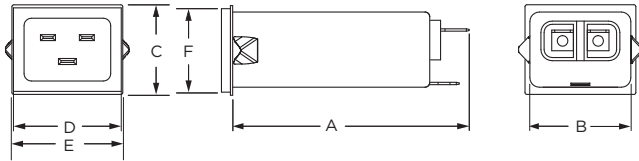
**Cost-effective Medium Performance Power Inlet Filter** *(continued)*

# EEJ Series

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

## Case Styles *(continued)*

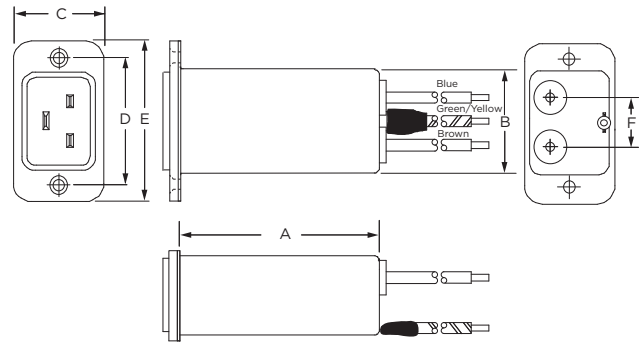
### 20EJS1



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

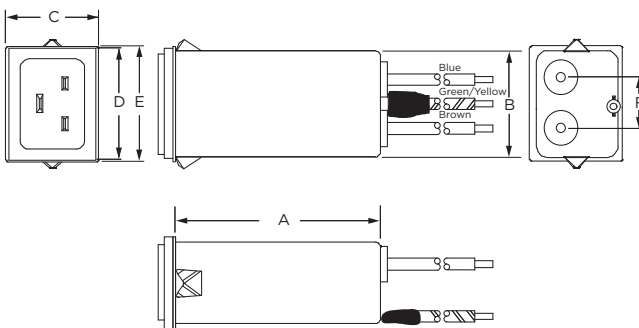
### 20EEJ8 & 20EJH8



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

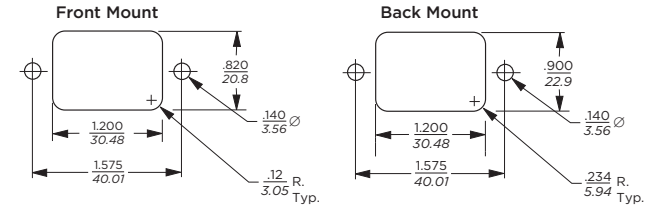


Typical Dimensions:

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

## Recommended Panel Cutouts

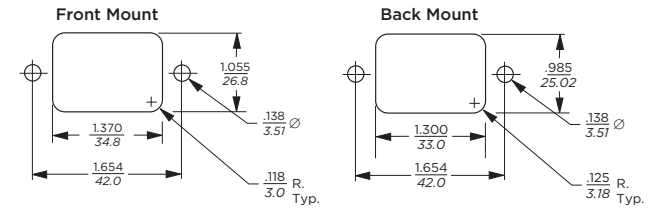
### 1 to 15A EEJ, EJH & EJM



Tolerances ± .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/EJH4 can be back mounted only

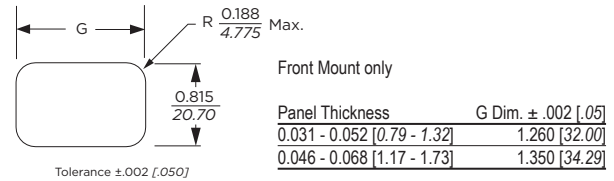
### 20A EEJ & EJH



Tolerances ± .005 [0.13] unless otherwise noted

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

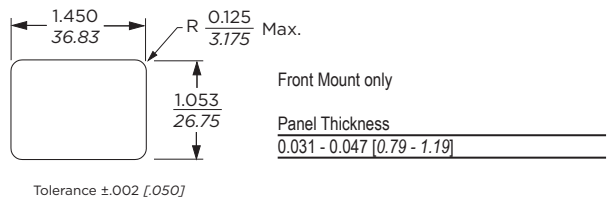
### 1 to 15A EJHS, EJMS & EJS



Tolerance ± .002 [0.050]

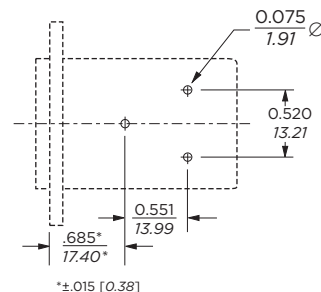
Alternate snap configurations to fit other cut-out sizes also available.  
Contact Tyco Electronics Corcom products engineering for more details.

### 20A EJS



Tolerance ± .002 [0.050]

## PC Board Layout



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

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**Case Dimensions**

Part No.	A (max.)	B (max.)	C (max.)	D $\pm .015$ $\pm .38$	E (max.)	F (ref.)
EEJ1, EJH1	<b>2.15</b>	<b>1.13</b>	<b>0.96</b>	<b>1.580</b>	<b>2.04</b>	-
	<i>54.61</i>	<i>28.70</i>	<i>24.38</i>	<i>40.00</i>	<i>51.76</i>	
EJM1	<b>2.02</b>	<b>1.13</b>	<b>0.96</b>	<b>1.58</b>	<b>2.04</b>	-
	<i>51.3</i>	<i>28.7</i>	<i>24.4</i>	<i>40.00</i>	<i>51.8</i>	
1-10A	<b>1.54</b>	<b>1.13</b>	<b>0.96</b>	<b>1.580</b>	<b>2.04</b>	-
EEJ2, EJH2	<b>39.12</b>	<b>28.70</b>	<b>24.38</b>	<b>40.00</b>	<b>51.76</b>	-
15A	<b>1.79</b>	<b>1.13</b>	<b>0.96</b>	<b>1.580</b>	<b>2.04</b>	-
EEJ2, EJH2	<b>45.47</b>	<b>28.70</b>	<b>24.38</b>	<b>40.00</b>	<b>51.76</b>	-
1-10A	<b>1.54</b>	<b>1.13</b>	<b>0.96</b>	<b>1.580</b>	<b>2.04</b>	-
EEJP, EJHP	<b>39.12</b>	<b>28.70</b>	<b>24.38</b>	<b>40.00</b>	<b>51.76</b>	-
15A	<b>1.79</b>	<b>1.13</b>	<b>0.96</b>	<b>1.580</b>	<b>2.04</b>	-
EEJP, EJHP	<b>45.47</b>	<b>28.70</b>	<b>24.38</b>	<b>40.00</b>	<b>51.76</b>	-
EJS1, EJHS1	<b>2.20</b>	<b>1.13</b>	<b>0.96</b>	<b>1.19</b>	<b>1.41</b>	-
	<i>55.88</i>	<i>28.70</i>	<i>24.38</i>	<i>30.10</i>	<i>35.81</i>	
EJMS1	<b>2.02</b>	<b>1.13</b>	<b>0.96</b>	-	<b>1.41</b>	-
	<i>51.3</i>	<i>28.7</i>	<i>24.4</i>		<i>35.8</i>	
EEJ8, EJH8	<b>1.54</b>	<b>1.13</b>	<b>0.81</b>	<b>1.58</b>	<b>2.04</b>	-
	<i>39.12</i>	<i>28.70</i>	<i>20.70</i>	<i>40.00</i>	<i>51.76</i>	
EJM8	<b>1.50</b>	<b>1.13</b>	<b>0.81</b>	<b>1.58</b>	<b>2.04</b>	-
	<i>38.1</i>	<i>28.7</i>	<i>20.7</i>	<i>40.00</i>	<i>51.8</i>	
EJS8, EJHS8	<b>1.54</b>	<b>1.13</b>	<b>0.81</b>	<b>1.19</b>	<b>1.41</b>	-
	<i>39.12</i>	<i>28.70</i>	<i>20.70</i>	<i>30.10</i>	<i>35.81</i>	
EJMS8	<b>1.50</b>	<b>1.13</b>	<b>0.96</b>	-	<b>1.41</b>	-
	<i>38.1</i>	<i>28.7</i>	<i>24.4</i>		<i>35.8</i>	
20EEJ1, 20EJH1	<b>3.13</b>	<b>1.37</b>	<b>1.18</b>	<b>1.65</b>	<b>2.09</b>	-
	<i>79.38</i>	<i>34.79</i>	<i>29.99</i>	<i>42.01</i>	<i>53.00</i>	
20EJS1	<b>3.13</b>	<b>1.35</b>	<b>1.18</b>	<b>1.42</b>	<b>1.46</b>	-
	<i>79.38</i>	<i>34.29</i>	<i>29.99</i>	<i>36.07</i>	<i>37.08</i>	
20EEJ8, 20EJH8	<b>2.65</b>	<b>1.35</b>	<b>1.18</b>	<b>1.65</b>	<b>2.09</b>	<b>.62</b>
	<i>67.31</i>	<i>34.29</i>	<i>29.99</i>	<i>42.01</i>	<i>53.00</i>	<i>15.75</i>
20EJS8	<b>2.63</b>	<b>1.35</b>	<b>1.18</b>	<b>1.46</b>	<b>1.42</b>	<b>.62</b>
	<i>66.80</i>	<i>34.29</i>	<i>29.97</i>	<i>37.08</i>	<i>36.08</i>	<i>15.75</i>

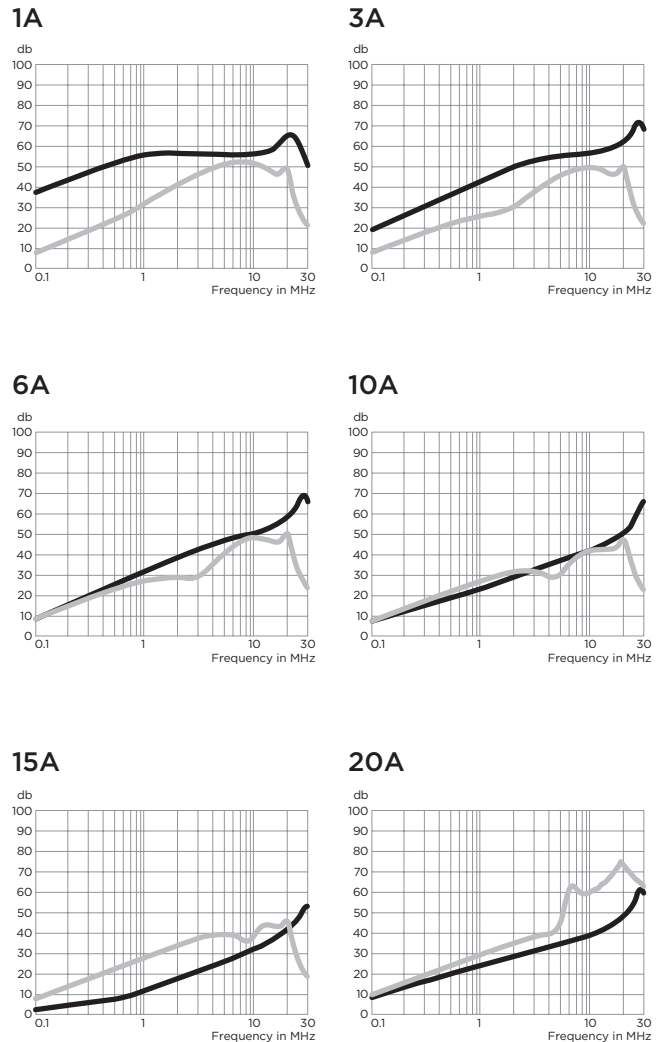


**Performance Data**

**Typical Insertion Loss**

Measured in closed 50 Ohm system

**EEJ & EJS Models**



**3** Power Inlet Filters & Power Entry Modules

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

**EEJ Series** Including the EJH/EJHS, EJM/EJMS and EJS Models

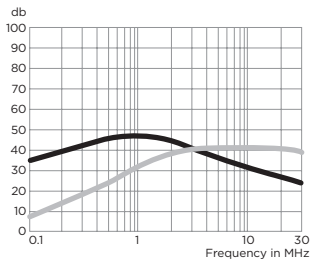
**Performance Data** *(continued)*

**Typical Insertion Loss**

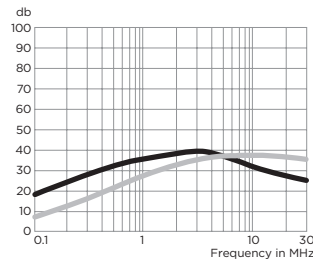
Measured in closed 50 Ohm system

**EJH & EJHS Models**

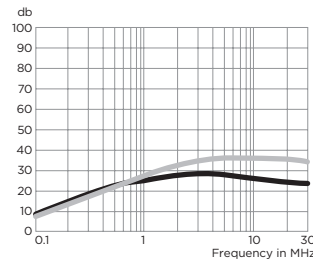
**1A**



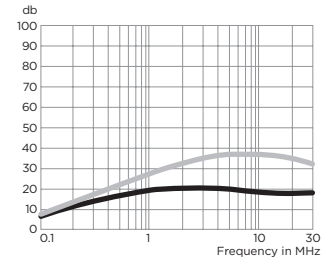
**3A**



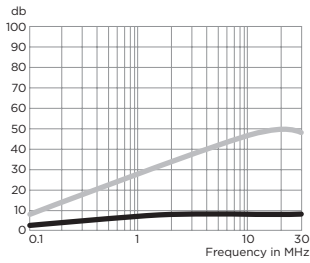
**6A**



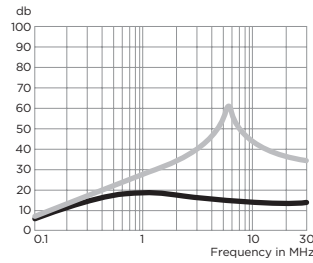
**10A**



**15A**

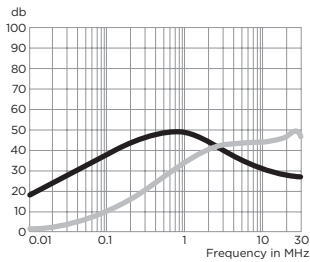


**20A**

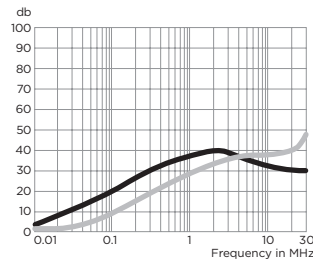


**EJM & EJMS Models**

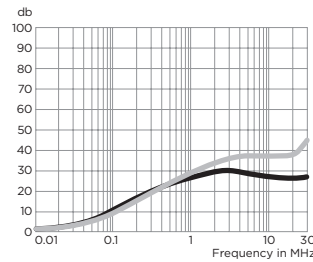
**1A**



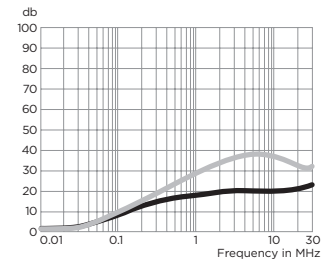
**3A**



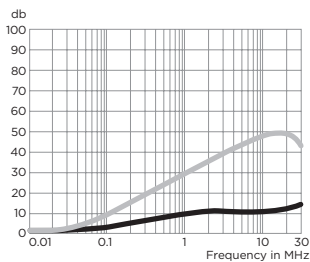
**6A**



**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

Differential Mode / Symmetrical (Line to Line)

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

Current Rating	Frequency – MHz								
	.05	.5	1	10	20	30	80	150	200
1A	1.5	21	28	34	36	29	27	34	28
3A	1.5	17	23	29	31	37	33	32	28
6A	1.5	16	22	28	29	34	37	37	32
10A	2	16	22	28	24	18	27	32	30
15A	1.5	17	23	35	34	29	27	29	25

